



U.S. Department of the Interior
Bureau of Land Management

Bakersfield Field Office Hydraulic Fracturing Final Supplemental Environmental Impact Statement

*Supplementing the Bakersfield Field Office Proposed Resource Management Plan
and Final Environmental Impact Statement, August 2012*

October 2019

United States Department of the Interior
Bureau of Land Management

Bakersfield Field Office

Estimated Lead Agency Total Costs
Associated with Developing and
Producing this SEIS
\$630,000

The BLM manages more than 245 million acres of public land located primarily in 12 Western states, including Alaska. The BLM also administers 700 million acres of sub-surface mineral estate throughout the nation. The agency's mission is to sustain the health, diversity, and productivity of America's public lands for the use and enjoyment of present and future generations. Diverse activities authorized on these lands generated \$96 billion in sales of goods and services throughout the American economy in fiscal year 2017. These activities supported more than 468,000 jobs.

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Abstract

Bakersfield Field Office Hydraulic Fracturing Final Supplemental Environmental Impact Statement

1. **Lead Agency:** U.S. Department of the Interior (DOI), Bureau of Land Management (BLM)
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6. **Abstract:** This Bakersfield Field Office Hydraulic Fracturing Final Supplemental Environmental Impact Statement (Final Supplemental EIS) supplements BLM's previous environmental analyses in the 2012 Bakersfield Proposed Resource Management Plan (PRMP) and 2012 Bakersfield Final Environmental Impact Statement EIS (2012 Final EIS). This supplemental analysis was conducted in response to an issue identified in the PRMP and 2012 Final EIS by the U.S. District Court of California; that is, to take a "hard look" at the impacts of hydraulic fracturing that could occur as a result of implementation of leasable fluid mineral management decisions consistent with the PRMP.

This Final Supplemental EIS analyzes the five alternative fluid mineral management plan decisions from the 2012 Final EIS. The supplemental analysis incorporates new information. Results of the analysis were intended to inform BLM's consideration of whether to amend the existing 2014 RMP.

Major issues addressed in this supplemental analysis include impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species.

7. **Public Scoping and Comment Periods:** As part of the Draft Supplemental EIS, BLM conducted scoping to solicit input from the public and interested agencies on the nature and extent of issues and impacts to be addressed. Upon publication of the Draft Supplemental EIS in May 2019, BLM held three public meetings and solicited input from the public and interested agencies. Comment periods were announced on the project website at:
<https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=100601&dctmId=0b0003e8810ab8e2>.

8. **For Further Information Contact:**
Carly Summers, Project Manager Telephone: 661-391-6000
BLM Bakersfield Field Office
3801 Pegasus Drive
Bakersfield, CA 93308

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Bakersfield Field Office Hydraulic Fracturing

Final Supplemental Environmental Impact Statement

Supplementing the Bakersfield Field Office Proposed Resource Management Plan and Final
Environmental Impact Statement, August 2012

Prepared by

U.S. Department of the Interior Bureau of Land Management
Bakersfield Field Office

October 2019

Joseph Stout
Acting California State Director

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Bakersfield Field Office
3801 Pegasus Drive
Bakersfield, CA 93308
www.blm.gov/office/bakersfield-field-office



Dear Reader:

Enclosed is the Bureau of Land Management (BLM) Bakersfield Field Office Hydraulic Fracturing Final Supplemental Environmental Impact Statement (Final Supplemental EIS). The impact analysis in the Final Supplemental EIS is specifically intended to address a May 2017, U.S. District Court Order. The supplemental analysis discloses potential environmental impacts associated with hydraulic fracturing at the planning level. Finalization of this analysis does not issue any new leases or approve any permits to drill. If proposed, those actions and the potential impacts would be addressed at the site or project-specific level in subsequent tiered environmental review.

The Bakersfield Field Office Resource Management Plan (RMP) is a planning document prepared or updated by BLM Field Offices as conditions warrant. RMPs determine future management direction and appropriate use of public lands under Field Office jurisdiction. Amending the 2014 Bakersfield Field Office RMP, as part of this supplementation effort was considered, but found to be not warranted because no unresolvable conflicts were found between the estimated impacts of hydraulic fracturing and the resource or program management goals and objectives stated in the 2014 RMP.

The Final Supplemental EIS was developed in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended, the Federal Land Policy and Management Act of 1976, Land Use Planning Handbook (H-1601-1), and other applicable policy and law. In addition and as required by NEPA, the BLM prepared the Final Supplemental EIS taking into account public comments received during the public scoping and public comment periods. Public interest and participation in the supplemental analysis process was robust with roughly 8,000 comments received during the scoping period and approximately 16,000 comments received during the Draft Supplemental EIS comment period. In addition, there was excellent turnout and participation at the three public meetings hosted by the BLM in May 2019. We appreciate the strong interest and look forward to continuing to engage you, as we move forward with implementation of the RMP.

Thank you for your interest in the Bakersfield Final Supplemental EIS. We appreciate your contributions to this planning process.

Sincerely,

Gabriel Garcia
Field Manager, Bakersfield Field Office

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Executive Summary

Introduction

The U.S. Department of the Interior, Bureau of Land Management's (BLM) Bakersfield Field Office is supplementing the 2012 Bakersfield Final Environmental Impact Statement (referred to hereafter as the "2012 Final EIS"), associated with the 2012 Bakersfield Proposed Resource Management Plan (PRMP) (BLM 2012). The Approved Resource Management Plan (ARMP) and Record of Decision (ROD) was published in 2014 (BLM 2014) and is hereafter referred to as the "2014 RMP." This Bakersfield Field Office Final Supplemental Environmental Impact Statement (hereafter referred to as the "Final Supplemental EIS") evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions.

The Center for Biological Diversity and Los Padres ForestWatch challenged BLM's 2014 ROD approving the 2014 RMP (Civ. No. 2:15-cv-04378-MWF/JEM [June 10, 2015]). The plaintiffs argued that BLM violated the National Environmental Policy Act (NEPA) because the 2012 Final EIS had failed to analyze adequately the impacts of hydraulic fracturing within the Planning Area, among other issues.

The U.S. District Court, Central District of California, issued summary judgment finding that BLM failed to take a "hard look" at the environmental impact of hydraulic fracturing in the 2012 Final EIS (September 6, 2016). The Court upheld the range of alternatives analyzed in the 2012 Final EIS and found that the Reasonably Foreseeable Development Scenario was acceptable. The Court held that BLM was obligated to analyze the environmental consequences resulting from the use of hydraulic fracturing (Court Order).

On May 3, 2017, the Court approved a Settlement Agreement (Case No. 2:15-cv-04378-MWF/JEM0) (Settlement Agreement) in which the parties agreed to partial remand without setting aside the ROD for the 2014 RMP. Therefore, a Notice of Intent to prepare a Draft Supplemental EIS and potential RMP Amendment (RMPA) was issued by the Department of the Interior on August 7, 2018 and published in the Federal Register on August 8, 2018. The Notice of Intent was styled to prepare a potential resource management plan amendment, because at the time, BLM was considering whether or not the integration of the information regarding hydraulic fracturing would warrant amendment of the 2014 RMP, or whether BLM should propose a resource management plan to supersede the 2014 RMP. For reasons discussed in this Final Supplemental EIS, no amendment to the 2014 RMP is warranted. Therefore, the title of this document has been changed to reflect that it addresses the Court's decision, as well as the subsequent Settlement Agreement, wherein BLM agreed to consider amending or superseding the 2014 RMP.

Purpose and Need

The purpose of this Final Supplemental EIS is to analyze the environmental effects of the use of hydraulic fracturing technology in oil and gas development on new leases within the Planning Area and to determine whether changes are needed to the fluid minerals decisions in the 2014 RMP. The focus of the analysis is on new leases because fluid mineral decisions in the 2014 RMP would apply to new leases.

Existing oil and gas leases are recognized as valid existing rights and are not subject to fluid mineral decisions in the 2014 RMP unless the lease expires and is reissued under the 2014 RMP. The potential

impacts of hydraulic fracturing on existing leases are addressed as cumulative impacts in the form of ongoing lease development. Hydraulic fracturing on existing federal mineral leases is estimated to occur at the same rate anticipated on potential new leases and analyzed in this Final Supplemental EIS.

The need to develop the Final Supplemental EIS is established by the Settlement Agreement, filed with the U.S. District Court for the Central District of California on May 3, 2017.

Supplemental Analysis

The focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. This Final Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.

For the purposes of this supplemental analysis, hydraulic fracturing is defined as a well completion process employed after drilling an oil or natural gas well. It involves injecting a mixture of highly pressurized fluids and proppant (usually sand) into a geologic formation to create and prop open fissures, or pathways, through which the produced fluids can more easily flow into the wellbore. When the hydraulic pressure is removed from the well, the small grains of sand remain in the fissures and hold the fractures open, allowing for higher production rates of the desired oil and gas resource than would otherwise be achieved.

It is important to note that this Final Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.

Scoping and Public Involvement

Preliminary issues for this Final Supplemental EIS, concerning resources that may be impacted by hydraulic fracturing, were identified during internal scoping led by BLM personnel; federal, state, and local agencies; and other stakeholders. The issues identified included:

- Air and Atmospheric Values (including estimated Greenhouse Gas Emissions);
- Biological Resources;
- Cultural Resources;
- Native American Values;
- Paleontological Resources;
- Soil Resources;
- Visual Resources;
- Water Resources (quality and quantity);
- Livestock Grazing;
- Minerals Management;
- Areas of Critical Environmental Concern;
- Social and Economic Resources
- Seismicity; and
- Special Status Species.

The Notice of Intent initiated a 30-day public scoping period, which closed September 7, 2018. This notice included information on the various ways the public could submit scoping comments, as well as whom to contact for more information. A press release was also emailed to a database of tribal members, stakeholders, and interested parties. BLM also notified Congressional and State Legislature elected officials, and County representatives. Results of public scoping are summarized in the 2018 Public Scoping Summary Report and have been integrated into this Final Supplemental EIS as appropriate.

Following publication of the Draft Supplemental EIS in April 2019, BLM held three public meetings in May 2019 to provide the public with information on the Draft Supplemental EIS and an opportunity to comment. The Draft Supplemental EIS was made available for public review and comment for 45 calendar days, with the comment period ending on June 10, 2019. The Final Supplemental EIS considers all substantive written comments received during the 45-day public comment period for the Draft Supplemental EIS.

Alternatives

The Court Order upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, per the Court Order to take a “hard look” at the environmental impact of hydraulic fracturing in the 2012 Final EIS, this supplemental analysis considers the alternative proposed fluid mineral management decisions previously analyzed in that document. The No Action Alternative reflects management under the previous land use plans, as carried-forward in the 2012 FEIS. Alternative B, the Proposed Plan, was adopted in the 2014 RMP.

- **Alternative A (No Action)** would continue current management practices as the No Action alternative required by NEPA, under the 1997 Caliente RMP and 1984 Hollister RMP, as amended.
- **Alternative B (Proposed Plan)** balances resource conservation and ecosystem health with the production of commodities and public use of the land. This alternative reflects changes made after the publication of the Draft RMP/Draft Environmental Impact Statement as a result of public comment and internal analysis (September 2011).

- **Alternative C** emphasizes conserving cultural and natural resources, maintaining functioning natural systems, and restoring natural systems that are degraded.
- **Alternative D** tracks Alternative C in all aspects except livestock grazing. This alternative eliminates livestock grazing for the life of the plan from the public lands where the 2014 RMP provides administrative direction for the livestock-grazing program.
- **Alternative E** emphasizes the production of natural resources commodities and public use opportunities. Resource uses such as recreation, livestock grazing, mining, and oil/gas leasing, consistent with BLM guidance and constraints, would be emphasized.

Environmental Consequences

Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource (Table ES.1). Areas most likely to undergo hydraulic fracturing have been identified as supplemental hydraulic fracturing analysis areas (Figure ES.1). These supplemental hydraulic fracturing analysis areas were determined through an analysis of historic hydraulic fracturing data, areas of high resource potential, and BLM-managed minerals available for leasing.

Table ES.1
Estimated Short- and Long-Term Surface Impacts of Wells Completed by Hydraulic Fracturing, on BLM and Non-BLM Surface

Disturbance Type	Short-term Disturbance BLM Surface^(a) (acres)	Long-term Disturbance BLM Surface^(a) (acres)	Short-term Disturbance Non-BLM Surface^(a) (acres)	Long-term Disturbance Non-BLM Surface^(a) (acres)	Total Estimated Disturbance^(d) (acres)
New pads ^(b)	0–9.0	0–16.8	0–47.0	0–87.3	0–160.1
Roads	0–0.7	0–7.0	0–3.7	0–36.6	0–48
Pipelines	0–0.1	0	0–0.4	0	0–0.5
Distribution lines	Included above ^(c)	Included above ^(c)	Included above ^(c)	Included above ^(c)	Included above ^(c)
Total	0–9.8	0–23.8	0–51.1	0–123.9	0–208.6

Notes:

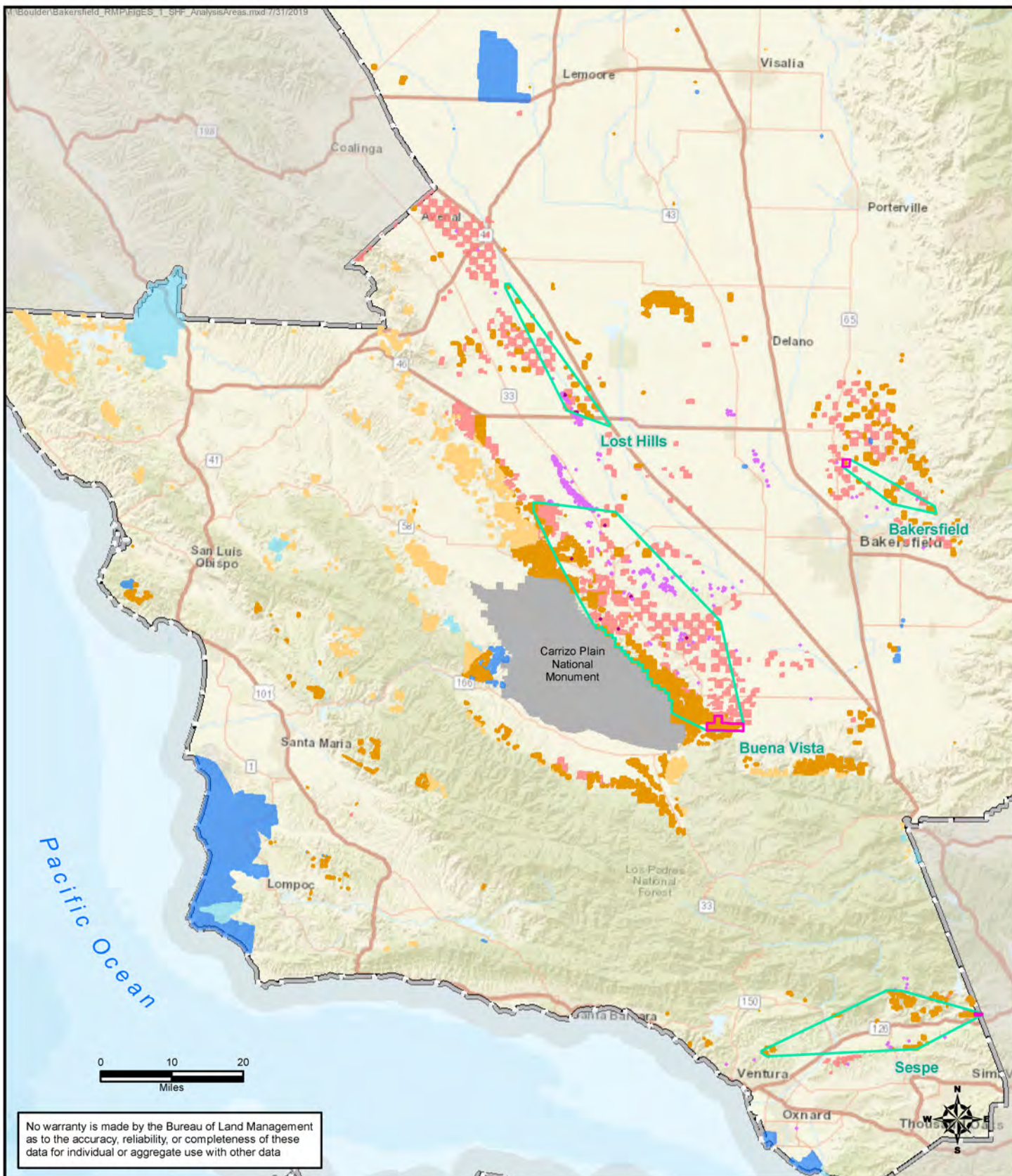
^(a) Estimated for a range of 0 to 40 wells, possibly developed over the life of the 2014 RMP

^(b) Assumes a single well/pad

^(c) Included in pipeline area estimation

^(d) Total assumes no overlap of short- and long-term disturbance areas

This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Final Supplemental EIS, BLM analyzed the most extensive potential development estimates presented in the reasonably foreseeable development scenario into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data

Legend

- Hydraulically Fractured Wells
- BLM Hydraulically Fractured Wells
- Carrizo Plain National Monument (Excluded from analysis)
- Bakersfield Field Office
- Expressed Interest in Leasing
- Existing BLM Oil & Gas Leases (2018)
- SHF Analysis Area - identified by associated oil fields

- Available for Leasing:
- Moderate Resource Potential - BLM Surface
 - High Resource Potential - BLM Surface
 - Moderate Resource Potential - Non-BLM Surface
 - High Resource Potential - Non-BLM Surface

Supplemental Hydraulic Fracturing Analysis Areas
Bureau of Land Management
Bakersfield Field Office
Final SEIS

Figure ES.1

For all BLM surface, estimated environmental impacts incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.

The potential environmental impacts of integrating hydraulic fracturing, as a result of future leasing and development decisions consistent with the 2014 RMP Fluid Mineral management decisions, are summarized in Table ES.2. The results of this supplemental analysis calculating the impacts of limited hydraulic fracturing, additive to those identified in the 2012 Final EIS, did not show notable increase in total impacts. No conflicts were found between the estimated impacts of hydraulic fracturing and the resource or program management goals and objectives stated in the 2012 Proposed RMP. Therefore, an amendment to the 2014 RMP has been determined to be unnecessary, and this Final Supplemental EIS documents that decision.

Table ES.2
Summary of Estimated Environmental Impacts, by Alternative

Resource/Program	Alternative A No Action	Common to all Action Alternatives	Alternative B	Alternative C	Alternative D	Alternative E
Air and Atmospheric Values	No change from 2012 Final EIS	<p>See Section 4.1, Impacts Common to All Action Alternatives</p> <p>Potential short- and long-term surface disturbance from hydraulic fracturing is the same for all Action Alternatives, summarized in Table 4.2.</p> <p>Emissions from hydraulic fracturing well development are summarized in Table 4.1.1. These emission increases are minimal, with the largest being NO_x at 2.74 tons per year.</p> <p>Greenhouse gas emissions from hydraulic fracturing well development are summarized in Tables 4.1.5, 4.1.6, and 4.1.7.</p>	<p>See Section 4.1, Impacts Common to All Action Alternatives</p>	<p>See Section 4.1, Impacts Common to All Action Alternatives</p>	<p>See Section 4.1, Impacts Common to All Action Alternatives</p>	<p>See Section 4.1, Impacts Common to All Action Alternatives</p>
Biological Resources	No change from 2012 Final EIS	<p>See Section 4.2, Impacts Common to All Action Alternatives</p> <p>Potential short- and long-term surface disturbance from hydraulic fracturing is the same for all Action Alternatives, summarized in Table 4.2.</p> <p>On BLM surface, BMPs, SOPS, and lease stipulations, in Sections L3 and L.7, Appendix L in the 2014 RMP, would mitigate potential impacts.</p> <p>On non-BLM surface, constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or</p>	<p>See Section 4.2, Impacts Common to All Action Alternatives</p> <p>CSU for Compensation Lands ACEC, would further reduce potential surface impacts after mitigation</p>	<p>See Section 4.2, Impacts Common to All Action Alternatives</p>	<p>See Section 4.2, Impacts Common to All Action Alternatives</p>	<p>See Section 4.2, Impacts Common to All Action Alternatives</p> <p>CSU for Bitter Creek ACEC would prevent/reduce disturbance to current or future refuge resources from fluid mineral development</p>

Table ES.2
Summary of Estimated Environmental Impacts, by Alternative

Resource/Program	Alternative A No Action	Common to all Action Alternatives	Alternative B	Alternative C	Alternative D	Alternative E
		<p>timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, and/or regulations. In addition, and as applicable, protective measures, mitigation, and BMPs from SB4, Chapter 313, as well as Kern County Zoning Ordinance, Chapter 19.98 (Oil and Gas Production) (Kern County 2015) would apply to mitigate potential impacts. Wells on non-BLM surface would likely be subject to additional environmental impact analysis under CEQA.</p> <p>Required surveys, mitigation, and monitoring for all projects authorized under the Programmatic BO (USFWS 2017) would apply to all T&E species on BLM surface.</p>				
Cultural Resources	No change from 2012 Final EIS	<p>See Section 4.3, Impacts Common to All Action Alternatives</p> <p>Potential short- and long-term surface disturbance from hydraulic fracturing is the same for all Action Alternatives, summarized in Table 4.2.</p> <p>On both BLM and non-BLM surface: When issuing permits related to the extraction of subsurface federal minerals, federal agencies must follow National Historic Preservation</p>	<p>See Section 4.3, Impacts Common to All Action Alternatives</p>	<p>See Section 4.3, Impacts Common to All Action Alternatives</p>	<p>See Section 4.3, Impacts Common to All Action Alternatives</p>	<p>See Section 4.3, Impacts Common to All Action Alternatives</p>

Table ES.2
Summary of Estimated Environmental Impacts, by Alternative

Resource/Program	Alternative A No Action	Common to all Action Alternatives	Alternative B	Alternative C	Alternative D	Alternative E
		<p>Act (54 U.S.C. 306108) Section 106 guidelines and regulations and other related statutes</p> <p>for cultural resource compliance. This includes projects that employ hydraulic fracturing technology. Federal agencies will also follow their internal cultural resource policies, guidance documents, agreements with the California Office of Historic Preservation, and tribal agreements.</p> <p>This process, the application of Bakersfield Field Office BMPs, SOPs, and stipulations, as well as a full avoidance lease stipulation for NRHP eligible historic properties located within new federal leases, as outlined in Section L.6 of Appendix L in the 2014 RMP, would avoid, minimize, and mitigate adverse effects to historic properties. Federal cultural resource compliance, according to the above process, is not required for projects located on private lands absent federal involvement.</p> <p>For non-federally permitted projects, protection of cultural resources on State of California Lands is regulated under the California Public Resources Code (PRC), CEQA (Sec. 21083.2 and 21084.1) and may require the evaluation of effects on any project undertaken, assisted, or permitted by the state or the state's political subdivisions.</p>				
Native American Values	No change from Final 2012 EIS	See Section 4.4, Impacts Common to All Action Alternatives	See Section 4.4, Impacts Common to All	See Section 4.4, Impacts Common to All	See Section 4.4, Impacts Common to All	See Section 4.4, Impacts Common to All

Table ES.2
Summary of Estimated Environmental Impacts, by Alternative

Resource/Program	Alternative A No Action	Common to all Action Alternatives	Alternative B	Alternative C	Alternative D	Alternative E
		<p>Potential short- and long-term surface disturbance from hydraulic fracturing is the same for all Action Alternatives, summarized in Table 4.2.</p> <p>Potential Impacts to Native American values would be addressed through guidance and policies provided in the BLM Handbook 1780-1 <i>Improving and Sustaining BLM-Tribal Relations</i> (BLM 2016), which promote meaningful and effective tribal consultation. In addition, for federally permitted projects, implementation of Section 106 compliance, BMPs, SOPS, and stipulations as outlined in Section L.6 of Appendix L in the 2014 RMP would avoid, minimize, or mitigate potential adverse effects to historic properties with religious and cultural significance to tribes.</p> <p>On both BLM and non-BLM federal surface: when issuing permits related to the extraction of subsurface federal minerals, federal agencies must follow their specific agency guidance regarding consultation and coordination with Native peoples and at a minimum must include adherence to the National Historic Preservation Act (54 U.S.C. 306108) Section 106 guidelines and regulations, Executive Order (EO)13007, Indian Sacred Sites; American Indian Religious Freedom Act (42 U.S.C. 21.1 Sec. 1996 and 1996a); and the Religious Freedom Restoration Act of 1993 (42 U.S.C. 21B, Sec.</p>	Action Alternatives	Action Alternatives	Action Alternatives	Action Alternatives

Table ES.2
Summary of Estimated Environmental Impacts, by Alternative

Resource/Program	Alternative A No Action	Common to all Action Alternatives	Alternative B	Alternative C	Alternative D	Alternative E
		2000bb et seq.). Federal agencies will also follow any existing agreements with Tribes.				
		This includes projects that employ hydraulic fracturing technology.				
		For non-federally permitted projects, protection of Native American values on State of California Lands and political subdivisions is under PRC Sections 5097.91 – 5097.97 that establishes a Native American Heritage Commission (NAHC), governs state and local agency cooperation with the NAHC, and creates a process to identify and protect sacred places.				
Paleontological Resources	No change from 2012 Final EIS	See Section 4.5, Impacts Common to All Action Alternatives Potential short- and long-term surface disturbance from hydraulic fracturing is the same for all Action Alternatives, summarized in Table 4.2. On both BLM and non-BLM surface, potential impacts to paleontological values from permits issued in relation to extraction of subsurface federal minerals, would be addressed through guidance and policies provided in BLM Handbook H-8270-1, <i>General Procedural Guidance for Paleontological Resource Management</i> and the BLM Manual MS-8270, <i>Paleontological Resource Management</i> . These documents are supplemented by Instruction	See Section 4.5, Impacts Common to All Action Alternatives	See Section 4.5, Impacts Common to All Action Alternatives	See Section 4.5, Impacts Common to All Action Alternatives	See Section 4.5, Impacts Common to All Action Alternatives

Table ES.2
Summary of Estimated Environmental Impacts, by Alternative

Resource/Program	Alternative A No Action	Common to all Action Alternatives	Alternative B	Alternative C	Alternative D	Alternative E
		<p>Memorandum 2009-011, Assessment and Mitigation of Potential Impacts to Paleontological Resources (DOI 2009) and 2016-124, Potential Fossil Yield Classification System for Paleontological Resources on Public Lands (DOI 2016). Procedures in these guidance documents are meant to satisfy the requirements of the Omnibus Public Land Management Act of 2009, National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 et seq.), the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.), and other federal authorities.</p> <p>Potential impacts to paleontological values would also be addressed by guidance provided in the 2014 RMP and Record of Decision (BLM 2014). Paleontological Resources Decision 1 implements measures to protect paleontological resources from inadvertent damage or destruction through:</p> <ul style="list-style-type: none"> • Avoidance • Fencing • Stabilization • Collection or excavation and deposit in museum repository • Interpretation, or • Administrative closure <p>Paleontological Resources Decision 4 ensures that site-specific NEPA analysis, which may include field inventory and fossil specimen</p>				

Table ES.2
Summary of Estimated Environmental Impacts, by Alternative

Resource/Program	Alternative A No Action	Common to all Action Alternatives	Alternative B	Alternative C	Alternative D	Alternative E
		recovery, implements the Potential Fossil Yield Classification as a standard part of the review for all surface disturbing projects throughout the Decision Area.				
		On non-federal lands, potential impacts to paleontological resources may be addressed through California Public Resources Code, CEQA Appendix G (Sec. 8.16.2.2) and regulations depending on the county.				
Soil Resources	No change from Final 2012 EIS	See Section 4.6, Impacts Common to All Action Alternatives Potential short- and long-term surface disturbance from hydraulic fracturing is the same for all Action Alternatives, summarized in Table 4.2. On BLM surface, BMPs, SOPS, and lease stipulations, in Section L.4 of Appendix L in the 2014 RMP, would mitigate potential impacts. On non-BLM surface, constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, and/or regulation. In	See Section 4.6, Impacts Common to All Action Alternatives	See Section 4.6, Impacts Common to All Action Alternatives	See Section 4.6, Impacts Common to All Action Alternatives	See Section 4.6, Impacts Common to All Action Alternatives

Table ES.2
Summary of Estimated Environmental Impacts, by Alternative

Resource/Program	Alternative A No Action	Common to all Action Alternatives	Alternative B	Alternative C	Alternative D	Alternative E
		addition, and as applicable, protective measures, mitigation, and BMPs from SB4, Chapter 313,				
		as well as Kern County Zoning Ordinance, Chapter 19.98 (Oil and Gas Production) (Kern County 2015) would apply to mitigate potential impacts. Additionally, all wells on non-BLM surface would likely be subject to additional environmental impact analysis under CEQA.				
Visual Resources	No change from 2012 Final EIS	See Section 4.7, Impacts Common to All Action Alternatives Supplemental analysis indicated no substantive change from estimated impacts in the 2012 Final EIS.	See Section 4.7, Impacts Common to All Action Alternatives	See Section 4.7, Impacts Common to All Action Alternatives	See Section 4.7, Impacts Common to All Action Alternatives	See Section 4.7, Impacts Common to All Action Alternatives
Water Resources	No change from 2012 Final EIS	See Section 4.8, Impacts Common to All Action Alternatives Surface Water Use - negligible impacts due to lack of surface water in the supplemental hydraulic fracturing analysis areas. Groundwater Use – negligible impacts in context of regional agricultural consumption. Hydraulic fracturing constituent mixing and handling - Impacts to groundwater due to spills of fracturing fluids would be negligible. Injection of hydraulic fracturing fluids/flowback management and disposal – groundwater impacts from loss of well	See Section 4.8, Impacts Common to All Action Alternatives	See Section 4.8, Impacts Common to All Action Alternatives	See Section 4.8, Impacts Common to All Action Alternatives	See Section 4.8, Impacts Common to All Action Alternatives

Table ES.2
Summary of Estimated Environmental Impacts, by Alternative

Resource/Program	Alternative A No Action	Common to all Action Alternatives	Alternative B	Alternative C	Alternative D	Alternative E
		integrity or out-of-zone migration of fracturing fluids from an average of zero to four wells/year would be negligible. If present trends continue, the drilling up to of 40 wells over the 10-year planning period would also have negligible impact.				
Livestock Grazing	No change from 2012 Final EIS	See Section 4.9, Impacts Common to All Action Alternatives Supplemental analysis indicated no substantive change from estimated impacts in the 2012 Final EIS.	See Section 4.9, Impacts Common to All Action Alternatives	See Section 4.9, Impacts Common to All Action Alternatives	See Section 4.9, Impacts Common to All Action Alternatives	See Section 4.9, Impacts Common to All Action Alternatives
Minerals Management	No change from 2012 Final EIS	See Section 4.10, Impacts Common to All Action Alternatives Access to fluid mineral reserves for leasing - supplemental analysis indicated no substantive change from estimated impacts in the 2012 Final EIS. Seismicity - negligible impacts related to hydraulic fracturing or wastewater disposal.	See Section 4.10, Impacts Common to All Action Alternatives	See Section 4.10, Impacts Common to All Action Alternatives	See Section 4.10, Impacts Common to All Action Alternatives	See Section 4.10, Impacts Common to All Action Alternatives
Areas of Critical Environmental Concern	No change from 2012 Final EIS	See Section 4.11, Impacts Common to All Action Alternatives Potential short- and long-term surface disturbance from hydraulic fracturing is the same for all Action Alternatives, summarized in Table 4.2. NSOs and CSUs would provide protection to ACECs from hydraulic fracturing operations, and there would be negligible impacts.	See Section 4.11, Impacts Common to All Action Alternatives CSU for Compensation Lands ACEC would further reduce potential	See Section 4.11, Impacts Common to All Action Alternatives	See Section 4.11, Impacts Common to All Action Alternatives	See Section 4.11, Impacts Common to All Action Alternatives CSU for Bitter Creek ACEC would prevent/reduce disturbance to current or

Table ES.2
Summary of Estimated Environmental Impacts, by Alternative

Resource/Program	Alternative A No Action	Common to all Action Alternatives	Alternative B	Alternative C	Alternative D	Alternative E
			surface impacts after mitigation.			future refuge resources from fluid mineral development
Social and Economic Resources	No change from 2012 Final EIS	See Section 4.12, Impacts Common to All Action Alternatives Supplemental analysis indicated no substantive change from estimated impacts in the 2012 Final EIS.	See Section 4.12, Impacts Common to All Action Alternatives	See Section 4.12, Impacts Common to All Action Alternatives	See Section 4.12, Impacts Common to All Action Alternatives	See Section 4.12, Impacts Common to All Action Alternatives

Key:

2012 Final EIS = 2012 Bakersfield Final Environmental Impact Statement
 ACEC = Area of Critical Environmental Concern
 BLM = Bureau of Land Management
 BMP= Best Management Practice
 BO = Biological Opinion
 CEQA = California Environmental Quality Act
 CSU = Controlled Surface Use

NO_x =oxides of nitrogen
 NRHP = National Register of Historic Places
 NSO = No Surface Occupancy
 RMP = Bakersfield Field Office Resource Management Plan
 SB4 = California Senate Bill 4
 SOP = standard operating procedure
 T&E = Threatened or Endangered
 U.S.C. = United States Code

Acronyms and Abbreviations

2012 Final EIS	2012 Bakersfield Final Environmental Impact Statement
2014 RMP	2014 Bakersfield Field Office Resource Management Plan
ACEC	Area of Critical Environmental Concern
ACPD	Air Pollution Control District
APD	Application for Permit to Drill
ARB	California Air Resources Board
ARMP	Approved Resource Management Plan
BLM	Bureau of Land Management
BMP	best management practice
CCR	California Code of Regulations
CCST	California Council on Science and Technology
Central Coast Field Office Draft RMPA/EIS	<i>Central Coast Oil and Gas Leasing and Development Draft Resource Management Plan Amendment/Environmental Impact Statement</i>
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH ₄	methane
CIAA	Cumulative Impact Assessment Area
COA	Conditions of Approval
CO	carbon monoxide
CO ₂	carbon dioxide
Court Order	U.S. District Court, Central District of California order for BLM to analyze the environmental consequences resulting from the use of hydraulic fracturing.
CSU	Controlled Surface Use
DOGGR	California Division of Oil, Gas, and Geothermal Resources
DOI	Department of the Interior
EIR	Environmental Impact Report
EO	Executive Order
Final Supplemental EIS	Final Bakersfield Field Office Supplemental Environmental Impact Statement
FLPMA	Federal Land Policy and Management Act
GHG	greenhouse gas
GWP	global warming potential
IPCC	Intergovernmental Panel on Climate Change
MA	Management Area
MCF	thousand cubic feet
mg/L	milligrams per liter
MTCO ₂ e	metric tons of carbon dioxide equivalent
MMTCO ₂ e	million metric tons of carbon dioxide equivalent
N ₂ O	nitrous oxide
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOA	Notice of Availability

NOI	Notice of Intent
NO _x	oxides of nitrogen
NRHP	National Register of Historic Places
NSO	No Surface Occupancy
OEHHA	California Environmental Protection Agency Office of Environmental Health Hazard Assessment
Permanent Regulations	Final Permanent Well Stimulation Treatment Regulations
Planning Area	Bakersfield Field Office Planning Area
PM	particulate matter
PM ₁₀	particulate matter smaller than 10 microns in diameter
PM _{2.5}	particulate matter smaller than 2.5 microns in diameter
PRC	California Public Resources Code
PRMP	2012 Bakersfield Proposed Resource Management Plan
PSD	Prevention of Significant Deterioration
RFDS	Reasonably Foreseeable Development Scenario
RMP	Resource Management Plan
RMPA	Resource Management Plan Amendment
ROD	Record of Decision
ROG	reactive organic gasses
SB4 EIR	California Department of Conservation (2015) <i>Analysis of Oil and Gas Well Stimulation Treatment in California</i>
SB4	California Senate Bill 4
Supplemental EIS	Supplemental Environmental Impact Statement
Settlement Agreement	Case No. 2:15-cv-04378–MWF/JEM0
SIP	State Implementation Plan
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO _x	sulfur oxides
T&E	Threatened or Endangered
TDS	total dissolved solids
U.S.C.	United States Code
UIC	Underground Injection Control
USDW	underground source of drinking water
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VRM	visual resource management
WST	well stimulation treatment

1 Chapter One

1.1 Introduction

This Bakersfield Field Office hydraulic fracturing Final Supplemental Environmental Impact Statement (Final Supplemental EIS) evaluates the environmental consequences of integrating hydraulic fracturing as a result of future leasing and development decisions consistent with fluid mineral management decisions in the U.S. Department of the Interior (DOI) Bureau of Land Management (BLM) Bakersfield Field Office 2014 Resource Management Plan (RMP), hereafter referred to as the “2014 RMP.” This analysis supplements the 2012 Bakersfield Final Environmental Impact Statement (BLM 2012), hereafter referred to as the “2012 Final EIS,” for the 2012 Bakersfield Proposed Resource Management Plan (PRMP), which did not specifically analyze the potential effects of hydraulic fracturing. The Approved Resource Management Plan (ARMP) and Record of Decision (ROD) were published two years later (BLM 2014).

Prior to publication of the ROD and ARMP, public lands within the Bakersfield Field Office Planning Area (Planning Area) were managed under the Caliente RMP, as amended (BLM 1997), the Hollister RMP (BLM 1984), and two RMPs covering public lands within the California Coastal National Monument (BLM 2005a) and the Carrizo Plain National Monument (BLM 2010). The Caliente RMP, completed in 1997, covers public lands in San Luis Obispo, Santa Barbara, Ventura, Kings, Tulare, and western Kern Counties. The Hollister RMP, completed in 1984 by the Hollister Field Office, covers lands in Madera and eastern Fresno Counties, which were administratively transferred to the Bakersfield Field Office in October 2000. (Note: The Hollister Field Office moved to Marina, California, in 2016 and is now referred to as the Central Coast Field Office.) The 2014 RMP does not address public land management within the California Coastal National Monument or the Carrizo Plain National Monument, except for livestock grazing management in a small portion of the California Coastal National Monument.

BLM develops RMPs for areas such as the Bakersfield Field Office for which no consolidated planning document exists. This is in accordance with the Federal Land Policy and Management Act (FLPMA) of 1976 (43 United States Code [U.S.C.], 1701 et seq.), which directs the development of RMPs to guide management of public lands within BLM’s jurisdiction.

The 2014 RMP was prepared using BLM planning regulations and guidance issued under the authority of FLPMA and the BLM Land Use Planning Handbook, H-1601-1 (BLM 2005b). An Environmental Impact Statement (EIS) is incorporated into this document to meet the requirements of these planning authorities, and in accordance with the National Environmental Policy Act of 1969 (NEPA), Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 Code of Federal Regulations [CFR], 1500-1508) (CEQ 1978), and requirements of BLM’s NEPA Handbook, H-1790-1 (BLM 2008).

In compliance with the Mineral Lands Leasing Act of 1920 (30 U.S.C. § 181 et seq.), as amended, BLM is responsible for administering the leasing of onshore federal mineral estate, including oil and gas. Such leasing is conducted consistent with the applicable BLM Field Office RMP. This responsibility does not include administering leases for offshore federal mineral estate.

The 2012 Final EIS analyzed approximately 1,015,350 acres of federal mineral estate as open to fluid mineral leasing, subject to restrictions and resource-protective measures contained in the 2014 RMP. A Reasonably Foreseeable Development Scenario (RFDS) was prepared as a foundation document for the

2014 RMP. The RFDS projected the exploration, drilling, and production activity that would likely occur in the next 10 years, the anticipated life of the 2014 RMP. This was predicted to be approximately 100 to 400 federal wells to be drilled on federal mineral estate per year during the life of the 2014 RMP. This includes 90 to 360 wells per year on existing leases issued and 10 to 40 wells per year on new leases issued subsequent to the 2014 RMP approval date. Some of these wells were expected to be hydraulically fractured.

On June 10, 2015, the Center for Biological Diversity and Los Padres Forest Watch challenged BLM's 2014 ROD approving the 2014 RMP (Civ. No. 2:15-cv-04378-MWF/JEM). The plaintiffs argued that BLM violated NEPA because the 2012 Final EIS had failed to analyze adequately the impacts of hydraulic fracturing within the Planning Area.

On September 6, 2016, the U.S. District Court, Central District of California, issued summary judgment finding that BLM failed to take a "hard look" at the environmental impact of hydraulic fracturing in the 2014 RMP. The Court upheld the range of alternatives analyzed in the 2012 Final EIS and found that the Reasonably Foreseeable Development Scenario was acceptable. The Court stated that BLM was obligated to analyze at the land use planning level the environmental consequences resulting from the use of hydraulic fracturing (herein referred to as the "Court Order").

On May 3, 2017, the Court approved a Settlement Agreement (Case No. 2:15-cv-04378-MWF/JEM0) (Settlement Agreement) in which the parties agreed to partial remand without vacatur of (setting aside) the ROD for the 2014 RMP. BLM agreed to prepare appropriate NEPA documentation to address the deficiencies identified by the Court and to issue a new decision document that would amend or supersede the existing 2014 RMP ROD if appropriate.

A Draft Supplemental EIS was completed in April 2019. Based on summary finding by the U.S. District Court, Central District of California, this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 PRMP fluid mineral management decisions. The Draft Supplemental EIS analyzed the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. Results of public scoping were integrated into the Draft Supplemental EIS as appropriate. Preliminary issues for the Draft Supplemental EIS concerning resources that may be impacted by hydraulic fracturing were identified during internal scoping led by BLM personnel; federal, state, and local agencies; and other stakeholders.

In preparing the Final Supplemental EIS, BLM acknowledges, and carefully considered, many public comments on the Draft Supplemental EIS, as well as new information and data that was made available to BLM through the public comment process. Changes made between the Draft Supplemental EIS and this Final Supplemental EIS document are summarized below in Section 1.4.1 and presented in detail in the sections cited therein.

1.2 Purpose of the Action

The purpose of this Final Supplemental EIS is to analyze the environmental effects of the use of hydraulic fracturing technology in oil and gas development on new leases within the Planning Area and to determine whether changes are needed to the fluid minerals decisions in the 2014 RMP. The focus of

the analysis is on new leases because fluid mineral decisions in the 2014 RMP would apply to new leases.

Existing oil and gas leases are recognized as valid existing rights and are not subject to fluid mineral decisions in the 2014 RMP unless the lease expires and is reissued under the 2014 RMP. The potential impacts of hydraulic fracturing on existing leases are addressed as cumulative impacts in the form of ongoing lease development. Hydraulic fracturing on existing federal mineral leases is estimated to occur at the same rate anticipated on potential new leases and analyzed in this Final Supplemental EIS.

1.3 Need for the Action

The need to develop a Supplemental EIS is established by the Settlement Agreement, filed with the U.S. District Court for the Central District of California on May 3, 2017.

1.4 Supplemental Environmental Impact Statement

This Final Supplemental EIS addresses the information and alternatives analyzed in the 2012 Final EIS, supplemented with additional analyses in response to the Court Order and Settlement Agreement. This Final Supplemental EIS therefore analyzes the impacts of the use of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. It should be noted the decisions generated in the proposed plan only apply to BLM-administered surface and mineral estate. No decisions generated by the 2014 RMP would change existing rights or authority of private land owners or other surface management agencies. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP. The following link has been provided to direct the readers of this Final Supplemental EIS to the 2012 Final EIS; it may prove helpful to have both documents open simultaneously as associated information has been incorporated by reference.

<https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=70273&dctmId=0b0003e880de4801>

It is important to note that this Final Supplemental EIS, like the 2012 Final EIS it supplements, is conducted at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Environmental review under NEPA is required for the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing parcels identifies which parcels should be offered for leasing and the conditions under which leasing and eventual development should occur. The environmental review for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. APDs are required to be submitted by developers/ operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

1.4.1 New Information and Changes to the Final Supplemental EIS

In accordance with BLM's NEPA Handbook H-1790-1 (BLM 2008a), BLM must address significant new circumstances or information relevant to environmental concerns and bearing on the proposed action, or its effects, in a Supplemental EIS analysis (40 CFR 1502.9(c)(1)(ii)). The following new circumstances and information, including those from public comments on the draft Supplemental EIS, as well as changed regulatory status, are integrated into this Final Supplemental EIS. Changes made to the Draft Supplemental EIS in this Final Supplemental EIS are detailed below.

- A public comment noted a lack of clarity regarding the impact analysis assumption of vertical versus horizontal oil and gas wells. This has been clarified in Section 4.8.1 of this Final Supplemental EIS.
- A public comment identified an incorrect assumption used in the greenhouse gas emissions estimate in the Draft Supplemental EIS. This has been corrected in Section 4.1.4 of this Final Supplemental EIS.
- A public comment identified an incomplete reference on groundwater protection standards. This has been corrected in Section 1.5.8 of this Final Supplemental EIS.
- A public comment identified additional details on water codes and permits. This information has been integrated into Section 1.5.8 of this Final Supplemental EIS.
- A public comment provided updated information as to the location of the Tule River Reservation and Tejon Indian Tribe. This is integrated into Section 3.4 of this Final Supplemental EIS.
- A public comment identified a necessary clarification of oil and gas occurrence potential. This information has been integrated into Section 3.10.1 of this Final Supplemental EIS.
- A public comment identified new information regarding the relationship in California oil fields between hydraulic fracturing and earthquakes, which was made available by the U.S. Geological Survey during the public comment period on the Draft Supplemental EIS. New data and information found in Kanamori and Hauksson (1992) discusses this potential relationship and are incorporated into Section 4.10.3.1 of this Final Supplemental EIS.
- A public comment identified new data regarding groundwater sampling associated with oil and gas well stimulation treatments (hydraulic fracturing and acid well stimulation) made available between the Draft and Final Supplemental EIS in the 2018 Annual Performance Report: Model Criteria for Groundwater Monitoring in Areas of Oil and Gas Well Stimulation (State Water Resources Control Board 2019). These new data are incorporated into Section 4.8.1 of this Final Supplemental EIS.
- New cultural resources survey results have been recorded since the 2012 Final EIS. This updated information is described in Section 3.3 of this Final Supplemental EIS.
- A single new paleontological locality was recorded since the 2012 Final EIS. This updated information is described in Section 3.5 of this Final Supplemental EIS.
- Native American values were not analyzed in the 2012 Final EIS, but are considered in this Final Supplemental EIS. Therefore, the Affected Environment for these values is described in Section 3.4. of this Final Supplemental EIS.
- The United States Fish and Wildlife Service (USFWS) published its Programmatic Biological Opinion on Oil and Gas Activities on Bureau of Land Management Lands in the San Joaquin Valley after the 2012 Final EIS, in December 2017 (USFWS 2017). The applicability of this Biological Opinion (BO) to this Final Supplemental EIS analysis is described in Section 4.2.

- BLM commissioned a review of the state of the knowledge of well stimulation and completions technologies in California. This independent assessment was published by the California Council on Science and Technology (CCST). It was prepared by Lawrence Berkeley National Laboratories and the Pacific Institute. Titled *An Independent Review of Scientific and Technical Information on Advanced Well Stimulation Technologies in California*, the assessment was published in 2014 (CCST 2014) and updated in 2016 (CCST 2016). Both reports are cited extensively throughout this Final Supplemental EIS. The conclusions of the reports support and affirm the decisions presented in the 2014 RMP and the conclusion of this document that an RMP amendment is not necessary.
- An important assumption for the planning-level analysis in the 2012 Final EIS, as supplemented in this Final Supplemental EIS, is the number of new wells expected to be drilled on new federal mineral leases over the course of the 2014 RMP's 10-year planning scenario. Apparent contradictions in the 2012 Final EIS regarding this value are clarified in Section 4.1 of this Final Supplemental EIS.

1.5 Description of the Planning Area

The Planning Area is located in Fresno, Kern, Kings, Madera, San Luis Obispo, Santa Barbara, Tulare, and Ventura Counties in California and encompasses approximately 400,000 acres of public land and 1.2 million acres of federal mineral estate (Map 1.1). The Planning Area is completely described in Section 1.3.1 of the 2012 Final EIS.

As noted above, the CCST (2014) report documents an assessment of well stimulation technologies, including hydraulic fracturing, as they are applied and practiced in California, including within the Bakersfield Field Office. The following sections define hydraulic fracturing, and how it is practiced, as integrated into this Final Supplemental EIS impact analysis.

1.5.1 Definition of Hydraulic Fracturing

Hydraulic fracturing is a well completion process employed after drilling an oil or natural gas well. It involves injecting a mixture of highly pressurized fluids and proppant (usually sand) into a geologic formation to create and prop open fissures, or pathways, through which the produced fluids can more easily flow into the wellbore. When the hydraulic pressure is removed from the well, the small grains of sand remain in the fissures and hold the fractures open, allowing for higher production rates of the desired resource than would otherwise be achieved.

1.5.2 Overview of Hydraulic Fracturing in California Compared to Other Regions of the United States

Hydraulic fracturing was first used in Kansas in 1947. Since then, it has become a regular practice to pump previously unrecoverable reserves, or to stimulate increased production from existing oil or gas wells in reservoirs throughout the United States. Hydraulic fracturing in a variety of forms has been widely applied over many decades in California (CCST 2014). The use of the process in California, and specifically within the Planning Area, differs considerably from processes used in other locations in the country (CCST 2014). The Bakersfield Field Office ROD/ARMP Executive Summary discusses the factors most relevant to the Planning Area (BLM 2014).



1.5.3 Geology

Due to geological factors, most oil and natural gas reservoirs in California are considered conventional; i.e., the reservoirs are found in layers of underground rock, which lie beneath a layer of less permeable rock known as cap rock. These conventional reservoirs typically were under pressure when they were first drilled, some resulting in well-known historic gushers. Section 3.14.1.1 of the 2012 Final EIS provides a comprehensive description of the oil and natural gas reserves, and their historic development, in the Planning Area.

In other oil and gas reservoirs such as the Marcellus Shale gas deposits in parts of New York, Pennsylvania, Ohio, Maryland, Virginia, and West Virginia, natural gas often occurs within uncapped rock formations. In these unconventional cases, hydraulic fracturing is necessary to free the resource for production. In California, by contrast, hydraulic fracturing is principally a means of well stimulation to ensure that individual wells attain maximum and sustained production, often a preferred alternative to drilling additional wells to produce the same resources. Production economics, including the cost of drilling and completing a well, also drive the need to maximize resource recovery. In various reservoirs in the eastern United States, producers use horizontal hydraulic fracturing to extract oil and natural gas, whereas in California, vertical hydraulic fracturing is used to access smaller pockets of oil resources (Appendix U, Kern County Environmental Impact Report [EIR]; Kern County 2015).

1.5.4 Number of Wells Utilizing Hydraulic Fracturing

In California, a relatively small number of new wells are hydraulically fractured each year. Due to the location of resources, hydraulic fracturing usually occurs in old fields on existing leases, many of which have been continuously developed over the last 100 years. Discovery of new fields resulting in development of new areas and new leases has not occurred in any notable way. There have been few new onshore oil discoveries in California the past two decades. One new field, Rose Field (Kern County), has been discovered since 1990 (Ganong et al. 2003). The 30 largest onshore oil fields in California were discovered prior to 1950 (CCST 2016). The use of hydraulic fracturing in California has continued at the same low rate for many years, and it is unlikely to increase any time soon (CCST 2014).

1.5.5 Fracturing Duration, Direction, and Length of Fractures

According to BLM and the California Division of Oil, Gas, and Geothermal Resources (DOGGR), there is little or no fracturing of horizontal shale gas wells in California of the type performed in other parts of the United States (CCST 2016). Due to the geologic factors discussed previously, most of California's oil and gas production to date has been from vertical wells into traditional oil and natural gas reservoirs. In other states, the extraction of unconventional natural gas resources requires extended periods of hydraulic fracturing along lengthy stretches of horizontally drilled production wells. The extent of fracturing in unconventional rock stretches for hundreds of yards along the horizontal well, and the fractures stretch farther away from an individual well. In California, approximately 85 percent of hydraulic fracturing projects tend to be associated with shallower wells (less than 2,500 feet deep), as opposed to reservoirs in different parts of the country where hydraulically fractured wells might extend thousands of feet (California Legislative Affairs Office 2016). In California, hydraulic fracturing is used to puncture oil-containing rock within a narrow vertical band along a single well bore with the fractures extending only tens to hundreds of feet away from the well (DOGGR 2018a). This process consumes far less fluid to fracture and far less time to complete, as the period of pressurizing the reservoir rock is much shorter (Appendix U, Kern County EIR; Kern County 2015).

1.5.6 Water Use

In locations with unconventional reservoirs, hydraulic fracturing requires millions of gallons of water to be injected under constant pressure, a process that may take days or weeks to fracture reservoir substrate effectively. A typical hydraulically fractured well in California uses approximately 100,000 gallons of water on average per well (DOGGR 2015a, 2016, 2018c), as compared to an average of 4 to 8 million gallons for a typical well in the Marcellus Shale (STAC 2013). The process in California uses fluids with more concentrated chemicals than hydraulic fracturing in other locations (CCST 2014). The fracture flowback water, disposed of in injection wells or recycled for other purposes, is made up of approximately 99.5 percent water (BLM 2015). As a point of comparison, the total amount of water used for all hydraulic fracturing well completions in California in a typical year is a few hundred acre-feet, whereas the amount of water used in the same area for agriculture amounts to tens of millions of acre-feet of water consumed (DOGGR 2018a).

1.5.7 Subsidence

Subsidence is occurring throughout California, as a result of drought and water overdraft due to a variety of uses. Hydraulic fracturing accounts for a relatively small annual quantity of water use compared to other uses, such as agricultural and municipal water use. According to the Kern County Oil and Gas Zoning EIR, Section 4.6: "Land subsidence of less than one foot from oilfield withdrawals is known to occur in a few isolated areas in southwest Kern County" (Kern County 2015). This estimated number takes into account hydrocarbon extraction methods as well as extraction and re-injection of briny water (Kern County 2015). Therefore, hydraulic fracturing has been thought to contribute negligibly overall to past subsidence.

1.5.8 Environmental Protections

California Senate Bill 4 (SB4) regulates the drilling, operation, maintenance, and abandonment of oil and gas wells in the state, including the use of hydraulic fracturing on federal mineral estate. Compliance with SB4 is overseen by DOGGR. The California Office of Administrative Law approved the Final Permanent Well Stimulation Treatment Regulations (Permanent Regulations), effective July 1, 2015 (DOGGR 2014). The Permanent Regulations are the result of multiple regulatory revisions and reflect extensive input from the public, industry, and various state agencies. Under the Permanent Regulations, DOGGR is required to ensure that well stimulation permitting is conducted safely and mandates operators to comply with public disclosure requirements and neighbor notification.

The Permanent Regulations stipulate that well stimulation treatments do not include steam flooding, water flooding, cyclic steaming, routine well cleanout work, routine well maintenance, routine removal of formation damage due to drilling, bottom hole pressure surveys, or routine activities that do not affect the integrity of the well or the formation.

The following is a summary of the most significant revisions to the Permanent Regulations (Mills 2015).

- **Single-Project authorization:** A single project authorization is a single Division approval for multiple applications for permits to perform well stimulation treatments (Section 1751).
- **Well stimulation permit application:** The requirements for the application are described in detail, including the requirement of identification of all wells and the anticipated water source for the operation (Section 1783.1).

- **Evaluation prior to a well stimulation treatment:** The operator must perform the following prior to a well stimulation treatment: cement evaluation, pressure testing of the well, well stimulation treatment area analysis, and well stimulation treatment design (Section 1784, 1784.1, 1784.2).
- **Monitoring during a well stimulation treatment:** The operator must monitor the following during the well stimulation treatment: the surface injection pressure, the slurry rate, the proppant concentration, the fluid rate, and the pressure of each annulus of the well (Section 1785). Further, the operator must monitor and evaluate seismic activity in the vicinity of the hydraulic fracturing activity (Section 1785.1).
- **Well maintenance and cleanout history:** The operator must provide a description of the well maintenance activity and supply necessary data to DOGGR within 60 days of completing “an operation on a well that involves emplacing fluid containing acid in the well” (Section 1777.4).
- **Disclosures:** Within 60 days after cessation of a well stimulation treatment, the operator must publicly disclose specified information including the location of the well, “measured and true vertical depth of the well,” and the “source, volume, and specific composition and disposition of all water associated with the well stimulation treatment” (Section 1788). DOGGR will publicly post this information on their website and on FracFocus.org.
- **Trade secrets:** SB4 limits the information that can be considered a trade secret for purposes of disclosure. In addition, trade secret information must be disclosed in the case of a medical injury related to well stimulation treatment, and trade secret information must be included in the operator’s permit application to DOGGR (Public Resources Code, section 3160(j)).
- **Storage and handling of well stimulation fluids:** Well stimulation fluids are subject to strict regulatory requirements, including “secondary containment requirements.” The operator must create and adhere to a Spill Contingency Plan. If a spill occurs, the operator must notify the respective Regional Water Board, the National Spill Hotline, and the BLM. Further, well stimulation fluids and waste must be properly stored and are prohibited from being stored in unlined sumps or pits (Section 1786).

DOGGR also requires all wells to meet the following construction and design requirements to ensure the maximum protection of ground water supplies and nearby ecosystems.

- Each well must be lined with a steel pipe casing that extends below the depth of any groundwater aquifers and below an impervious layer of rock that would prevent migration of fluids into the drinking water supply;
- Each well must comply with groundwater protection standards (Water Code: Division 6. Part 2.76. Groundwater Quality Monitoring: Section 10783), and upon completion, a report must be submitted to DOGGR;
- Each well’s casing is required to be secured by well cement and tested to ensure the casing meets industry integrity and operating standards; and
- Each well has additional strings of steel casing installed at depths below the surface casing, keeping any fluids or other material in the well bore from entering the groundwater supply zones.

Furthermore, state and federal water quality laws, including the Clean Water Act, Porter-Cologne Water Quality Control Act, and Safe Drinking Water Act, regulate the disposal of hydraulic fracturing fluids. Well completion treatments, such as hydraulic fracturing, do not include steam flooding, water flooding, or cyclic steaming and do not include routine well cleanout work, routine well maintenance, routine removal of formation damage due to drilling, bottom hole pressure surveys, or routine activities that do not affect the integrity of the well or the formation.

The California State Water Resources Control Board and Regional Water Quality Control Boards also play a significant regulatory role. Water Code Section 10783 requires that before well stimulation treatments can occur the State Water Board and Regional Water Quality Control Boards must approve a groundwater monitoring plan or have issued a letter to the operator that groundwater monitoring is not required. Stormwater permits are required for discharges from oil and gas production sites, including but not limited to discharges of overburden, raw material, and other products associated with the proposed activity. National Pollution Discharge Elimination System permits are required for any disposal into surface waters, including strict monitoring and reporting requirements. Section 401 certification permits are required for any oil and gas production activities that involve dredge or fill within state waters.

In addition, air emissions are regulated by the California Air Resources Board (ARB), including the Central Valley Air Quality Control Board and its eight Air Pollution Control Districts in the planning region. The ARB requires any operator of greenhouse gas (GHG) sources in the Petroleum and Natural Gas Systems source category to quantify and report carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) emissions when: 1) stationary combustion and process emissions equal or exceed 10,000 metric tons of carbon dioxide equivalent (MTCO₂e), or 2) when the stationary combustion, process, fugitive, and vented emissions equal or exceed 25,000 MTCO₂e from 17 source types on a well pad or associated with a well pad (17 California Code of Regulations [CCR] 95152(c)).

1.6 Scoping and Planning Issues

The purpose of the public scoping process is to determine relevant issues that will influence the scope of the environmental analysis, including alternatives if necessary, and guide the planning process.

1.6.1 Scoping Process

A Notice of Intent (NOI) to prepare a Draft Supplemental EIS and potential RMPA was issued by the DOI on August 7, 2018, and published in the Federal Register on August 8, 2018.

The NOI identified the purpose and need for the Supplemental EIS and provided information about the Supplemental EIS, preliminary planning issues and criteria, the scoping process, and contact information. It also initiated a 30-day scoping period, which closed September 7, 2018. The complete results of the scoping process are summarized in the Public Scoping Summary Report (BLM 2018).

1.6.2 Issues Addressed

Public scoping for the 2012 PRMP/Final EIS identified six planning issues that were addressed during the development of the alternatives for the entire 2014 RMP. These are described in Section 1.4.2 of the 2012 Final EIS.

Preliminary issues for this Final Supplemental EIS, concerning resources that may be impacted by hydraulic fracturing, were identified during internal scoping by BLM personnel; federal, state, and local agencies; and other stakeholders. The issues, partially listed in the 2018 NOI, are:

- Air and Atmospheric Values;
- Biological Resources;
- Cultural Resources;
- Native American Values;
- Paleontological Resources;
- Soil Resources;
- Visual Resources;
- Water Resources (quality and quantity);
- Livestock Grazing;
- Minerals Management;
- Areas of Critical Environmental Concern;
- Social and Economic Resources
- Seismicity; and
- Special Status Species.

BLM identified and evaluated other issues raised during public scoping to be addressed in this Final Supplemental EIS analysis and grouped them into one of three categories in the 2018 Public Scoping Summary Report:

1. Issues to be resolved on the basis of the analysis;
2. Issues to be resolved through policy or administrative action; or
3. Issues beyond the scope of a Supplemental EIS and potential RMPA.

1.6.3 Issues Considered but Not Further Analyzed

All substantive issues raised during public scoping are analyzed in this Final Supplemental EIS.

1.7 Planning Criteria and Legislative Constraints

1.7.1 Planning Criteria

Planning criteria are the standards, rules, and guidelines that help to guide the development of a Supplemental EIS and potential RMPA. These criteria are based on applicable laws and regulations, agency guidance, and the result of consultation and coordination with the public; other federal, state, and local agencies; and Native American Tribes.

Planning criteria are used to ensure that a Supplemental EIS and potential RMPA are tailored to the identified issues and to deter unnecessary data collection and analysis. They also help guide the development of alternatives and the selection of the preferred alternative. The following preliminary planning criteria, as stated in the NOI, were used for this Final Supplemental EIS:

1. “Only the portions of the existing plan that need to be updated to respond to the issues and management concerns identified in the court order and settlement agreement will be reviewed.”
2. “The planning process will be completed in compliance with FLPMA and all other applicable laws.”
3. “The planning process will include a Supplemental EIS that will comply with NEPA standards.”
4. “The scope of analysis will be consistent with the level of analysis in approved plans and in accordance with Bureau-wide standards and program guidance.”
5. “Public comments will be addressed during the planning process.”

1.7.2 Legislative Constraints

Section 1.5.2 of the 2012 Final EIS fully discusses legislative constraints for this Final Supplemental EIS document.

1.8 Planning Process

The BLM planning process integrated into the Bakersfield Field Office PRMP/2012 Final EIS is fully described in Section 1.6 of the 2012 Final EIS. This process would apply to any planning decision that may arise on the basis of this supplemental analysis, whether that be to establish, revise, amend, or, in this instance, possibly supersede, an RMP.

1.9 Collaboration

A full description of the collaboration and coordination conducted as part of the Bakersfield Field Office 2012 RMP planning process is located in Section 1.7 of the 2012 Final EIS. These actions would apply to any planning decision that may arise on the basis of this supplemental analysis, whether that be to establish, revise, amend, or, in this instance, possibly supersede, an RMP.

1.10 Related Plans

Per FLPMA, BLM coordinates planning efforts with land use planning and management programs of Native American Tribes, other federal departments, and agencies of state and local governments. While states are authorized to furnish advice regarding revision of land use plans for the public lands, the Secretary of the Interior is directed to develop land use plans consistent with state and local plans to the maximum extent found consistent with Federal law and the purposes of FLPMA. 43 U.S.C. 1712 (c)(9). A complete description of other land management plans that relate to the 2014 RMP is provided in Section 1.8 of the 2012 Final EIS.

1.11 Policy

The 2014 RMP is consistent with requirements identified in various laws, regulations, and policies, as described in Section 1.9 of the 2012 Final EIS.

2 Chapter Two

2.1 Introduction and General Description of Alternatives

This chapter details the proposed alternative management actions for fluid minerals management, under the Minerals Management program area as defined in the 2014 RMP.

The PRMP/2012 Final EIS presented a range of alternatives reflecting direction provided by numerous laws, mandates, policies, and plans. These include FLPMA, NEPA, and BLM planning regulations, criteria, and guidance. As a result, the alternatives analyzed in the 2012 Final EIS consisted of different combinations of management actions and resource allocations or use. The level of oil and gas development described in the Court-upheld Reasonably Foreseeable Development Scenario applies to all alternatives. Although it would be expected that alternatives with fewer acres open for development would result in fewer wells, a large majority of the wells expected to be drilled are in areas that remain open under all alternatives. Differentiating between the alternatives by projecting one to three fewer or more wells based on closed acreage would imply a greater degree of certainty than is possible at the planning level. Thus, the projected development is analyzed as equal across all alternatives, and the following range of alternatives for fluid mineral management, under the Minerals Management program area, has been carried forward for analysis in this Final Supplemental EIS.

The Court Order upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, per the Court Order to take a “hard look” at the environmental impact of hydraulic fracturing in the 2012 Final EIS, this supplemental analysis considers the alternative proposed fluid mineral management decisions previously analyzed in that document. The No Action Alternative reflects management under the previous land use plans, as carried-forward in the 2012 FEIS. Alternative B, the Proposed Plan was adopted in 2014 RMP. Goals and objectives for the five alternatives analyzed in the 2012 Final EIS are provided below. The fluid mineral management decisions from the 2014 RMP for each alternative are summarized in Table 2.1.

2.2 Alternative A (No Action)

As required by NEPA, the No Action Alternative brings forward the existing management as described in the Caliente and Hollister RMPs including applicable amendments, as they apply to the Bakersfield Planning Area. In the absence of specific resource decisions, management has occurred based on federal law, regulation, and BLM policy and guidance; in these cases, no decisions were described in this alternative.

Both the Caliente and Hollister RMPs divided their decision areas into Management Areas (MAs). The Caliente RMP divided the Planning Area into three MAs: Coast, Valley, and South Sierra. The Hollister RMP divided the Planning Area into 16 MAs, two of which are incorporated into this alternative: Central San Joaquin and Squaw Leap (now known as San Joaquin River Gorge). Decisions made for specific MAs are only brought forward and applied to those areas; as such, each decision source is identified and, if applicable, the area to which it applies.

2.2.1 Minerals Management - Leasable Minerals

Goals

Central San Joaquin MA: Oil, gas, and mineral resources will be managed to meet the demand for increased energy and mineral production while protecting other resource values (Hollister RMP).

Objectives

Valley MA: Collaborate with the oil and gas and livestock industries in meeting mutually beneficial management objectives (Caliente RMP).

2.3 Proposed Plan (Alternative B)

The following section briefly describes components of Alternative B (Proposed Plan) related to leasable fluid minerals. Alternative B balances resource conservation and ecosystem health with the production of commodities and public use of the land.

2.3.1 Minerals Management - Leasable Minerals

Goal

Support development of mineral resources on public lands in an environmentally sound manner.

Objective

Facilitate reasonable, economical, and environmentally sound exploration and development of leasable minerals while minimizing impacts to resources.

2.4 Management Common to Alternatives C, D, and E

This section describes land use planning decisions related to fluid minerals management that are common to Alternatives C, D, and E.

- **Alternative C** emphasizes conserving cultural and natural resources, maintaining functioning natural systems, and restoring natural systems that are degraded. Management would focus on protecting sensitive resources through greater limitation of resource uses in sensitive areas.
- **Alternative D** follows Alternative C in all aspects except livestock grazing. Therefore, in this supplemental analysis, these two alternatives are identical in terms of fluid mineral management.
Alternative E emphasizes the production of natural resources commodities and public use opportunities. Resource uses such as recreation, livestock grazing, mining, and oil/gas leasing, consistent with BLM guidance and constraints, would be emphasized.

2.4.1 Minerals Management - Leasable Minerals

Goal

Support development of mineral resources on public lands in an environmentally sound manner.

Objective

Facilitate reasonable, economical, and environmentally sound exploration and development of leasable minerals while minimizing impacts to resources.

2.5 Comparison of Alternatives

Table 2.1 summarizes and compares alternative fluid minerals management decisions.

2.6 Comparison of Impacts

The environmental consequences of integrating hydraulic fracturing as a result of future leasing and development decisions consistent with the fluid mineral management decisions in the 2014 RMP are summarized, by alternative, in Table 2.2.

2.7 Potential Land Use Planning Decision

The potential environmental impacts of integrating hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions are summarized below in Table 2.1. The results of this supplemental analysis calculating the impacts of limited hydraulic fracturing, additive to those identified in the 2012 Final EIS, did not show a notable increase in total impacts. No conflicts were found between the estimated impacts of hydraulic fracturing and the resource or program management goals and objectives stated in the 2012 Proposed RMP. Therefore, an amendment to the 2014 RMP has been determined to be unnecessary, and this Supplemental Final EIS documents an evaluation of superseding the 2014 RMP.

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Table 2.1
Alternative Fluid Minerals Management Actions

Alternative A – No Action(a)	Alternative B – Proposed Plan	Alternative C	Alternative D	Alternative E
Coast MA: Public acreage that is currently leased will not be subject to additional stipulations; however, if leases expire, and new leasing occurs [or renewal leases are renewed], special stipulations may be applied (<i>Caliente RMP</i>). Coast MA: Approximately 42,800 acres are proposed to be open to oil and gas leasing under standard terms and conditions; of that total 2,800 acres are currently leased (<i>Caliente RMP</i>). Valley MA: Public acreage that is currently leased will not be subject to additional stipulations; however, if leases expire, and new leasing occurs, special stipulations may be applied (<i>Caliente RMP</i>). Valley MA: Approximately 18,000 acres would be open to oil and gas leasing under standard terms and conditions (<i>Caliente RMP</i>). South Sierra MA: Approximately 234,700 BLM acres would be open to oil and gas leasing under standard terms and conditions (<i>Caliente RMP</i>). Coast MA: Approximately 100 acres are proposed to be closed to leasing (<i>Caliente RMP</i>). Coast MA: Approximately 1,900 acres are proposed to be closed to leasing within designated Wilderness (<i>Caliente RMP</i>). Valley MA: Approximately 5,800 BLM acres at Bitter Creek SMA would be closed to oil and gas leasing (<i>Caliente RMP</i>).	Identify 0 acres as open to fluid mineral leasing, subject to existing regulations and formal orders; and the terms and conditions of the standard lease form. Identify 149,600 acres as closed to fluid mineral leasing: <ul style="list-style-type: none">• Non-discretionary closures – Wilderness, WSAs, Piedras Blancas ONA, and the PCNST• Discretionary closures – some ACECs (Bitter Creek ACEC, Blue Ridge, Erskine Creek, Piute Cypress, and Point Sal) lands with wilderness characteristics, suitable segments of WSR and Deer Spring area of ecological importance.	Same as Alternative B. Identify 148,060 acres as closed to fluid mineral leasing: <ul style="list-style-type: none">• Non-discretionary closures – Wilderness, WSAs, Piedras Blancas ONA, and the PCNST• Discretionary closures – some ACECs (Blue Ridge, Erskine Creek, Piute Cypress, and Point Sal) and Deer Spring area of ecological importance.	Same as Alternative B. Same as Alternative C.	Same as Alternative B. Identify 149,600 acres as closed to fluid mineral leasing: <ul style="list-style-type: none">• Non-discretionary closures – Wilderness, WSAs, Piedras Blancas ONA, and the PCNST• Discretionary closures – some ACECs (Blue Ridge, Erskine Creek, Piute Cypress, and Point Sal) and Deer Spring area of ecological importance.

Table 2.1
Alternative Fluid Minerals Management Actions

Alternative A – No Action(a)	Alternative B – Proposed Plan	Alternative C	Alternative D	Alternative E
No similar management action.	No similar management action.	Identify 46,850 acres as closed to fluid mineral leasing: <ul style="list-style-type: none">Discretionary closures – ACECs (Bitter Creek and Compensation Lands), State of California’s Chimineas Unit of the Carrizo Plain Ecological Reserve, federal minerals below lands managed as compensation, lands managed for wilderness characteristics, and suitable WSR corridors	Same as Alternative C.	No similar management action.
No similar management action.	These stipulations and decisions do not apply to geophysical exploration conducted <i>outside the rights granted by a Federal oil and gas lease. Stipulations governing geophysical exploration would be established in site-specific NEPA documentation and incorporate appropriate protective measures (Appendix L, 2012 Final EIS).</i>	These stipulations and decisions do not apply to geophysical exploration.	Same as Alternative C.	Same as Alternative C.
	Identify 0 acres as open to fluid mineral leasing, subject to moderate constraints.	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.
	Identify 0 acres as open to fluid mineral leasing, subject to existing regulations and formal orders; and the terms and conditions of the standard lease form.	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.
No similar management action.	Identify approximately 1,011,470 acres as open to fluid mineral leasing, subject to major constraints (both CSU – Protected Species and CSU – Sensitive Species). Of this at least 3,880 acres would also be subject to a No Surface Occupancy stipulation. Additional CSU stipulations may be applied to all new leases in conjunction with the lease sale as determined appropriate and in conformance with the 2014 RMP. <i>Additional information regarding the application, review process, and coordination requirements of the stipulations is included in Appendix G [2012 Final EIS].</i>	Identify approximately 966,160 acres as open to fluid mineral leasing, subject to major constraints (both CSU – Protected Species and CSU – Sensitive Species). Of this at least 8,400 acres would also be subject to a No Surface Occupancy stipulation. Additional CSU stipulations may be applied to all new leases in conjunction with the lease sale as determined appropriate and in conformance with the 2014 RMP.	Same as Alternative C.	Identify approximately 1,011,470 acres as open to fluid mineral leasing, subject to major constraints (both CSU – Protected Species and CSU – Sensitive Species). Of this at least 3,590 acres would also be subject to a No Surface Occupancy stipulation. Additional CSU stipulations may be applied to all new leases in conjunction with the lease sale as determined appropriate and in conformance with the 2014 RMP.

Table 2.1
Alternative Fluid Minerals Management Actions

Alternative A – No Action(a)	Alternative B – Proposed Plan	Alternative C	Alternative D	Alternative E
South Sierra MA: Approximately 10,100 BLM acres would be closed to oil and gas leasing, and an additional 18,500 acres would be closed to geothermal development (<i>Caliente RMP</i>).	Identify 26,440 acres, in addition to that closed to all fluid mineral leasing, as closed only to geothermal leasing: <ul style="list-style-type: none">Discretionary closures – Kaweah ACEC.	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.
Coast MA: Approximately 1,500 acres are proposed to open with a No Surface Occupancy stipulation (<i>Caliente RMP</i>).	No similar management action.	No similar management action.	No similar management action.	No similar management action.
South Sierra MA: Approximately 3,000 acres would be open to oil and gas leasing with a No Surface Occupancy (NSO) Stipulation (<i>Caliente RMP</i>).				
Valley MA: Approximately 500 BLM acres in Goose Lake and Alkali Sink ACEC would be open to oil and gas leasing with a No Surface Occupancy Stipulation (NSO). Approximately 300 acres are currently leased (<i>Caliente RMP</i>).	No similar management action.	No similar management action.	No similar management action.	No similar management action.
No similar management action.	<p>Establish the major constraint of “NSO – Compensation Lands ACEC” that prohibits surface disturbance on the entire lease for the purpose of minimizing or eliminating adverse effects associated with fluid mineral development on lands acquired as compensation lands with the following stipulation language:</p> <p><i>(b)All or a portion of this lease occurs within the boundaries of the Compensation Lands ACEC. These lands may have a governing document that prohibits certain activities. No new surface disturbing activity is allowed on the lease. Furthermore, access to federal minerals within the lease will only be allowed from off-site sources not considered to be compensation lands (e.g., compensation land in private ownership). This stipulation shall not be waived, however may be granted exception or modified as follows:</i></p> <p>Exception: <i>The Authorized Officer may grant an exception if, after coordination with appropriate agency (e.g., CDFG^(c) and USFWS), an environmental review determines the action as proposed or conditioned would not impair the values present and is consistent with the document that established the compensation land.</i></p> <p>Modification: <i>The Authorized Officer may modify this stipulation to allow surface use on a portion or the entire lease if, after coordination with appropriate agency (e.g., CDFG and USFWS), an environmental review determines the action as</i></p>	No similar management action.	No similar management action.	No similar management action.

Table 2.1
Alternative Fluid Minerals Management Actions

Alternative A – No Action(a)	Alternative B – Proposed Plan	Alternative C	Alternative D	Alternative E
	<i>proposed or conditioned would not impair the values present and is consistent with the document that established the compensation land.</i>			
No similar management action.	<p>Establish the major constraint of “NSO – General” that prohibits surface disturbance on the entire lease for the purpose of minimizing or eliminating adverse effects on unique or significant natural and cultural resources that are incompatible with fluid mineral development with the following stipulation language:</p> <p><i>All or a portion of this lease has been identified by the current RMP (e.g., ACECs and areas of ecological importance with this stipulation prescribed) as containing unique or significant natural or cultural values. No new surface disturbing activity is allowed on the lease. This stipulation may be granted exception, modified, or waived as follows:</i></p> <p>Exception: <i>The Authorized Officer may grant an exception if, after coordination with appropriate agency (e.g., CDFG, SHPO, and USFWS), an environmental review determines the action as proposed or conditioned would not impair the values present because of temporary conditions.</i></p> <p>Modification: <i>The Authorized Officer may modify this stipulation to allow surface use on a portion or even all of the lease if an environmental review determines the action as proposed or conditioned would not impair the values present.</i></p> <p>Waiver: <i>The Authorized Officer may grant a waiver if an environmental review determines the values for which the NSO was applied no longer exist.</i></p>	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.
No similar management action.	<p>Establish the major constraint of “CSU – Compensation Lands” for the purpose of minimizing or eliminating adverse effects associated with fluid mineral development on lands managed as compensation land with the following stipulation language:</p> <p><i>All or a portion of this lease underlies lands managed as compensation land by the BLM or an entity other than the BLM that may have a governing document that prohibits certain activities.</i></p>	No similar management action.	No similar management action.	No similar management action.

Table 2.1
Alternative Fluid Minerals Management Actions

Alternative A – No Action(a)	Alternative B – Proposed Plan	Alternative C	Alternative D	Alternative E
	<p><i>To allow only a compatible amount of disturbance to unique or significant biological values, no more than ten (10) percent of the surface within any parcel may be disturbed on the surface reserve lands overlying the lease. Furthermore, access to federal minerals within the lease will not disturb more than ten (10) percent of the surface within any parcel from off-site sources that are compensation lands (e.g., compensation land in private ownership). This stipulation may be granted exception, modified, or waived as follows:</i></p> <p>Exception: <i>The Authorized Officer may grant an exception if, after coordination with appropriate agency (e.g., CDFG and USFWS), an environmental review determines the action as proposed or conditioned would not impair the values present and is consistent with the document that established the compensation land.</i></p> <p>Modification: <i>The Authorized Officer may modify this stipulation if, after coordination with appropriate agency (e.g., CDFG and USFWS), an environmental review determines the action as proposed or conditioned would not impair the values present and is consistent with the document that established the compensation land.</i></p> <p>Waiver: <i>The Authorized Officer may grant a waiver to the stipulation if the lease parcel no longer considered as compensation land by the appropriate agency (e.g., BLM, CDFG and USFWS).</i></p>			
No similar management action.	<p>Establish the major constraint of “CSU – Chimineas Ranch” for the purpose of preventing or reducing disturbance to unique or significant natural resources from fluid mineral development with the following stipulation language:</p> <p><i>This lease is within the boundaries of, or adjacent to, the State of California’s Chimineas Unit of the Carrizo Plain Ecological Reserve, an area that contains unique or significant natural or cultural values. Prior to the authorization of any surface disturbing activities, a preliminary environmental review will be conducted to identify the potential presence of natural or cultural values. Authorizations may be delayed until completion of the necessary surveys during the appropriate time period for these resources. Surface disturbing</i></p>	No similar management action.	No similar management action.	No similar management action.

Table 2.1
Alternative Fluid Minerals Management Actions

Alternative A – No Action(a)	Alternative B – Proposed Plan	Alternative C	Alternative D	Alternative E
	<p><i>activities may be prohibited on portions or the entire lease, and some activities may be prohibited during seasonal time periods. This stipulation shall not be waived, however may be granted exception or modified as follows:</i></p> <p>Exception: <i>The Authorized Officer may grant an exception if, after coordination with CDFG, an environmental review determines that the activity, as proposed or conditioned, would not impair the values present and is consistent with the management of the ecological reserve.</i></p> <p>Modification: <i>The Authorized Officer may modify this stipulation to further restrict surface use on a portion of or the entire lease if a more stringent requirement is deemed necessary to protect resource values following an environmental review.</i></p>			
<p>Coast MA: Approximately 22,700 acres are proposed to be open to oil and gas leasing subject to a Controlled Surface Use (CSU) stipulation (<i>Caliente RMP</i>). Special categories of the CSU stipulations include:</p> <ul style="list-style-type: none"> 16,500 acres open subject to the CSU - Protected Species stipulation. <p>Coast MA: Both the CSU-Protected Species and the CSU-Sensitive Species stipulations would apply to one township and range (25S, 10E) immediately southwest of Camp Roberts in an area with limited oil exploration potential (<i>Caliente RMP</i>).</p> <p>Valley MA: Approximately 348,300 acres would be open to oil and gas leasing with a Controlled Surface Use (CSU) stipulation; of that total, approximately 136,000 acres are currently under lease (<i>Caliente RMP</i>). Special categories of the CSU stipulations include:</p> <ul style="list-style-type: none"> 212,300 acres would be subject to the CSU - Protected Species stipulation. <p>Valley MA: Areas within the Valley [MA] that would be subject to more than one category of the CSU stipulations include: the Carrizo Plain Natural Area ACEC where protected species, sensitive species and raptor stipulations apply; Lokern ACEC, where both protected species and sensitive species stipulations apply; and Kettleman Hills where</p>	<p>Establish the major constraint “CSU - Protected Species” for the purpose of minimizing or eliminating adverse effects associated with fluid mineral development on federally proposed and listed species with the following stipulation language:</p> <p><i>All or a portion of the lease occurs within the range of one or more plant or animal species that are either listed or proposed for listing as threatened or endangered by the USFWS. A list of such species will be provided at the time of leasing and updated as necessary over the term of the lease. To determine whether species on this list or their habitat are present, a preliminary environmental review will be conducted for all surface disturbing activities.</i></p> <p><i>Presence of habitat or species may result in the proposed action being moved, modified, or delayed to mitigate project effects. Offsite compensation that would satisfactorily offset the loss of habitat may be required. Prohibition of all surface disturbing activities on the lease will only occur as needed to avoid jeopardizing the continued existence of a listed or proposed species, or when the proposed action is inconsistent with the recovery needs of a species as identified in an approved USFWS Recovery Plan through consultation with USFWS. Furthermore, processing times for proposed actions may be delayed beyond established standards to accommodate species</i></p>	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.

Table 2.1
Alternative Fluid Minerals Management Actions

Alternative A – No Action(a)	Alternative B – Proposed Plan	Alternative C	Alternative D	Alternative E
<p>protected species and raptor stipulations apply (<i>Caliente RMP</i>).</p> <p>South Sierra MA: Approximately 95,600 acres would be open to oil and gas leasing under a Controlled Surface Use (CSU) stipulation (<i>Caliente RMP</i>). Special categories of the CSU stipulation will be applied as follows:</p> <ul style="list-style-type: none">34,400 acres are subject to the CSU - Protected Species stipulation	<p><i>surveys, and consultation or conferencing with the USFWS. This stipulation shall not be waived; however, it may be modified or an exception may be granted as follows:</i></p> <p>Exception: <i>The Authorized Officer may grant an exception if an environmental review determines the action as proposed or conditioned would have no effect on listed or proposed species.</i></p> <p>Modification: <i>The Authorized Officer may modify this stipulation to reflect new information with regard to the range of listed or proposed species through the expansion or reduction of lands subject to this stipulation for a specific species.</i></p>			
<p>Coast MA: Approximately 22,700 acres are proposed to be open to oil and gas leasing subject to a Controlled Surface Use (CSU) stipulation (<i>Caliente RMP</i>). Special categories of the CSU stipulations include:</p> <ul style="list-style-type: none">6,000 acres open subject to the CSU - Sensitive Species stipulation. <p>Coast MA: Both the CSU - Protected Species and the CSU - Sensitive Species stipulations would apply to one township and range (25S, 10E) immediately southwest of Camp Roberts in an area with limited oil exploration potential (<i>Caliente RMP</i>).</p> <p>Valley MA: Approximately 348,300 acres would be open to oil and gas leasing with a Controlled Surface Use (CSU) stipulation; of that total, approximately 136,000 acres are currently under lease (<i>Caliente RMP</i>). Special categories of the CSU stipulations include:</p> <ul style="list-style-type: none">126,500 acres would be subject to the CSU - Sensitive Species stipulation. <p>Valley MA: Areas within the Valley [MA] that would be subject to more than one category of the CSU stipulations include: the Carrizo Plain Natural Area ACEC where protected species, sensitive species and raptor stipulations apply; Lokern ACEC, where both protected species and sensitive species stipulations apply; and Kettleman Hills, where protected species and raptor stipulations apply (<i>Caliente RMP</i>).</p>	<p>Establish the major constraint “CSU - Sensitive Species” for the purpose of minimizing or eliminating adverse effects associated with fluid mineral development on federal candidate, State listed and BLM sensitive species with the following stipulation language:</p> <p><i>All or a portion of this lease is within the range of one or more plant or animal species that are either federal candidates for listing as threatened or endangered (federal candidate), are listed by the State of California as threatened or endangered (state listed), or are designated by the BLM as sensitive (BLM sensitive). A list of species will be provided at the time of leasing and updated as necessary over the term of the lease. To determine whether species on this list or their habitat are present, a preliminary environmental review will be conducted for all surface disturbing activities. Presence of habitat or species may result in the proposed action being moved more than 200 meters (656 feet) but not more than a quarter-mile or off of the lease and prohibition of activities during seasonal use period. Furthermore, processing times for proposed actions may be delayed beyond established standards to accommodate species surveys, and coordination with the USFWS and California Department of Fish and Game. This stipulation shall not be waived; however, it may be granted exception or modified as follows:</i></p> <p>Exception: <i>The Authorized Officer may grant an exception if an environmental review determines</i></p>	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.

Table 2.1
Alternative Fluid Minerals Management Actions

Alternative A – No Action(a)	Alternative B – Proposed Plan	Alternative C	Alternative D	Alternative E
<p>South Sierra MA: Approximately 95,600 acres would be open to oil and gas leasing under a Controlled Surface Use (CSU) stipulation (<i>Caliente RMP</i>). Special categories of the CSU stipulation will be applied as follows:</p> <ul style="list-style-type: none">27,400 acres are subject to the CSU - Sensitive Species stipulation	<p><i>the action as proposed or conditioned would have no effect on federal candidate, state listed, and BLM sensitive species.</i></p> <p>Modification: <i>The Authorized Officer may modify the stipulation to reflect new information with regard to federal candidate, state listed or BLM sensitive species lists. Furthermore, the authorized officer may modify the maximum distance that a potential location could be moved to extend farther than the stated quarter-mile to maintain the sensitive species protection goals.</i></p>			
<p>Valley MA: Approximately 348,300 acres would be open to oil and gas leasing with a Controlled Surface Use (CSU) stipulation; of that total, approximately 136,000 acres are currently under lease (<i>Caliente RMP</i>). Special categories of the CSU stipulations include:</p> <ul style="list-style-type: none">113,100 acres would be subject to the CSU-Raptor stipulation. <p>Valley MA: Areas within the Valley [MA] that would be subject to more than one category of the CSU stipulations include: the Carrizo Plain Natural Area ACEC, where protected species, sensitive species and raptor stipulations apply; Lokern ACEC, where both protected species and sensitive species stipulations apply; and Kettleman Hills, where protected species and raptor stipulations apply (<i>Caliente RMP</i>).</p> <p>South Sierra MA: Approximately 95,600 acres would be open to oil and gas leasing under a Controlled Surface Use (CSU) stipulation (<i>Caliente RMP</i>). Special categories of the CSU stipulation will be applied as follows:</p> <ul style="list-style-type: none">18,500 acres are subject to the CSU - Raptor stipulation	<p>Establish the major constraint “CSU - Raptor” for the purpose of minimizing or eliminating adverse effects associated with fluid mineral development on sensitive raptor foraging areas, winter roosting areas, or nest sites with the following stipulation language:</p> <p><i>All or a portion of this lease has been identified as an important raptor foraging, wintering, or nesting area. Any proposed surface disturbing activity will be reviewed to determine if the activity would affect raptor foraging, wintering, or nesting habitat. Determination of effects to raptor foraging, wintering, or nesting habitat may result in the proposed action being moved more than 200 meters (656 feet) but not more than a half-mile and prohibition of activities during seasonal use period. This stipulation may be granted exception, modified, or waived as follows:</i></p> <p>Exception: <i>The Authorized Officer may grant an exception if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.</i></p> <p>Modification: <i>The Authorized Officer may modify the distance and other provisions of this stipulation based on new information and increasing or decreasing levels of the impacts anticipated from fluid mineral development.</i></p> <p>Waiver: <i>The Authorized Officer may waive the stipulation should new information show the area no longer contains sensitive raptor habitat for foraging, winter roosting, or nesting.</i></p>	<p>Same as Alternative B.</p>	<p>Same as Alternative B.</p>	<p>Same as Alternative B.</p>

Table 2.1
Alternative Fluid Minerals Management Actions

Alternative A – No Action(a)	Alternative B – Proposed Plan	Alternative C	Alternative D	Alternative E
<p>Valley MA: Approximately 348,300 acres would be open to oil and gas leasing with a Controlled Surface Use (CSU) stipulation; of that total, approximately 136,000 acres are currently under lease (<i>Caliente RMP</i>). Special categories of the CSU stipulations include:</p> <ul style="list-style-type: none">300 acres would be subject to the CSU - Critical Habitat stipulation. <p>South Sierra MA: Approximately 95,600 acres would be open to oil and gas leasing under a Controlled Surface Use (CSU) stipulation (<i>Caliente RMP</i>). Special categories of the CSU stipulation will be applied as follows:</p> <ul style="list-style-type: none">22,300 acres are subject to the CSU- Critical Habitat stipulation	<p>Establish the major constraint “CSU – Critical Habitat” for the purpose of minimizing or eliminating adverse effects associated with fluid mineral development on habitat designated as critical, or is proposed for designation as critical habitat by the USFWS with the following stipulation language:</p> <p><i>All or a portion of this lease lies within an area that is designated as critical habitat, or is proposed for designation as critical habitat by the USFWS. A list of these areas affecting this lease will be provided at the time of leasing and will be updated as necessary over the term of the lease. Any proposed surface disturbing activity occurring on the affected portions of this lease will be reviewed to determine if the activity would affect designated or proposed critical habitat. Determination of effects to designated or proposed critical habitat may result in the proposed action being moved, modified, seasonally restricted, or delayed. Consultation or conference with the USFWS is required if designated or proposed critical habitat may be affected. Off-site compensation that would satisfactorily offset the loss of habitat may be required. Prohibition of all surface disturbing activities on the lease will only occur as needed to avoid destroying or adversely modifying critical habitat or proposed critical habitat, or when the proposed action is inconsistent with the recovery needs identified in an approved USFWS Recovery Plan based on consultation with USFWS.</i></p> <p><i>Furthermore, processing times for proposed actions may be delayed beyond established standards to accommodate species surveys, and consultation or conferencing with the USFWS. This stipulation shall not be waived; however, it may be granted exception or modified as follows:</i></p> <p>Exception: <i>The Authorized Officer may grant an exception if an environmental review determines the action as proposed or conditioned would have no effect on critical habitat or proposed critical habitat.</i></p>	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.

Table 2.1
Alternative Fluid Minerals Management Actions

Alternative A – No Action(a)	Alternative B – Proposed Plan	Alternative C	Alternative D	Alternative E
	<i>Modification: The Authorized Officer may modify this stipulation to reflect new information with regard to the critical habitat or proposed critical habitat through the expansion or reduction of lands subject to this stipulation for a specific species.</i>			
Coast MA: Approximately 22,700 acres are proposed to be open to oil and gas leasing subject to a Controlled Surface Use (CSU) stipulation (<i>Caliente RMP</i>). Special categories of the CSU stipulations include: <ul style="list-style-type: none">4,300 acres open subject to the CSU - [Priority Species, Plant Communities and Habitats] stipulation.	Establish the major constraint “CSU – Priority Species, Plant Communities and Habitats” for the purpose of minimizing or eliminating adverse effects associated with fluid mineral development on rare and/or endemic vegetation, plants, and communities, including riparian and serpentine endemics, with the following stipulation language: <i>All or a portion of the lease has been identified by the current RMP (i.e., ACECs and areas of ecological importance with this stipulation prescribed) as containing priority species, plant communities, or habitat that may be adversely affected by fluid mineral development. A list of affected parcels or portions of the lease will be provided at the time of leasing. To identify the possibility of adverse impact resulting from fluid mineral development, a preliminary environmental review will be conducted for all surface disturbing activities. Identification of adverse impacts may result in the proposed action being moved, modified, seasonally delayed, or prohibited from all or a portion of this lease. Furthermore, processing times for proposed actions may be delayed beyond established standards to accommodate species surveys. This stipulation shall not be waived, but may be granted exception or modified as follows:</i> <i>Exception: The Authorized Officer may grant an exception if an environmental review determines the action as proposed or conditioned would have no effect on priority species, plant communities, or habitats.</i> <i>Modification: The Authorized Officer may modify the stipulation to reflect new information with regard to the presence of priority species, plant communities, or habitat through the expansion or reduction of lands subject to this stipulation.</i>	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.

Table 2.1
Alternative Fluid Minerals Management Actions

Alternative A – No Action(a)	Alternative B – Proposed Plan	Alternative C	Alternative D	Alternative E
No similar management action.	<p>Establish the major constraint “CSU – Cultural Resources” for the purpose of minimizing or eliminating adverse effects associated with fluid mineral development on National Register-listed or eligible cultural properties with the following stipulation language:</p> <p><i>All or a portion of the lease contains National Register-listed or potentially eligible cultural properties that may be adversely affected by fluid mineral development. A list of affected parcels or portions of the lease will be provided at the time of leasing. To identify the possibility of adverse impacts resulting from fluid mineral development, a preliminary cultural resource review/survey will be conducted for all surface disturbing activities. Identification of adverse impacts may result in the proposed action being moved or modified. Surface-disturbing activities would be prohibited on the portion of the lease where National Register-listed properties or properties potentially eligible for listing on the National Register occur. This stipulation may be modified, waived, or granted exception as follows:</i></p> <p>Exception: <i>The Authorized Officer may grant an exception, with concurrence from the California State Historic Preservation Office and Native American Tribes, if a subsequent formal eligibility evaluation indicates the cultural property is ineligible.</i></p> <p>Modification: <i>The Authorized Officer may modify the stipulation to reflect new information from formal eligibility evaluations for cultural properties through the expansion or reduction of land where surface disturbing activities would be prohibited.</i></p> <p>Waiver: <i>The Authorized Officer may grant a waiver to the stipulation should the results of formal eligibility evaluation determine all cultural properties ineligible for listing on the National Register.</i></p>	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.
Coast MA: The 69,700 acres of mineral estate under the administration of the Department of Defense (DOD) would be open subject to the CSU - Defense stipulation (<i>Caliente RMP</i>).	Establish the major constraint “CSU – Defense” for the purpose of minimizing or eliminating conflict between fluid mineral development and military base operations with the following stipulation language:	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.

Table 2.1
Alternative Fluid Minerals Management Actions

Alternative A – No Action(a)	Alternative B – Proposed Plan	Alternative C	Alternative D	Alternative E
Valley MA: The 16,600 acres of federal mineral estate under the administration of the Department of Defense (DOD at Lemoore Naval Air Station) would be open to oil and gas leasing subject to the CSU - Defense stipulation (<i>Caliente RMP</i>).	<p><i>All or a portion of this lease contains federal mineral estate under the surface administration of the Department of Defense. Surface disturbing activities may be moved, modified, or prohibited at the discretion of the Base Commander(s) to ensure these activities do not interfere with military activity on the base and to ensure personnel safety. Furthermore, processing times for proposed actions may be delayed beyond established standards to accommodate review and coordination with the Base Commander(s). This stipulation shall not be modified or granted exception; however, it may be waived as follows:</i></p> <p>Waiver: <i>The Authorized Officer may grant a waiver to this stipulation if the surface administration changes from the Department of Defense to another entity.</i></p>			
No similar management action.	<p>Establish the major constraint “CSU – Existing Surface Use/Management” for the purpose of minimizing or eliminating conflict between fluid mineral development and existing surface use on both public lands and split estate overlying federal minerals, including risk to public health and safety, and social and economic impacts (noise, aesthetics, etc.) with the following stipulation language:</p> <p><i>All or a portion of the lease contains federal mineral estate underlying surface with an established use or management that may be incompatible with fluid mineral development. A preliminary environmental review will be conducted for all surface disturbing activities to identify possible conflict between surface use and fluid mineral development. Surface disturbing activities may be moved, modified, or prohibited to accommodate the existing surface use should the Authorized Officer determine the incompatibility of these uses.</i></p> <p><i>Specifically, fluid mineral development shall not occur:</i></p> <p><i>(1) Closer to any development (e.g., public highway, institution, place of public assembly, or occupied dwelling) than allowed by the county/city regulation or statute applicable to the area in which the proposed action occurs (including those exceptions where closer spacing is allowed);</i></p>	<p>Establish the major constraint “CSU – Existing Surface Use/Management” for the purpose of minimizing or eliminating conflict between fluid mineral development and existing surface use on both public lands and split estate overlying federal minerals, including risk to public health and safety, and social and economic impacts (noise, aesthetics, etc.) with the following stipulation language:</p> <p><i>All or a portion of the lease contains federal mineral estate underlying surface with an established use or management that may be incompatible with fluid mineral development. A preliminary environmental review will be conducted for all surface disturbing activities to identify possible conflict between surface use and fluid mineral development. Surface disturbing activities may be moved, modified, or prohibited to accommodate the existing surface use should the Authorized Officer determine the incompatibility of these uses.</i></p> <p><i>Specifically, fluid mineral development shall not occur:</i></p> <p><i>(1) Closer to any development (e.g., public highway, institution, place of public assembly, or occupied dwelling) than allowed by the county/city regulation or statute applicable to the area in which the proposed action occurs (including those exceptions where closer spacing is allowed);</i></p>	Same as Alternative C.	Same as Alternative C.

Table 2.1
Alternative Fluid Minerals Management Actions

Alternative A – No Action(a)	Alternative B – Proposed Plan	Alternative C	Alternative D	Alternative E
	<p>(2) Within 200 feet of an occupied dwelling;^(d)</p> <p>(3) In a manner that significantly and adversely impacts natural and/or cultural resources of which the surface owner/administrator is charged with the management and protection; or</p> <p>(4) In a manner that significantly and adversely impacts existing recreation opportunity of which the surface owner/administrator is charged with the management and protection.</p> <p>Furthermore, processing times for proposed actions may be delayed beyond established standards to accommodate review and coordination with the surface owner/administrator.</p> <p>This stipulation shall not be waived, but may be granted exception or modified as follows:</p> <p>Exception: The Authorized Officer may grant an exception where a surface use agreement exists between the lessee and surface owner/administrator that allows for the proposed fluid mineral development. Furthermore, exception may be granted where the proposed action is deemed, following an environmental review, to have discountable or insignificant impacts on the existing surface use.</p> <p>Modification: The Authorized Officer may modify this stipulation to further restrict surface use for mineral development on a portion of or all the lease if a more stringent requirement with regard to the location of facilities is deemed necessary following an environmental review (e.g., greater than county/city restrictions on fluid mineral development).</p>	<p>(2) Within 200 feet of an occupied dwelling;</p> <p>(3) In a manner that significantly and adversely impacts natural and/or cultural resources of which the surface owner/administrator is charged with the management and protection; or</p> <p>(4) In a manner that significantly and adversely impacts existing recreation opportunity of which the surface owner/administrator is charged with the management and protection.</p> <p>Furthermore, processing times for proposed actions may be delayed beyond established standards to accommodate review and coordination with the surface owner/administrator.</p> <p>This stipulation shall not be waived, but may be granted exception or modified as follows:</p> <p>Exception: The Authorized Officer may grant an exception where a surface use agreement exists between the lessee and surface owner/administrator that allows for the proposed fluid mineral development. Furthermore, exception may be granted where the proposed action is deemed, following an environmental review, to have discountable or insignificant impacts on the existing surface use.</p> <p>Modification: The Authorized Officer may modify this stipulation to further restrict surface use for mineral development on a portion of or all the lease if a more stringent requirement with regard to the location of facilities is deemed necessary following an environmental review (e.g., greater than county/city restrictions on fluid mineral development).</p>		
No similar management action.	No similar management action.	No similar management action.	No similar management action.	<p>Establish the major constraint of “CSU – Bitter Creek ACEC” for the purpose of preventing or reducing disturbance to current or future refuge resources from fluid mineral development with the following stipulation language:</p> <p>All or a portion of this lease occurs within the boundaries of the Bitter Creek ACEC and the Bitter Creek National Wildlife Refuge. No new surface disturbing activity is allowed on the lease. Furthermore, access to federal minerals within the</p>

Table 2.1
Alternative Fluid Minerals Management Actions

Alternative A – No Action(a)	Alternative B – Proposed Plan	Alternative C	Alternative D	Alternative E
				<i>lease will only be allowed from off-site sources not within the Bitter Creek National Wildlife Refuge boundary. This stipulation shall not be waived, however may be granted exception or modified as follows:</i>
				Exception: <i>The Authorized Officer may grant an exception if, after coordination with USFWS, an environmental review determines the action as proposed or conditioned would not impair the values present and is consistent with the management of the National Wildlife Refuge.</i>
				Modification: <i>The Authorized Officer may modify this stipulation to allow surface use on a portion or the entire lease if, after coordination with USFWS, an environmental review determines the action as proposed or conditioned would not impair the values present and is consistent with the management of the National Wildlife Refuge.</i>

Notes (expanded from notes section the 2014 RMP/2012 Final EIS table):
(a) The text describing the alternatives is taken directly from the 2014 RMP
(b) The language of the CSUs, presented in italics, is taken directly from the 2014 RMP
(c) The California Department of Fish and Game (CDFG) changed its name to the California Department of Fish and Wildlife (CDFW) in 2013, after this text was written. To maintain consistency with the 2014 RMP/Final EIS, this text retains the original acronym.
(d) Revisions in the 2012 Final EIS, e.g. strikethroughs, have been retained in this table.

Key (added to the original table for this Final Supplemental EIS):
2012 Final EIS = 2012 Bakersfield Final Environmental Impact Statement
ACEC = Area of Critical Environmental Concern
BLM = Bureau of Land Management
CDFG = California Department of Fish and Game
CSU = Controlled Surface Use
DOD = United States Department of Defense
MA = Management Area
NEPA = National Environmental Policy Act
NSO = No Surface Occupancy
ONA = Outstanding Natural Area
PCNST = Pacific Crest National Scenic Trail
RMP = Resource Management Plan
SHPO = State Historic Preservation Officer
SMA = Special Management Area
USFWS = United States Fish and Wildlife Service
WSA = Wilderness Study Area
WSR = Wild and Scenic River

Table 2.2
Comparison of Estimated Impacts, by Alternative

Resource/Program	Alternative A No Action	Common to all Action Alternatives	Alternative B	Alternative C	Alternative D	Alternative E
Air and Atmospheric Values	No change from 2012 Final EIS	<p>See Section 4.1, Impacts Common to All Action Alternatives</p> <p>Potential short- and long-term surface disturbance from hydraulic fracturing is the same for all Action Alternatives, summarized in Table 4.2.</p> <p>Emissions from hydraulic fracturing well development are summarized in Table 4.1.1. These emission increases are minimal, with the largest being NO_x at 2.74 tons per year.</p> <p>Greenhouse gas emissions from hydraulic fracturing well development are summarized in Tables 4.1.5, 4.1.6, and 4.1.7.</p>	See Section 4.1, Impacts Common to All Action Alternatives	See Section 4.1, Impacts Common to All Action Alternatives	See Section 4.1, Impacts Common to All Action Alternatives	See Section 4.1, Impacts Common to All Action Alternatives
Biological Resources	No change from 2012 Final EIS	<p>See Section 4.2, Impacts Common to All Action Alternatives</p> <p>Potential short- and long-term surface disturbance from hydraulic fracturing is the same for all Action Alternatives, summarized in Table 4.2.</p> <p>On BLM surface, BMPs, SOPS, and lease stipulations, in Sections L3 and L.7, Appendix L in the 2014 RMP, would mitigate potential impacts.</p> <p>On non-BLM surface, constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, protective measures, mitigation, and BMPs from SB4, Chapter 313, as well as Kern County Zoning Ordinance, Chapter 19.98 (Oil and Gas Production) (Kern County 2015) would apply to mitigate potential impacts. Wells on non-BLM surface would likely be subject to additional environmental impact analysis under CEQA.</p> <p>Required surveys, mitigation, and monitoring for all projects authorized under the Programmatic BO (USFWS 2017) would apply to all T&E species on BLM surface.</p>	<p>See Section 4.2, Impacts Common to All Action Alternatives</p> <p>CSU for Compensation Lands ACEC, would further reduce potential surface impacts after mitigation</p>	See Section 4.2, Impacts Common to All Action Alternatives	See Section 4.2, Impacts Common to All Action Alternatives	<p>See Section 4.2, Impacts Common to All Action Alternatives</p> <p>CSU for Bitter Creek ACEC would prevent/reduce disturbance to current or future refuge resources from fluid mineral development</p>
Cultural Resources	No change from 2012 Final EIS	<p>See Section 4.3, Impacts Common to All Action Alternatives</p> <p>Potential short- and long-term surface disturbance from hydraulic fracturing is the same for all Action Alternatives, summarized in Table 4.2.</p> <p>On both BLM and non-BLM surface: When issuing permits related to the extraction of subsurface federal minerals, federal agencies must follow National Historic Preservation Act (54 U.S.C. 306108) Section 106 guidelines and regulations and other related statutes for cultural resource compliance. This includes projects that employ hydraulic fracturing technology. Federal agencies will also follow their internal cultural resource policies, guidance documents, agreements with the California Office of Historic Preservation, and tribal agreements.</p> <p>This process, the application of Bakersfield Field Office BMPs, SOPS, and stipulations, as well as a full avoidance lease stipulation for NRHP eligible historic properties located within new federal leases, as outlined in Section L.6 of Appendix L in the 2014 RMP, would avoid, minimize, and mitigate adverse effects to historic properties. Federal cultural resource compliance, according to the above process, is not required for projects located on private lands absent federal involvement.</p>	See Section 4.3, Impacts Common to All Action Alternatives	See Section 4.3, Impacts Common to All Action Alternatives	See Section 4.3, Impacts Common to All Action Alternatives	See Section 4.3, Impacts Common to All Action Alternatives

Table 2.2
Comparison of Estimated Impacts, by Alternative

Resource/Program	Alternative A No Action	Common to all Action Alternatives	Alternative B	Alternative C	Alternative D	Alternative E
		For non-federally permitted projects, protection of cultural resources on State of California Lands is regulated under the California Public Resources Code (PRC), CEQA (Sec. 21083.2 and 21084.1) and may require the evaluation of effects on any project undertaken, assisted, or permitted by the state or the state's political subdivisions.				
Native American Values	No change from 2012 Final EIS	<p>See Section 4.4, Impacts Common to All Action Alternatives</p> <p>Potential short- and long-term surface disturbance from hydraulic fracturing is the same for all Action Alternatives, summarized in Table 4.2.</p> <p>Impacts to Native American values would be avoided by following BLM Handbook 1780-1 <i>Improving and Sustaining BLM- Tribal Relations</i> (BLM 2016). On BLM surface, BMPs, SOPs, and stipulations, as well as full avoidance policy for cultural resources, as outlined in Section L.6 of Appendix L in the 2014 RMP, would mitigate potential impacts.</p> <p>On both BLM and non-BLM federal surface, when issuing permits related to the extraction of subsurface federal minerals, federal agencies must follow their specific agency guidance regarding consultation and coordination with Native peoples and at a minimum must include adherence to the National Historic Preservation Act (54 U.S.C. 306108) Section 106 guidelines and regulations, Executive Order (EO) 13007, Indian Sacred Sites; American Indian Religious Freedom Act (42 U.S.C. 21.1 Sec. 1996 and 1996a); and the Religious Freedom Restoration Act of 1993 (42 U.S.C. 21B, Sec. 2000bb et seq.). Federal agencies will also follow any existing agreements with Tribes. This includes projects that employ hydraulic fracturing technology.</p> <p>For non-federally permitted projects, protection of Native American values on State of California Lands and political subdivisions is under PRC Sections 5097.91 – 5097.97 that establishes a Native American Heritage Commission (NAHC), governs state and local agency cooperation with the NAHC, and creates a process to identify and protect sacred places.</p>	See Section 4.4, Impacts Common to All Action Alternatives	See Section 4.4, Impacts Common to All Action Alternatives	See Section 4.4, Impacts Common to All Action Alternatives	See Section 4.4, Impacts Common to All Action Alternatives
Paleontological Resources	No change from 2012 Final EIS	<p>On both BLM and non-BLM surface, potential impacts to paleontological values from permits issued in relation to extraction of subsurface federal minerals, would be addressed through guidance and policies provided in BLM Handbook H- 8270-1, General Procedural Guidance for Paleontological Resource Management and the BLM Manual MS-8270, Paleontological Resource Management. Procedures in these guidance documents are meant to satisfy the requirements of the Paleontological Resources Preservation Act subtitle (16 U.S.C. 470 aaa -470aaa-11) of the Omnibus Public Land Management Act of 2009, National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 et seq.), the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.), and other federal authorities.</p> <p>Potential impacts to paleontological values would also be addressed by guidance provided in the 2014 RMP and Record of Decision (BLM 2014). Paleontological Resources Decision 1 implements measures to protect paleontological resources from inadvertent damage or destruction through:</p>	See Section 4.5, Impacts Common to All Action Alternatives	See Section 4.5, Impacts Common to All Action Alternatives	See Section 4.5, Impacts Common to All Action Alternatives	See Section 4.5, Impacts Common to All Action Alternatives

Table 2.2
Comparison of Estimated Impacts, by Alternative

Resource/Program	Alternative A No Action	Common to all Action Alternatives	Alternative B	Alternative C	Alternative D	Alternative E
		<ul style="list-style-type: none">• Avoidance• Fencing• Stabilization• Collection or excavation and deposit in museum repository• Interpretation, or• Administrative closure <p>Paleontological Resources Decision 4 ensures that site-specific NEPA analysis, which may include field inventory and fossil specimen recovery, implements the Potential Fossil Yield Classification as a standard part of the review for all surface disturbing projects throughout the Decision Area.</p> <p>On both BLM and non-BLM surface, potential impacts to paleontological values from permits issued in relation to extraction of subsurface federal minerals, would be addressed through guidance and policies provided in BLM Handbook H- 8270-1, General Procedural Guidance for Paleontological Resource Management and the BLM Manual MS-8270, Paleontological Resource Management. Procedures in these guidance documents disturbing projects throughout the Decision Area.</p> <p>On non-federal lands, potential impacts to paleontological resources may be addressed through California Public Resources Code, CEQA Appendix G (Sec. 8.16.2.2) and regulations depending on the county.</p>				
Soil Resources	No change from 2012 Final EIS	<p>See Section 4.6, Impacts Common to All Action Alternatives</p> <p>Potential short- and long-term surface disturbance from hydraulic fracturing is the same for all Action Alternatives, summarized in Table 4.2.</p> <p>On BLM surface, BMPs, SOPs, and lease stipulations, in Section L.6 of Appendix L in the 2014 RMP, would mitigate potential impacts.</p> <p>On non-BLM surface, constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, protective measures, mitigation, and BMPs from SB4, Chapter 313, as well as Kern County Zoning Ordinance, Chapter 19.98 (Oil and Gas Production) (Kern County 2015) would apply to mitigate potential impacts. Additionally, all wells on non-BLM surface would likely be subject to additional environmental impact analysis under CEQA.</p>	See Section 4.6, Impacts Common to All Action Alternatives	See Section 4.6, Impacts Common to All Action Alternatives	See Section 4.6, Impacts Common to All Action Alternatives	See Section 4.6, Impacts Common to All Action Alternatives
Visual Resources	No change from 2012 Final EIS	<p>See Section 4.7, Impacts Common to All Action Alternatives</p> <p>Supplemental analysis indicated no substantive change from estimated impacts in the 2012 Final EIS.</p>	See Section 4.7, Impacts Common to All Action Alternatives	See Section 4.7, Impacts Common to All Action Alternatives	See Section 4.7, Impacts Common to All Action Alternatives	See Section 4.7, Impacts Common to All Action Alternatives
Water Resources	No change from 2012 Final EIS	<p>See Section 4.8, Impacts Common to All Action Alternatives</p> <p>Surface Water Use - negligible impacts due to lack of surface water in the supplemental hydraulic fracturing analysis areas.</p>	See Section 4.8, Impacts Common to All Action Alternatives	See Section 4.8, Impacts Common to All Action Alternatives	See Section 4.8, Impacts Common to All Action Alternatives	See Section 4.8, Impacts Common to All Action Alternatives

Table 2.2
Comparison of Estimated Impacts, by Alternative

Resource/Program	Alternative A No Action	Common to all Action Alternatives	Alternative B	Alternative C	Alternative D	Alternative E
		Groundwater Use – negligible impacts in context of regional agricultural consumption				
		Hydraulic fracturing constituent mixing and handling - Impacts to groundwater due to spills of fracturing fluids would be negligible.				
		Injection of hydraulic fracturing fluids/flowback management and disposal – groundwater impacts from loss of well integrity or out-of-zone migration of fracturing fluids from an average of zero to four wells/year would be negligible. If present trends continue, the drilling of up to 40 wells over the 10-year planning period would also have negligible impact.				
Livestock Grazing	No change from 2012 Final EIS	See Section 4.9, Impacts Common to All Action Alternatives Supplemental analysis indicated no substantive change from estimated impacts in the 2012 Final EIS.	See Section 4.9, Impacts Common to All Action Alternatives	See Section 4.9, Impacts Common to All Action Alternatives	See Section 4.9, Impacts Common to All Action Alternatives	See Section 4.9, Impacts Common to All Action Alternatives
Minerals Management	No change from 2012 Final EIS	See Section 4.10, Impacts Common to All Action Alternatives Access to fluid mineral reserves for leasing - supplemental analysis indicated no substantive change from estimated impacts in the 2012 Final EIS.	See Section 4.10, Impacts Common to All Action Alternatives	See Section 4.10, Impacts Common to All Action Alternatives	See Section 4.10, Impacts Common to All Action Alternatives	See Section 4.10, Impacts Common to All Action Alternatives
		Seismicity - negligible impacts related to hydraulic fracturing or wastewater disposal.				
Areas of Critical Environmental Concern	No change from 2012 Final EIS	See Section 4.11, Impacts Common to All Action Alternatives Potential short- and long-term surface disturbance from hydraulic fracturing is the same for all Action Alternatives, summarized in Table 4.2. NSOs and CSUs would provide protection to ACECs from hydraulic fracturing operations, and there would be negligible impacts.	See Section 4.11, Impacts Common to All Action Alternatives CSU for Compensation Lands ACEC would further reduce potential surface impacts after mitigation.	See Section 4.11, Impacts Common to All Action Alternatives	See Section 4.11, Impacts Common to All Action Alternatives	See Section 4.11, Impacts Common to All Action Alternatives CSU for Bitter Creek ACEC would prevent/reduce disturbance to current or future refuge resources from fluid mineral development
Social and Economic Resources	No change from 2012 Final EIS	See Section 4.12, Impacts Common to All Action Alternatives Supplemental analysis indicated no substantive change from estimated impacts in the 2012 Final EIS.	See Section 4.12, Impacts Common to All Action Alternatives	See Section 4.12, Impacts Common to All Action Alternatives	See Section 4.12, Impacts Common to All Action Alternatives	See Section 4.12, Impacts Common to All Action Alternatives

Key:

2012 Final EIS = 2012 Bakersfield Final Environmental Impact Statement

ACEC = Area of Critical Environmental Concern

BLM = Bureau of Land Management

BMP = best management practice

BO = Biological Opinion

CEQA = California Environmental Quality Act

CSU = Controlled Surface Use

NAHC = Native American Heritage Commission

NO_x = oxides of nitrogen

NSO = No Surface Occupancy

RMP = Bakersfield Field Office Resource Management Plan

SB4 = California Senate Bill 4

SOP = standard operating procedure

T&E = Threatened or Endangered

U.S.C. = United States Code

3 Chapter Three

Introduction and Overview of Planning Area

Chapter 3 of the 2012 Final EIS describes existing conditions for BLM resource programs, resource uses, special designations, and the social and economic environment in the Planning Area. The description of the affected environment uses the best and most recent data available. However, this chapter does not provide detail about environmental components that would not be affected or that are not essential to the understanding or resolution of planning issues.

Resources

3.1 Air and Atmospheric Values

The affected environment for air quality, climate, and meteorology is summarized in detail in Section 3.1 of the 2012 Final EIS. Additional regional information regarding greenhouse gases climate change is available in the *Central Coast Field Office Draft Resource Management Plan Amendment and Draft Environmental Impact Statement for Oil and Gas Leasing and Development* (Central Coast Field Office Draft RMPA/EIS) (BLM 2017).

3.1.1 Greenhouse Gases and Climate Change

The global climate depends on the presence of GHGs to naturally provide the “greenhouse effect.” The greenhouse effect stems from water vapor, aerosols, CO₂, CH₄, N₂O, and other GHGs that trap heat radiated from the earth’s surface. Globally, the presence of GHGs affects temperatures, precipitation, storm activity, sea levels, ocean currents, and wind patterns. Although GHGs have always been present, concentrations of CO₂ in the atmosphere have increased by more than 40 percent since the Industrial Revolution. Human activity since this time has increasingly contributed to emissions of six primary GHGs: CO₂, CH₄, N₂O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

The main source of the increase in recent decades of the most important and widely occurring GHG pollutant, CO₂, is combustion of fossil fuels for energy. Natural carbon cycling by the terrestrial biosphere occurs through photosynthesis (CO₂ uptake by plants) and respiration (CO₂ release by plants, animals, and microorganisms) (U.S. GCRP 2014). Global emissions of CO₂ equivalent in 2017 reached an all-time high of 53.5 billion metric tons, a 0.7 billion metric ton increase over 2016 (IPCC 2018). Emissions from fossil fuels, industry, and cement dominate in total GHG emissions (UNEP 2018). Along with CO₂, CH₄ is the second most important anthropogenic GHG in the atmosphere. CH₄ is the principal component of natural gas, which is also produced biologically under anaerobic conditions in ruminant animals, landfills, and waste handling. In addition, fertilizer use, agriculture, and changes in land are major sources of increasing CH₄ and N₂O in the atmosphere.

Each GHG has a global warming potential (GWP) that is calculated to reflect how long emissions remain in the atmosphere and how strongly the pollutant absorbs energy relative to CO₂. The GWP indicates the relative climate forcing of a given mass of emissions. CH₄ in the atmosphere over a 100-year horizon has a GWP of 28, according to the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (2014), meaning that 1 pound of CH₄ causes the equivalent warming potential of at least 28 pounds of CO₂. When quantifying GHG emissions, the different GWP of each GHG pollutant is multiplied by the mass of that pollutant to arrive at a CO₂ equivalent mass.

3.1.2 Regional Setting

The oil and gas enterprise worldwide is responsible for a large fraction of the total GHGs emitted to the atmosphere. By far the largest factor in these emissions is burning the fuel, not producing it (CCST 2014). Anthropogenic activity globally results in approximately 49,000 million metric tons of carbon dioxide equivalent (MMTCO₂e) of annual GHG emissions (IPCC 2014), and the U.S. GHG inventory for 2017 was 6,457 MMTCO₂e (USEPA 2019), or roughly 12 percent of the global emissions. Oil and gas production across the United States results in about 176 MMTCO₂e in 2017 (USEPA 2019). This amount is 47 percent greater than in 1990. For comparison, about 18 MMTCO₂e of annual GHG emissions resulted from oil and gas extraction and processing before refining in California in 2016 (ARB 2018).

The Third U.S. National Climate Assessment, released on May 6, 2014, and the Fourth U.S. National Climate Assessment, released on November 23, 2018, provide authoritative and comprehensive sources of scientific information about climate-change impacts across all U.S. regions and on critical sectors of the economy.

3.1.3 Current Conditions and Trends

The effects of global climate change on California's public health, infrastructure, and natural resources are described in the *2009 Biennial Report of the California Climate Action Team* (CAT 2009) and *Our Changing Climate 2012* from the California Climate Change Center (CEC 2012). The Climate Action Team finds that "extreme events from heat waves, floods, droughts, wildfires and bad air quality are likely to become more frequent in the future and pose serious challenges to Californians. These impacts pose growing demands on individuals, businesses and governments at the local, State, and Federal levels to minimize vulnerabilities, prepare ahead of time, respond effectively, and recover and rebuild with a changing climate and environment in mind" (CAT 2009). These findings are refined in *California's Fourth Climate Change Assessment Statewide Summary Report* (Bedsworth et al. 2018), which reinforces past findings regarding the potential for more extreme events from heat waves, floods, droughts, and wildfires. These extreme climate event impacts will increase human mortality and damage to property that together will cost in the order of tens of billions of dollars.

Additional research by the California Environmental Protection Agency Office of Environmental Health Hazard Assessment (OEHHA) identifies climate change drivers, observed changes in climate, how natural physical systems respond, and other emerging issues related to climate change. The documented effects of climate change also include impacts on terrestrial, marine, and freshwater biological systems, with resulting changes in habitat, agriculture, and food supply. Examples of the terrestrial effects include increasing tree mortality, large wildfires, and changes in vegetation density and distribution. The OEHHA categorizes climate change indicators in California as: changes in California's climate; impacts to physical systems, including oceans, lakes, rivers, and snowpack; and impacts to biological systems, including humans, vegetation, and wildlife. The primary observed changes in California's climate are increased annual average air temperatures, more frequent extremely hot days and nights, and increasingly severe drought. Impacts to physical systems affected by warming temperatures and changing precipitation patterns include decreasing snowmelt runoff, shrinking glaciers, and rising sea levels. These changes all carry the potential to impact human well being (OEHHA 2013, 2018).

3.2 Biological Resources

The affected environment for biological resources is summarized in detail in Section 3.2 of the 2012 Final EIS. New and relevant information to support this Final Supplemental EIS was provided in the Programmatic Biological Opinion on Oil and Gas Activities on Bureau of Land Management Lands in the San Joaquin Valley (USFWS 2017).

3.2.1 Special Status Species

The affected environment for special status species is summarized in detail in Section 3.2.1 of the 2012 Final EIS.

3.2.2 Featured Species and Communities

The affected environment for featured species and communities is summarized in detail in Section 3.2.2 of the 2012 Final EIS.

3.2.3 Aquatic, Wetland, and Riparian Habitat

The affected environment for aquatic, wetland, and riparian habitat is summarized in detail in Section 3.2.3 of the 2012 Final EIS.

3.2.4 Weeds

The affected environment for weeds is summarized in detail in Section 3.2.4 of the 2012 Final EIS.

3.3 Cultural Resources

The affected environment for cultural resources is summarized in detail in Section 3.4 of the 2012 Final EIS. New and relevant information to support this Final Supplemental EIS is provided below.

3.3.1 Archaeological Sites within the Supplemental Hydraulic Fracturing Analysis Areas

Several cultural resource inventories have been conducted within the four supplemental hydraulic fracturing analysis areas (Chapter 4, Introduction) since the publication of the 2012 Final EIS. These inventories resulted in the recordation of 501 cultural resources. Of these, 413 are sites, 67 are isolated finds, 11 are objects, and 10 are structures. Of the sites, 17 are prehistoric, three are multicomponent, and the remaining 393 are historic. Prehistoric site types include open camps, lithic scatters, shell scatters, and lithic quarries. Multicomponent sites are prehistoric lithic and shell scatters with historic refuse scatters. The majority of the historic sites are related to the historic oil fields. These sites include tanks, pipelines, and other miscellaneous infrastructure, standing well pipes, fragments of derrick and pump jack foundations, refuse and brick scatters, fragmentary structural remains, and railroad segments. The 11 resources recorded as objects and the eight recorded as structures are all related to the historic oil fields. These objects comprise capped wellheads, utility poles, and associated oil field equipment. Sites, objects, and structures recorded within the supplemental hydraulic fracturing analysis areas after the publication of the 2012 Final EIS are presented in Table A-1 of Appendix A.

Due to over a century of continuous development, many of the San Joaquin Valley oil fields, including those within the supplemental hydraulic fracturing analysis areas, have been heavily disturbed. This has

resulted in the displacement and destruction of much of the archaeological record in these areas. In addition, state mandated oil field cleanup efforts in the 1970s were extensive, resulting in the demolition, removal, and disturbance of many of the historic period oil field features and infrastructure.

As a result of these impacts, most sites within the San Joaquin Valley oil fields, including the supplemental hydraulic fracturing analysis areas, lack the degree of integrity, setting, and association necessary for inclusion in the National Register of Historic Places (NRHP). Many of the sites located within the San Joaquin Valley oil fields have not been formally evaluated for NRHP eligibility. However, based on previously conducted formal evaluations of 134 oil field sites, approximately 92 percent of sites within the supplemental hydraulic fracturing analysis areas are likely not eligible for NRHP inclusion. The majority of these comprise historic period remains, which display poor integrity and lack setting and association due to continuous oil field development. Approximately 4 percent of the recorded sites are recommended or likely eligible for inclusion in the NRHP and consist largely of prehistoric remains. The remaining 4 percent of recorded sites have not been evaluated for NRHP eligibility or the eligibility is unknown. These sites include a variety of prehistoric, historic, and multicomponent site types. It is important to note that this discussion is included in order to provide a general sense of the nature of cultural sites within the supplemental hydraulic fracturing analysis areas. During project assessments, formal NRHP evaluations would be conducted as required and all sites would be treated as eligible unless formally determined otherwise.

3.3.2 Isolated Finds within the Supplemental Hydraulic Fracturing Analysis Areas

Sixty-seven isolated finds have been recorded since the publication of the 2012 Final EIS. Thirty-nine are historic, 24 are prehistoric, and four are unknown. The historic resources consist of historic artifacts and isolated mining claim markers. The prehistoric resources consist of isolated debitage, cores, and ground stone. Isolated finds recorded within the supplemental hydraulic fracturing analysis areas after the publication of the 2012 Final EIS are presented in Table A-2 of Appendix A.

3.4 Native American Values

The 2012 Final EIS did not analyze impacts to Native American values. Therefore, the following text provides new and relevant information about these values.

Nine federally recognized Tribes and three non-federally recognized Tribes and groups have interests in and historical ties to lands within the supplemental hydraulic fracturing analysis areas. These include the Chumash, Yokuts, Mono, Shoshone, Kitanemuk, Tubatulabal, and Tejon peoples. Federally recognized Tribes include:

- Santa Ynez Band of Chumash Indians
- Tachi Yokut Tribe of the Santa Rosa Rancheria
- Big Sandy Rancheria
- Cold Springs Rancheria
- North Fork Rancheria of Mono Indians
- Table Mountain Rancheria

- Picayune Rancheria of the Chukchansi Indians
- Tejon Indian Tribe
- Tule River Reservation

There are several non-federally recognized tribes and individuals affiliated with the Planning Area which include:

- Tübatulabal Tribe
- Kern River Valley Indian Community
- Northern Chumash Tribal Council
- Chalon Indian Nation
- Salinan Tribe of Monterey and San Luis Obispo Counties
- Xolon Salinan Tribe
- Coastal Band of the Chumash Nation
- Barbareno Band of Chumash Indians
- yak tit'yu tit'yu yak tilhini, Northern Chumash Tribe

Each of these Native American tribes have historical roots in and around the San Joaquin Valley. The Santa Ynez Band of the Chumash Indians and northern Chumash tribal territories extend from the coast into the western part of the San Joaquin Valley. The Chalon traditional territory is concentrated around the Soledad and Pinnacles National Monument areas and includes the western portion of the San Joaquin Valley. Salinan tribal lands also extend from the coast into the western San Joaquin Valley. The Big Sandy Rancheria, Cold Spring Rancheria, North Fork Rancheria of the Mono Indians, Table Mountain Rancheria, and the Picayune Rancheria of the Chukchansi Indians are all Mono or Yokut peoples currently living to the north of Fresno. Historically, these peoples occupied the western slope of the Sierra Nevada and parts of the San Joaquin Valley and ranged as far south as the Tehachapi Mountains. The Tachi Yokut Tribe of the Santa Rosa Rancheria historically occupied the San Joaquin Valley and today are located in Lemoore. The Tule River Reservation and the Tejon Indian Tribe are located in the Porterville vicinity and are affiliated with a territory that extends from the Sierra Nevada Mountains to the western San Joaquin Valley. The Tejon Indian Tribe includes members of Kitanemuk, Tubatulabal, Yokuts, Kawaiisu and Chumash ancestry and has a territory which encompasses all of the southern San Joaquin Valley. The Tubatulabal and Kawaiisu tribes' traditional lands encompass the eastern San Joaquin Valley, Kern River Valley, Southern Sierra Nevada and desert region to the east.

In the native view, landscapes, topographic features, water sources, and locations of material to make stone tools and other natural features all reflect and support the practical, social, historical, and spiritual aspects of life. Place names may reflect the location of resources, tribal histories, and links to the spiritual. Wildlife, water, and air all have a story to tell and are linked to Native peoples' relationship to the landscape on a practical, social, historical, and spiritual level (Gulliford 2000).

Scoping comments for this Final Supplemental EIS were received from the following four federally recognized Tribes, two non-federally recognized Tribes, and three tribal nonprofit groups:

- Santa Ynez Band of Chumash Indians
- North Fork Rancheria of Mono Indians
- Table Mountain Rancheria

- Picayune Rancheria of the Chukchansi Indians
- Chalon Indian Nation
- Tribal Trust Foundation
- Wishtoyo Chumash Foundation
- Tubatulabal Tribe
- Mr. Michael Khus Zarate, Northern Chumash and Chairman Carrizo Plain Native American Advisory Committee

The concerns of these groups overlapped considerably. Most commented on the potential for air and water pollution caused by hydraulic fracturing. Potential pollution was linked to direct effects on habitat, protected species, and native vegetation. The Santa Ynez Band of Chumash Indians and Wishtoyo Chumash Foundation also expressed concern regarding links between hydraulic fracturing and climate change and degradation of the ocean environment, particularly the Santa Barbara channel that supports fish and sea mammals they consider sacred and important to the Chumash economy. Another major issue expressed is sacred sites not being considered cultural resources. These include caves, rocks, water sources, and other topographic and natural features. Finally, the Santa Ynez Band of Chumash Indians, Picayune Rancheria of the Chukchansi Indians, and the North Fork Rancheria of Mono Indians all expressed a wish to be consulted on these values and the development that may impact these values. A major concern expressed in the comment letters was that the development area maps and descriptions for the potential hydraulic fracturing sites are not available for public comment.

The BLM Bakersfield 2012 Final EIS noted several places and topographic features important to Native peoples. None of these locations are within the supplemental hydraulic fracturing analysis areas. The comment letters did not document any known or potential concerns within the supplemental hydraulic fracturing analysis areas.

3.5 Paleontological Resources

The affected environment for paleontological resources is summarized in detail in Section 3.6 of the 2012 Final EIS. New and relevant information to support this Final Supplemental EIS is provided below.

A single paleontological resource has been documented in the supplemental hydraulic fracturing analysis areas since publication of the 2012 Final EIS. The find consists of an eroding fossil-bearing outcrop of shell, exposed in the cut slopes and bottom of a natural drainage.

3.6 Soil Resources

The affected environment for soil resources is summarized in detail in Section 3.7 of the 2012 Final EIS.

3.7 Visual Resources

The affected environment for visual resources is summarized in detail in Section 3.8 of the 2012 Final EIS.

3.8 Water Resources

The affected environment for water resources is summarized in detail in Section 3.9 of the 2012 Final EIS.

3.9 Livestock Grazing

The affected environment for livestock grazing is summarized in detail in Section 3.13 of the 2012 Final EIS.

3.10 Minerals Management

The affected environment for minerals management is summarized in detail in Section 3.14 of the 2012 Final EIS. New and relevant information to support this Final Supplemental EIS is provided below.

3.10.1 Seismicity

Approximately 265,770 acres are considered to have high potential for oil and gas occurrence in the Planning Area. The largest area of high oil and gas potential is the San Joaquin Valley, as illustrated in Map 3-14.1 in the 2012 Final EIS. Moderate to high potential for fluid minerals exists outside the San Joaquin Valley region throughout the Coast Range; however, the southern Sierra Nevada are considered to have little to no potential for oil and gas.

A large number of magnitude 2.5 (Richter scale) and greater earthquakes have been recorded in California (CCST 2016). The locations and magnitudes of earthquakes that have occurred in the supplemental hydraulic fracturing analysis areas are shown on Figure 3.10.1.

3.10.2 Hydrocarbon Occurrence Potential

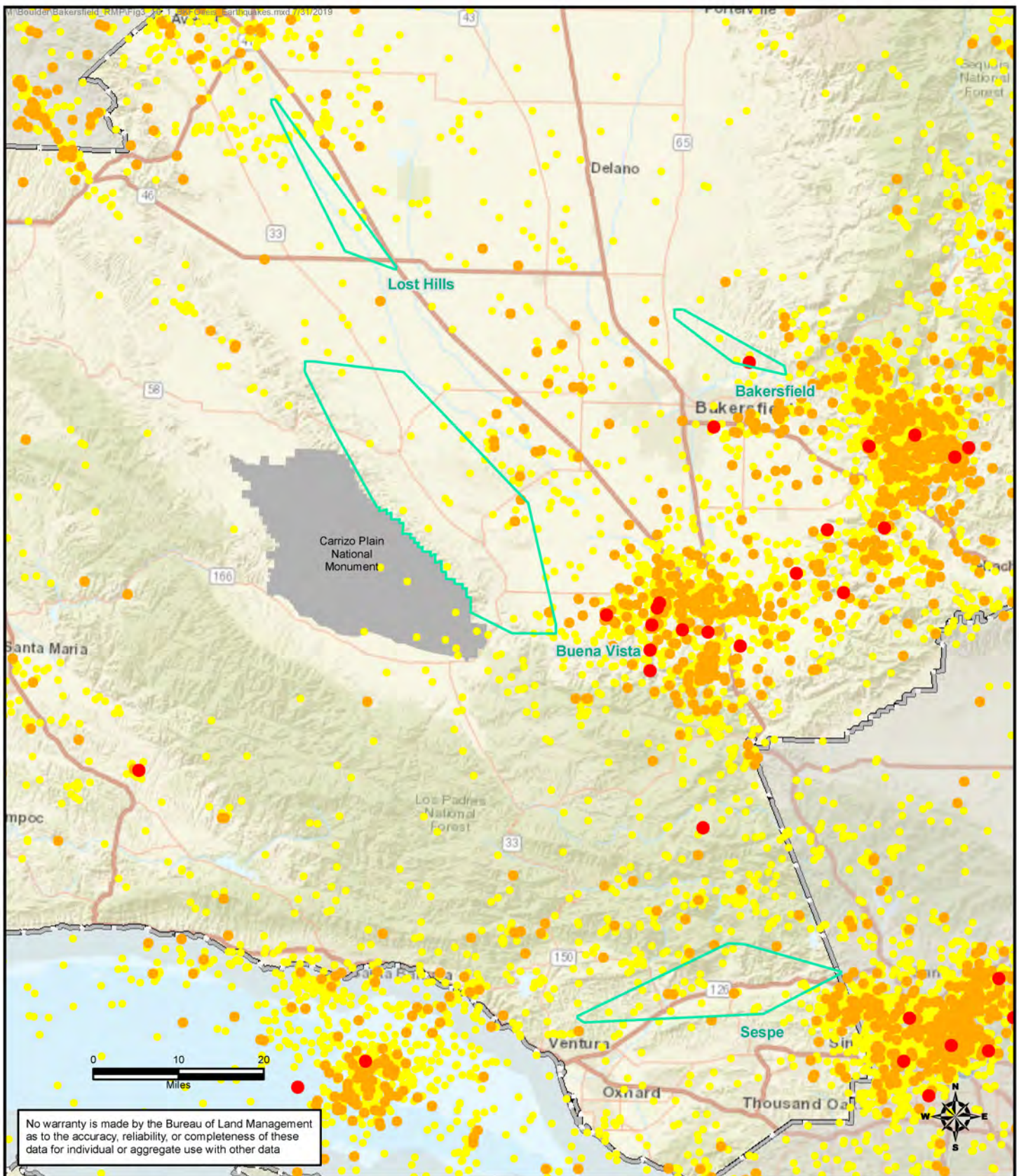
Occurrence potential is based upon demonstrated existence or indications of favorable geological features. It should be noted that the actual potential for economically recoverable reserves is much lower than the potential for occurrence. The planning area has been divided into three classes of potential for the occurrence of oil: High, Medium, and Low. High potential lands have produced oil and contain unknown amounts of undiscovered oil and gas. The rock in the subsurface has been heated sufficiently and buried deep enough to generate oil and/or gas. Adequate space exists between particles of rock to provide storage capacity for oil. Traps exist to stop the oil from migrating and form the reservoir or pool of oil. To be classified as having moderate potential, traps for the oil exist and source rocks are found in the region, but no oil or gas has been produced in commercial quantities. Oil may be found in these areas with future exploration. If one or more of these factors is believed to be missing, the area is classified as having low potential. If all are lacking, the area is classified as No Potential or None. Map 3.14.1 Areas with Oil and Gas Potential and Current Closures is presented in the 2012 Final EIS.

3.11 Areas of Critical Environmental Concern

The affected environment for Areas of Critical Environmental Concern (ACECs) is summarized in detail in Section 3.17 of the 2012 Final EIS.

3.12 Social and Economic Resources

The affected environment for social and economic resources is summarized in detail in Section 3.23 of the 2012 Final EIS.



Legend

- Carrizo Plain National Monument
(Excluded from analysis)
- Bakersfield Field Office
- SHF Analysis Area - named for adjacent oil fields

- Earthquake Magnitude**
- 2.5 - 3.4
 - 3.41 - 4.5
 - > 4.5

**Location and Magnitude of Earthquakes
within and near the SHF Analysis Areas
Bureau of Land Management
Bakersfield Field Office
Final SEIS**

Figure 3.10

4 Chapter Four

Introduction

Impact Analysis Process

Chapter 4 of this Final Supplemental EIS supplements the impact analysis of resources and programs from implementation of the 2014 RMP, as fully described in Chapter 4 of the 2012 Final EIS. These impacts are categorized as direct and indirect, described by resource and program in the following sections. Cumulative impacts are discussed by the 2014 RMP planning issues in Section 4.14, below.

Direct impacts result from a specific action and occur at the same time and place as that action. Indirect impacts are caused by a specific action, but are observed later in time or farther removed in distance, but are still reasonably foreseeable. Cumulative impacts result from the interaction of impacts of the implemented alternative with impacts resulting independently from unrelated actions and activities. For this supplemental analysis, cumulative impacts include actions related to developing fluid minerals using hydraulic fracturing within the Planning Area.

As noted in Chapter 1, an important assumption for the planning-level analysis in the 2012 Final EIS, as supplemented in this Final Supplemental EIS, is the number of new wells expected to be drilled on new federal mineral leases, over the course of the 2014 RMP's 10-year planning scenario. Apparent contradictions regarding this parameter were noted in the 2012 Final EIS Air and Atmospheric Values analysis (Appendix A) and the 2012 Final EIS RFDs (Appendix M). This discrepancy arose from integrating the same data trends regarding a wide range of oil and gas wells drilled in a given year. The two appendices used scenarios with differing assumptions to calculate the projected number of total wells, versus total new wells on new leases, expected to be drilled annually. However, both analyses used the same range of new wells on new leases expected to be drilled in the 10-year planning scenario. This resolution is detailed in revised text in the Air and Atmospheric impact analysis of the 2012 Final EIS (Section 4.1.2), which notes: "Based on the RFD scenario, the proposed action is projected to result in an estimated 4,000 wells over the next 10-year period [sic] or an average of 400 wells per year. This would result in 40 new wells on new leases annually... ." Resolving this discrepancy allows the analysis of the potential impacts of hydraulic fracturing in this Final Supplemental EIS to proceed utilizing the assumption of up to 40 new wells on new leases per year.

Supplemental Impact Analysis Methods and Assumptions

The 2012 Final EIS impact analyses addressed direct, indirect, and cumulative impacts of potential implementation of fluid mineral management decisions in the PRMP. This conceptually included the potential use of hydraulic fracturing for completing a subset of the 400 new wells (40 per year) on new leases estimated over the 10-year life of the 2014 RMP. However, impacts from potential implementation of hydraulic fracturing were not specifically addressed in this analysis, nor did the 2012 Final EIS analyses provide an estimate of the assumed number of wells that could be hydraulically fractured.

This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential

impacts. Similarly, throughout this Final Supplemental EIS, the most conservative impact assumptions were chosen to integrate into the supplemental impact analyses.

Conventional versus Hydraulic Completions Comparison

As described in Chapter 1, hydraulic fracturing is a well completion process, not a well drilling process. It is employed after a lease is issued and after an oil or natural gas well is drilled; it is conducted differently in California than in other parts of the country. The hydraulic fracturing completion technique is compared in detail to conventional well completion in Table 4.1. The parameters described for conventional well completions are provided for comparison purposes only. The hydraulic fracturing parameter values summarized in Table 4.1 are integrated into the supplemental impact analysis.

Number of Hydraulic Wells Assumption

As described in Chapter 1, the hydraulic fracturing process is not as commonly employed for well completions in the Bakersfield Field Office Planning Area as in other regions of the country. A critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.

Surface Disturbance Assumptions

Many direct and indirect impacts may result from surface disturbance associated with oil and gas well development, including wells that are hydraulically fractured. Table 4.2 summarizes the assumed surface impacts that could occur as a result of the hydraulic fracturing of 0 to 40 wells over the 10-year life of the 2014 RMP. These assumed impacts were calculated integrating the parameters summarized in Table 4.1. It is important to note that there is no difference between the Action Alternatives in terms of the estimated disturbance areas due to hydraulically fractured wells.

Supplemental Hydraulic Fracturing Analysis Areas

Since the 2014 RMP was not vacated, and in order to address potential hydraulic fracturing-related impacts in an explicitly additive way, this supplemental analysis assumes that all of the 2014 RMP decisions remain in place. Therefore, a more refined analysis area was calculated. Given the land use planning level analysis of this Final Supplemental EIS, it is not possible to know where potential new wells on new federal minerals leases, integrating hydraulic fracturing, would be located. Therefore, an analysis of historic data was integrated into a geospatial analysis of the Bakersfield Field Office Planning Area to create estimated supplemental hydraulic fracturing analysis areas. It is important to note that although future hydraulic fracturing is expected to occur within these analysis areas, based on the existing data, it is possible that these activities could occur on any federal mineral lease issued within the Planning Area. Potential impacts in any of these other areas would be similar in magnitude and duration to potential impacts in the supplemental hydraulic fracturing analysis areas evaluated in this Final Supplemental EIS. The same mitigation and avoidance measures would be applied to those hydraulic fracturing activities.

Table 4.1
Comparison of Conventionally Completed Wells and Hydraulically Fractured Wells^(a)

	Conventional Wells/Pads	Hydraulic Fractured Wells/Pads
Location and Area	<p>New wells on new leases are expected to occur in the vicinity of areas where:</p> <ul style="list-style-type: none">• Federal mineral estate is available for leasing;• Recoverable resource potential is moderate or high;• Interest has been expressed; and• Land has been developed for oil and gas in the past. <p>The total estimated Decision Area is 1,172,480 acres (Table 1.2, 2012 Final EIS)</p>	<p>New wells on new leases that may be hydraulically fractured are expected to occur in the vicinity of areas where:</p> <ul style="list-style-type: none">• Federal mineral estate is available for leasing;• Recoverable resource potential is moderate or high;• Interest has been expressed;• Land has been developed for oil and gas in the past; and• Hydraulic fracturing currently occurs. <p>The total estimated supplemental hydraulic fracturing Analysis Area is 416,515 acres (Figure 4.1)</p>
Pad Area: <ul style="list-style-type: none">• Short-term Surface Disturbance• Long-term Disturbance	<ul style="list-style-type: none">• The typical pad area is approximately 0.2 to 0.4 acres (8,712 to 17,424 square feet) (California Department of Conservation 2015).• Approximately 35% of the pad surface disturbance is short-term (0.07 to 0.14 acres; 3,049 to 6,098 square feet) (Appendix M, BLM 2012) (calculated based on 35% of 0.2 and 0.4 acres).• Approximately 65% of pad surface disturbance is long-term (0.13 to 0.26 acres; 5,663 to 11,326 square feet (Appendix M, BLM 2012) (calculated based on 65% of 0.2 and 0.4 acres).• During drilling, temporary oil, water, and gas handling equipment, such as tanks, vessels, pumps, and compressors, is typically located on the well pad (Kern County 2015).	<ul style="list-style-type: none">• The typical pad area is approximately 4 acres (174,240 square feet) (California Department of Conservation 2015).• Approximately 35% of pad surface disturbance is short-term (1.4 acres; 60,984 square feet) (Appendix M, BLM 2012) (calculated based on 35% of 4.0 acres).• Approximately 65% of pad surface disturbance is long-term (2.6 acres; 113,256 square feet) (Appendix M, BLM 2012) (calculated based on 65% of 4 acres).• During hydraulic fracturing, temporary oil, water, and gas handling equipment, such as tanks, vessels, pumps, and compressors, is typically located on the well pad (Kern County 2015).
Associated Infrastructure: <ul style="list-style-type: none">• Roads• Pipelines	<p>Roads:</p> <ul style="list-style-type: none">• Existing roads are typically up to the last 0.5 miles to each new pad.• Each new access road comprises approximately 1.1 acres (47,520 square feet) (0.5 miles long by 18 feet wide) per new pad (Kern County 2015). <p>Pipelines:</p> <ul style="list-style-type: none">• All required pipeline is typically installed within access road right-of-way.• Pipelines typically include a 4-foot corridor within a 20-foot construction corridor (Kern County 2015). <p>Distribution Lines:</p> <ul style="list-style-type: none">• 467 feet of new distribution line are typically required for each new well.• Distribution lines are typically suspended from wooden poles 30 feet tall, spaced 200 feet apart.• Distribution poles are typically constructed along the existing access road rights-of-way or within the well pad area. Therefore, ground disturbance for distribution line construction is included in the new oil and gas well disturbance acreages (Kern County 2015).	<p>Roads:</p> <ul style="list-style-type: none">• Existing roads are typically used up to the last 0.5 miles to each new pad.• Each new access road comprises approximately 1.1 acres (47,520 square feet) (0.5 miles long by 18 feet wide) per new pad (Kern County 2015). <p>Pipelines:</p> <ul style="list-style-type: none">• All required pipeline is typically installed within access road right-of-way.• Pipelines typically include a 4-foot corridor, within a 20-foot construction corridor (Kern County 2015). <p>Distribution Lines:</p> <ul style="list-style-type: none">• 467 feet of new distribution line are typically required for each new well.• Distribution lines are typically suspended from wooden poles are typically 30 feet tall, spaced 200 feet apart.• Distribution poles are typically constructed along the existing access road rights-of-way or within the well pad area. Therefore, ground disturbance for distribution line construction is included in the new oil and gas well disturbance acreages (Kern County 2015).
Well Depth	<ul style="list-style-type: none">• Well depth varies from less than 1,000 feet to more than 17,000 feet. Typical exploratory wells are 5,000 to 10,000 feet (California Department of Conservation 2015).	<ul style="list-style-type: none">• The average vertical depth of wells that were hydraulically fractured in California between February 2011 and 2013 was 2,688 feet (range: 890 to 14,343 feet) (California Department of Conservation 2015).

Table 4.1
Comparison of Conventionally Completed Wells and Hydraulically Fractured Wells^(a)

	Conventional Wells/Pads	Hydraulic Fractured Wells/Pads
Process duration	<ul style="list-style-type: none"> Drilling time depends on the depth of the formation; wells in shallower formations may take less than 24 hours to drill, while wells in deeper formations may take more than 60 days to drill (Kern County 2015). BLM data indicate that most of the wells are typically drilled into shallow formations where little site preparation is necessary and the drilling normally takes 2 to 4 days (Appendix A, 2012 Final EIS). Operation frequency varies from field to field, but the wells generally operate 24 hours per day, 7 days per week, and 365 days per year (California Department of Conservation 2015). 	<ul style="list-style-type: none"> Depending on the depth of the formation, some wells may take less than 24 hours to drill, while some wells in deeper formations may take more than 60 days to drill (Kern County 2015). BLM data indicate that most of the wells are typically in shallow formations where little site preparation is necessary and the drilling normally only takes 2 to 4 days (Appendix A, 2012 Final EIS). Hydraulic fracturing is considered part of the “well completion” phase. The process typically takes 1 to 2 days (California Department of Conservation 2015).
Well Lateral Reach	<ul style="list-style-type: none"> All new wells on a given pad are generally close to vertical. Downhole locations are not typically greater than 200 yards (600 feet) from surface locations. 	<ul style="list-style-type: none"> All new wells on a given pad are generally close to vertical and downhole locations are typically not greater than 200 yards (600 feet) from surface locations. Hydraulic fracturing in California is generally vertical as opposed to the horizontal drilling method that is employed in locations outside of California (California Department of Conservation 2015). The length of fracture on vertical wells is not typically deeper than 200 feet (California Department of Conservation 2015).
Noise Impacts per Pad:	<ul style="list-style-type: none"> Operation frequency varies from field to field, but the wells generally operate 24 hours per day, 7 days per week, and 365 days per year (California Department of Conservation 2015). 	<ul style="list-style-type: none"> A single day of hydraulic fracturing pumping activities typically produce sound of approximately 107 decibels. Noise typically attenuates to 80 to 90 decibels at the edge of the site (California Department of Conservation 2015).
Visual Impacts per Pad: <ul style="list-style-type: none"> Short-Term <ul style="list-style-type: none"> height duration Long-Term <ul style="list-style-type: none"> height duration 	<p>Short-Term:</p> <ul style="list-style-type: none"> The height of the drilling rig (tallest component) is typically 100 to 150 feet, depending on well depth (California Department of Conservation 2015). During drilling, wells are typically drilled on a 24-hour basis. Sites are lit at night, and the rig masts are lit for aircraft safety (California Department of Conservation 2015). Short-term impacts associated with construction would also include heavy equipment and employee vehicles (stationary and traveling to/from well pad locations), fugitive dust, etc. <p>Long-Term:</p> <ul style="list-style-type: none"> Wells might produce for many years, depending upon the resource; drilling rigs are typically in place during the drilling phase only. 	<p>Short-Term:</p> <ul style="list-style-type: none"> The height of the drilling rig (tallest component) is typically 100 to 150 feet, depending on well depth (California Department of Conservation 2015). During drilling, wells are typically drilled on a 24-hour basis. Sites are lit at night, and the rig masts are lit for aircraft safety (California Department of Conservation 2015). The tallest hydraulic fracturing–related unit on site is typically a 43-foot-tall pump in place for limited days needed to conduct hydraulic fracturing on all wells (California Department of Conservation 2015). Short-term impacts associated with construction would also include heavy equipment and employee vehicles (stationary and traveling to/from well pad locations), fugitive dust, etc. <p>Long-Term:</p> <ul style="list-style-type: none"> Wells might produce for many years, depending on the resource. However, the drilling rig would only be in place during drilling phase.
Emissions	<p>Projected emissions from oil and gas development typically increase above inventory, by pollutant, as follows:</p> <ul style="list-style-type: none"> Nitrogen oxide – 2.18 tons/year Sulfur oxide – 0.41 tons/year Reactive organic gases – 7.35 tons/year Particulate matter less than 10 microns in diameter – 0.35 tons/year Particulate matter less than 2.5 microns in diameter – 0.35 tons/year (Appendix A, Table A-2, 2012 Final EIS): 	<p>Projected emissions from hydraulic fracturing typically increase above inventory, by pollutant, as follows:</p> <ul style="list-style-type: none"> Nitrogen oxide – $2.18 + 2.74 = 4.92$ tons/year Sulfur oxide – $0.41 + 0.004 = 0.41$ tons year Reactive organic gases – $7.35 + 0.21 = 7.56$ tons/year Particulate matter less than 10 microns in diameter – $0.35 + 0.08 = 0.43$ tons/year Particulate matter less than 2.5 microns in diameter – $0.35 + 0.08 = 0.43$ tons/year <p>[Note: emissions calculation = conventional well development in addition to hydraulic fracturing well development]</p>

Table 4.1
Comparison of Conventionally Completed Wells and Hydraulically Fractured Wells^(a)

Conventional Wells/Pads		Hydraulic Fractured Wells/Pads
Water Use	<ul style="list-style-type: none">• Drilling activities typically use approximately 4,200 gallons of water per day.• Water sources for drilling comprise produced water, water supply wells, or public water source (Kern County 2015).	<ul style="list-style-type: none">• Drilling activities typically use approximately 4,200 gallons of water, per day.• The hydraulic fracturing process typically uses 80,000 to over 200,000 gallons of water during the proppant phase and 2,730 to 12,600 gallons of fresh water or brine to flush excess proppants (California Department of Conservation 2015).• Water sources for hydraulic fracturing comprise produced water (8.8%), water supply wells (groundwater, 25.4%), or surface water from public water source (65.8%) (Kern County 2015).
Groundwater Use:	See “Water Use,” above.	See “Water Use,” above.
Surface Water Depletions	No surface water depletions are expected in the Bakersfield Field Office Planning Area, due to limited availability.	No surface water depletions are expected in the Bakersfield Field Office Planning Area, due to limited availability.
Water Disposal:	See “Water Use,” above.	See “Water Use,” above. <ul style="list-style-type: none">• Flowback from hydraulic fracturing is required to be treated separately. It is typically maintained in segregated tanks and disposed of per Senate Bill 4 regulation.
Pad Construction Duration	<ul style="list-style-type: none">• Pad construction typically lasts 7 to 10 days (including sump construction, if required) (California Department of Conservation 2015).	<ul style="list-style-type: none">• Pad construction typically lasts 7 to 10 days (including sump construction, if required) (California Department of Conservation 2015).
Pad Operations	<ul style="list-style-type: none">• Pad operations typically have a 20- to 30-year life span, but some wells in California are over 100 years old (California Department of Conservation 2015).	<ul style="list-style-type: none">• Pad operations typically have a 20- to 30-year life span, but some wells in California are over 100 years old (California Department of Conservation 2015).• Hydraulic fracturing could occur at any time during a well’s productive life (1 to 2 days). This most frequently occurs as soon as a well drilling is complete, or shortly thereafter.
Potential for Surface Subsidence	<ul style="list-style-type: none">• Potential surface subsidence is caused by cumulative, regional activities. The potential for surface subsidence cannot be calculated for a single well or well pad.	<ul style="list-style-type: none">• There is no difference between a conventional and a hydraulically fractured well or well pad, in terms of potential surface subsidence. Therefore, the potential for surface subsidence cannot be calculated for a single well or well pad.
Vehicle Trips per Pad	Drilling/Completions: <ul style="list-style-type: none">• Vehicle trips during the construction phase include equipment trucks, worker trips, water trucks, and product transport.• Refer to emissions assumptions, above. Operations: <ul style="list-style-type: none">• Vehicle trips during the operations phase could include water trucking to dispose of produced water.	Drilling/Completions: <ul style="list-style-type: none">• Vehicle trips during the construction phase include equipment trucks, worker trips, water trucks, product transport.• Refer to emissions assumptions, above.• Additional vehicle traffic for 1 to 2 days of hydraulic fracturing. Operations: <ul style="list-style-type: none">• Vehicle trips during the operations phase could include water trucking to dispose of produced water.
Drilling/Completions Operations		
Workers	<ul style="list-style-type: none">• Crews of 2 to 5 workers (daytime) are typically employed to construct each well pad (California Department of Conservation 2015).• Crews of approximately 12 workers are typically employed to drill each well (Kern County 2015).	<ul style="list-style-type: none">• Crews of 2 to 5 workers (daytime) are typically employed to construct each well pad (California Department of Conservation 2015).• During a standard hydraulic fracturing operation, 8 to 15 employees are typically required for each shift, and usually no more than one shift is required per day. Additional personnel from the owner operator may be on site to observe and run ancillary equipment, as necessary (Kern County 2015).

Note:
^(a) When a notable difference is not identified the information related to a conventional well applies to a hydraulically fractured well

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Table 4.2
Estimated Short- and Long-Term Surface Impacts of Wells Completed by Hydraulic Fracturing, on BLM and Non-BLM Surface

Disturbance Type	Short-term Disturbance BLM Surface^(a) (acres)	Long-term Disturbance BLM Surface^(a) (acres)	Short-term Disturbance Non-BLM Surface^(a) (acres)	Long-term Disturbance Non-BLM Surface^(a) (acres)	Total Estimated Disturbance^(d) (acres)
New pads ^(b)	0–9.0	0–16.8	0–47.0	0–87.3	0–160.1
Roads	0–0.7	0–7.0	0–3.7	0–36.6	0–48
Pipelines	0–0.1	0	0–0.4	0	0–0.5
Distribution lines	Included above ^(c)	Included above ^(c)	Included above ^(c)	Included above ^(c)	Included above ^(c)
Total	0–9.8	0–23.8	0–51.1	0–123.9	0–208.6

Notes:

^(a) Estimated for a range of 0 to 40 wells, possibly developed over the life of the 2014 RMP

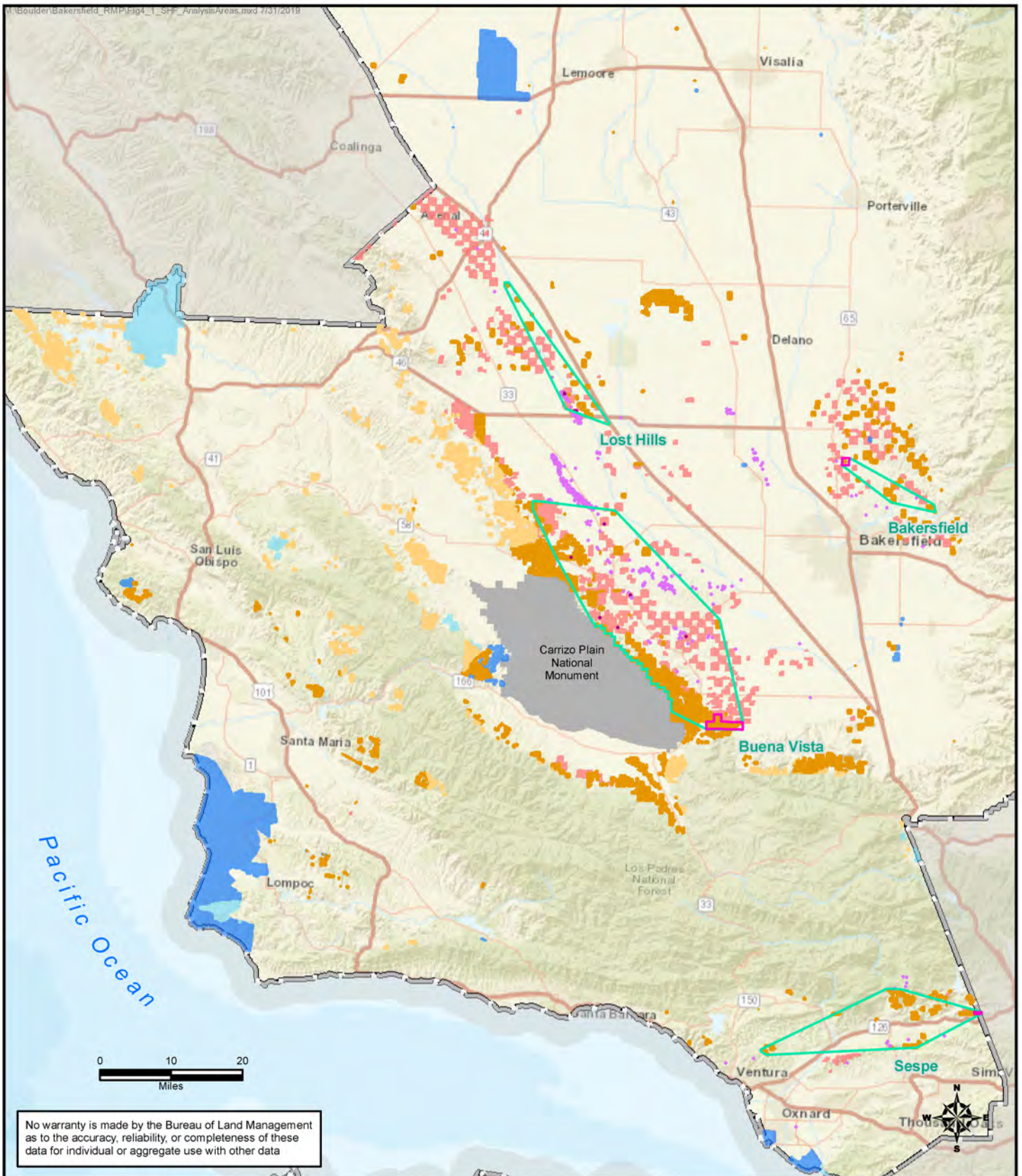
^(b) Assumes a single well/pad

^(c) Included in pipeline area estimation

^(d) Total assumes no overlap of short- and long-term disturbance areas

To delineate this supplemental hydraulic fracturing analysis area, buffers were connected to a number of geospatial assumptions and overlapping data polygons. It was assumed that new hydraulically fractured wells would be located in the vicinity of previously hydraulically fractured wells. It was also assumed that new wells on new federal mineral leases that would be hydraulically fractured would also likely be located near areas designated for high resource potential, associated with BLM minerals available for leasing. Finally, areas that have been identified with expressions of interest in leasing were included in the analysis. The supplemental hydraulic fracturing analysis areas are illustrated in Figure 4.1. Acreage of each supplemental hydraulic fracturing analysis area is summarized in Table 4.3. The total area of the four supplemental hydraulic fracturing analysis areas is 416,515 acres. This represents 16 percent (66,037 acres) of BLM surface, and 7 percent (56,472 acres) of unleased federal minerals, in the Planning Area. The four supplemental hydraulic fracturing analysis areas are named for associated oil fields and are assumed to be the most likely places for locating new wells on new federal mineral leases that would be hydraulically fractured. It is important to note that this resulting supplemental analysis would be followed up with project-specific environmental impact analyses, including detailed analysis of proposed project-specific locations prior to any wells being drilled, as described below.

No proposed drilling operations, including hydraulic fracturing and related surface disturbance activities, may be initiated without an approved APD. This includes drilling from private surface into federal minerals. APDs on federal leases are not approved by BLM until after completion of an environmental analysis in accordance with NEPA and surface management agency requirements. An APD must be approved by an authorized BLM officer, in consultation with the surface management agency, as appropriate. On U.S. Forest Service lands, the U.S. Forest Service must approve the Surface Use Plan of Operations portion of the APD (DOI and USDA 2006).



Legend

- Hydraulically Fractured Wells
- BLM Hydraulically Fractured Wells
- Carrizo Plain National Monument (Excluded from analysis)
- Bakersfield Field Office
- Expressed Interest in Leasing
- Existing BLM Oil & Gas Leases (2018)
- SHF Analysis Area - identified by associated oil fields

- Available for Leasing:
- Moderate Resource Potential - BLM Surface
 - High Resource Potential - BLM Surface
 - Moderate Resource Potential - Non-BLM Surface
 - High Resource Potential - Non-BLM Surface

Supplemental Hydraulic Fracturing Analysis Areas
Bureau of Land Management
Bakersfield Field Office
Final SEIS

Figure 4.1

Constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. Constraints may result from lease stipulations, BLM review and environmental analysis of proposed operations, COAs, Notices to Lessees, Onshore Orders, and/or regulations. This includes appropriate coordination or consultation with the State Historic Preservation Officer, Tribes, or the USFWS. BLM will offer the surface owner the same level of surface protection that BLM provides on federal surface (DOI and USDA 2006).

Table 4.3
Acreage of Supplemental Hydraulic Fracturing
Analysis Areas

Analysis Area	Acreage
Lost Hills	34,029
Buena Vista	268,469
Bakersfield	17,557
Sespe	96,460
Total	416,515^(a)

Note:

^(a) Represents 66,037 acres (16%) of BLM surface, and 56,472 acres (7%) of unleased federal minerals, in the Planning Area.

All leases will contain stipulations established by the 2014 RMP. An operator may request that BLM grant an exception, waiver, or modification to a lease stipulation. When proposed drilling and development are conducted on land managed by another surface management agency, BLM will forward operator requests to the surface management agency and obtain its concurrence or recommendation (DOI and USDA 2006).

Surface Management

Federal mineral leases may be developed on BLM surface, or on surface under the jurisdiction of several other entities. For the purposes of this supplemental analysis, non-BLM surface may be owned and managed by the Department of Defense, Department of Energy, State of California, counties and other local governments, USFWS, United States Forest Service, or private landholders. It is important to note that new wells on new federal mineral leases, integrating hydraulic fracturing, and developed on BLM surface would be subject to all protective measures, including lease stipulations, specified in the 2014 RMP. New wells on new federal mineral leases, integrating hydraulic fracturing, that are developed on non-BLM surface would be subject to constraints consistent with the rights granted by a lease on federal minerals that may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulation. In addition, these leases would be subject to a number of other surface use plan restrictions and protective measures required by operators, as well as local, state, and federal authorities. These would include those outlined in the Draft Environmental Impact Report associated with Revisions to the Kern County Zoning Ordinance – 2015 (C), which focused on oil and gas local permitting (Kern County 2015). In addition, SB4 (2013) established a comprehensive regulatory program for oil and gas well stimulation treatments in conjunction with DOGGR, whose authority extends to regulating well stimulation treatment (WST) and WST-related activities, including hydraulic fracturing. Moreover, per SB4, DOGGR has been tasked with entering into formal agreements with certain state and local agencies

regarding WST and WST-related activities to delineate each agency's authority, responsibilities, and notification and reporting requirements. DOGGR is also responsible for verifying that well operators are complying with regulations (California Department of Conservation 2015).

4.1 Air and Atmospheric Values

4.1.1 Introduction

The projected emissions included in the 2012 Final EIS are based on conventional well development for 400 wells over the 10-year period of the 2014 RMP, or an average of 40 wells per year on new leases. The analysis in this section projects the emissions of a maximum of four conventional wells that are also hydraulically fractured per year over a 10-year period. Emissions from hydraulically fracturing occur after a well is conventionally developed. The process employs equipment not included in conventional well development. For the purposes of this analysis, emissions from hydraulic fracturing are conservatively treated as additive to the well development emissions included in the 2012 Final EIS.

The 2012 Final EIS air quality analysis is based on various activities' potential to produce emissions, including conventional well development. Similarly, the analysis performed for this Final Supplemental EIS is based on the potential to emit regulated air pollutants from various activities analyzed in the 2012 Final EIS, plus activity required to hydraulically fracture a well. The activities analyzed in the 2012 Final EIS that have the potential to emit pollutants and impact air quality include energy (well) development, mineral development, vehicle use on unpaved roads, fire management, and livestock grazing. All of these activities currently occur on BLM-managed lands and result in pollutant emissions. This Final Supplemental EIS analysis only focuses on changes in emissions that would occur as a result of hydraulic fracturing during energy (well) development activities associated with the various alternatives. Emissions from activities analyzed in the 2012 Final EIS that are not impacted or changed by hydraulically fracturing wells under the proposed alternatives are noted as unchanged under each alternative.

This Final Supplemental EIS quantifies emissions of reactive organic gases (ROG), oxides of nitrogen (NO_x), particulate matter smaller than 10 microns in diameter (PM₁₀), particulate matter smaller than 2.5 microns in diameter (PM_{2.5}), carbon monoxide (CO), and sulfur oxides (SO_x) from well development, processing equipment, and on-road vehicle emissions associated with hydraulically fractured wells. PM₁₀/PM_{2.5}, ROG, and NO_x analysis is important because ROG and NO_x are ozone precursors and a large portion of the Planning Area is designated as federal nonattainment for ozone and PM_{2.5} and maintenance for PM₁₀.

This Final Supplemental EIS also addresses impacts to emissions of GHGs as a proxy for impacts to climate change from activities allowed under the analyzed alternative fluid mineral management actions. The primary GHG impacts that can be reasonably expected to occur are releases of CO₂ and CH₄ from oil and gas development and production, as well as emissions from the combustion of these fuels. It is not possible to quantify precise impacts to GHG emissions from the analyzed alternative fluid mineral management decisions because the timing, location, and project details of future development are not available. Therefore, the potential impacts from the approximately 40 new hydraulically fractured wells are estimated based on hydraulic fracturing assumptions carried forward throughout this Final Supplemental EIS. This analysis follows the methods and assumptions used for a similar analysis developed in the Central Coast Field Office Draft RMPA/EIS (BLM 2017).

4.1.2 Analysis Methods and Assumptions

The emission estimate methodology used for this Final Supplemental EIS consists of applying emission factors presented in publicly available studies and reports of hydraulic fracturing activities in California. Emission factors based on per-well analysis are used in conjunction with a maximum new well development of an average of four new hydraulically fractured wells per year over the 10-year life of the plan. Well development emissions presented in the 2012 Final EIS remain part of the overall air quality analysis. As with all supplemental analyses, hydraulic fracturing emissions are added to the previously estimated total emissions, resulting in a new total emissions figure.

It is important to use hydraulic fracturing emission factors based on California activity only. The geology of the region, and the drilling techniques used, result in hydraulic fracturing being conducted differently in California than in other areas where hydraulic fracturing is highly utilized, such as the Marcellus shale region (see Section 1.5, above).

Emission factors used to estimate the emissions from hydraulic fracturing are taken from the California Department of Conservation (2015) *Analysis of Oil and Gas Well Stimulation Treatment in California, Volume II* (referred to herein as the SB4 EIR). The SB4 EIR provides emission factors for five criteria pollutants and distinguishes between on-road and off-road sources from hydraulic fracturing activity. The SB4 EIR emission factors are used due to the detail they provide and because they apply specifically to hydraulic fracturing in California.

This analysis follows the methods and assumptions used for a similar analysis developed in the Central Coast Field Office Draft RMPA/EIS (BLM 2017).

The potential GHG emissions from oil and gas development would occur in the following context:

- All activities would be conducted in compliance with applicable laws and regulations and may be subject to review for certain types of GHG emissions by the local air permitting authority.
- The oil and gas produced by the development described in the RFD Scenario would be delivered into California's existing energy supply system, which would not need to be modified to accommodate the incremental production. California is implementing, and will continue to implement, numerous State laws, policies, and programs specifically designed to reduce the demand and need for conventional energy from oil and gas resources.
- The ARB requires any operator of GHG sources in the Petroleum and Natural Gas Systems source category to quantify and report CO₂, CH₄, and N₂O emissions, when stationary combustion and process emissions equal or exceed 10,000 MTCO₂e or their stationary combustion, process, fugitive, and vented emissions equal or exceed 25,000 MTCO₂e, from 17 source types on a well-pad or associated with a well-pad (17 CCR 95152(c)).
- Operators of GHG sources in the category of Petroleum and Natural Gas Systems became covered by the Cap-and-Trade Program on January 1, 2013 (17 CCR 95852.2(b)), along with other large industrial facilities, electric generating utilities, and electricity importers.
- Entities operating oil and gas production, processing, storage, and transmission compressor stations are required by the ARB through regulations approved in April 2017 (17 CCR 95665-95677) to reduce CH₄ emissions. The effects of these controls are not reflected in the current analysis estimate of directly emitted GHG.

- The GHG emissions from end-use of oil and gas produced by leasing and development activity in the Planning Area, while not technically indirect effects of that production, are nevertheless presented here, as they were in the 2012 FEIS, as “indirect effects” in order to contextualize oil and gas production from BLM-managed public lands in the Planning Area.

4.1.3 Impacts of Alternative A (No Action)

Alternative A maintains the same level of well development as it currently exists. Therefore, barring some other development, the emissions from conventional and hydraulically fractured wells would remain at the current levels. Table A-1 of the 2012 Final EIS estimates the current level of BLM well development. These emissions are taken from the actual emissions inventories from the Planning Area. They include any wells that were developed by hydraulic fracturing. No changes or additions are necessary to this table.

4.1.4 Impacts Common to All Action Alternatives

The same number of new wells would be developed by hydraulic fracturing under each of the Action Alternatives. A range of zero to four new wells per year, or up to 40 total wells over the 10-year span of the 2014 RMP, would be developed by hydraulic fracturing under Alternatives B through E. Thus, emissions due to hydraulic fracturing would remain constant across the alternatives, as did emissions from all well development as analyzed in the 2012 Final EIS. The exception to this was for emissions of fugitive particulate matter (PM) associated with varying routes available for motorized travel, which varied by alternative.

Table 4.1.1 shows the estimated annual increase in direct and indirect emissions due to hydraulic fracturing of an average of four wells per year in the Planning Area. The emission sources involved in hydraulic fracturing include off-road items such as pumping units, blenders, and cranes and on-road trucks transporting material to and from the well site. Emissions from hydraulic fracturing well development are minimal, with the largest being NO_x at 2.74 tons per year.

The 2012 Final EIS analyzed all land management decisions that would impact air emissions—for example, methane production from livestock grazing and particulate (dust) from travel management alternatives. This supplemental analysis only addresses potential changes to emissions from the development of an average of zero to four new wells a year, integrating hydraulic fracturing. In the sections below, differences between alternatives for resource management other than fluid minerals will be briefly discussed as a context for the consistent estimates of emissions changes due to hydraulic well fracturing.

Table 4.1.2 shows the estimated annual increase in emissions from conventional and hydraulically fractured well development. The estimated emissions from conventional well development are taken from Table A-2 of the 2012 Final EIS. The total increase in annual emissions from both types of wells is minor, with the largest being in ROG at 7.56 tons per year.

Table 4.1.1
Typical Annual Emissions from Hydraulic Fracturing Equipment

Source	Wells/Year	ROG		NO _x		PM ₁₀ /PM _{2.5}		CO		SO _x	
		lbs/ Well	Annual Emissions	lbs/ Well	Annual Emissions	lbs/ Well	Annual Emissions	lbs/ Well	Annual Emissions	lbs/ Well	Annual Emissions
Off-Road Equipment											
Pumps (Hydraulic Fracturing)	4	83.3	333.2	1,053.1	4,212.4	29.9	119.6	309.2	1,236.8	1.4	5.6
Blenders	4	11.0	44.0	102.1	408.4	3.4	13.6	32.9	131.6	0.1	0.4
Cranes	4	1.0	4.0	9.1	36.4	0.3	1.2	3.3	13.2	0.0	0.0
On-Road Motor Vehicles											
Heavy Duty Trucks	4	10.1	40.4	206.6	826.4	7.0	28.0	52.6	210.4	0.5	2.0
Light Duty Vehicles and Medium Trucks	4	0.5	2.0	0.6	2.4	0.1	0.4	5.1	20.4	0.0	0.0
Totals (lbs/year)		105.9	423.6	1,371.5	5,486.0	40.7	162.8	403.1	1,612.4	2.0	8.0
Totals (tons/year)			0.21		2.74		0.08		0.81		0.004

Source: Senate Bill 4 Environmental Impact Report, Analysis of Oil and Gas Well Stimulation Treatments in California (Volume II), California Department of Conservation 2015, Table 10.3-23.

Key:

CO = carbon monoxide

lbs = pounds

NO_x = oxides of nitrogen

PM₁₀/PM_{2.5} = particulate matter smaller than 10 microns and 2.5 microns in diameter, respectively.

ROG = reactive organic gases

SO_x = sulfur oxides

Table 4.1.2
Typical Annual Emissions from Conventional and Hydraulic Fracturing Well Development

Pollutant	Baseline Emissions from BLM Activity with No Action (tons/year)	Projected Emissions Increase from Conventional Well Development^(a) (tons/year)	Projected Emissions Increase from HF Well Development (tons/year)	Projected Total Emissions Increase (tons/year)
NO _x	409.18	2.18	2.74	4.92
SO _x	73.80	0.41	0.004	0.41
ROG	1,333.40	7.35	0.21	7.56
PM _{2.5}	63.19	0.35	0.08	0.43
PM ₁₀	63.19	0.35	0.08	0.43

Note:

^(a) Emissions are acquired by adding the projected increases for each pollutant from the three groupings of Air Pollution Control Districts in Table A-2 of the 2012 Final EIS.

Key:

BLM = Bureau of Land Management

CO = carbon monoxide

HF = hydraulic fracturing

NO_x = oxides of nitrogen

PM_{2.5} = particulate matter smaller than 2.5 microns in diameter

PM₁₀ = particulate matter smaller than 10 microns in diameter

ROG = reactive organic gases

SO_x = sulfur oxides

Anticipated GHG emissions from oil and gas development include direct emissions of CO₂ due to fuel combustion by all equipment and vehicles, including drill rig engines, well pad construction equipment, temporary production flaring, remedial well work, equipment trucks, hauling of liquids, drill rig crew trucks/vehicles, portable lift equipment, portable testing equipment, and temporary production facilities. Combustion emissions also occur from equipment used during well stimulation treatments and from boilers or steam generators used during enhanced oil recovery.

Vented gases and fugitive leaks that occur during all phases of well development and production are sources of volatile organic compounds and ROG, which are regulated as air pollutants, and CH₄, although these can often be detected and cost-effectively reduced, captured, recovered, or controlled by flaring.

All Action Alternatives include development of, and production by, up to 40 hydraulically fractured wells over the over the 10-year life of the 2014 RMP. Reasonable emissions estimates for any year within the life of this plan were calculated based on four hydraulically fractured wells per year being constructed within the four supplemental hydraulic fracturing analysis areas. After the construction activities and emissions are completed, the new wells would transition into long-term operations and maintenance, when the oil and gas production activities and emissions would commence and then continue. The production-phase emissions assume that all 40 wells would transition to long-term operations and maintenance.

Table 4.1.3 quantifies the anticipated levels of GHG emissions during the years of wells being developed. Table 4.1.4 quantifies the GHG emissions from long-term operation and/or maintenance activities upon full buildout of the RFD Scenario.

The directly emitted GHGs would occur at levels well below the 25,000-MTCO₂e annual threshold for mandatory reporting of GHG in the USEPA Mandatory Reporting Program (40 CFR Part 98). If combustion or process emissions for an individual production facility were to exceed 10,000 MTCO₂e per calendar year, then the ARB mandatory reporting requirements would become applicable to that facility.

Table 4.1.3
Estimated Development Phase Greenhouse Gas Emissions

Development Activity (new well construction and hydraulic fracturing of four wells per year)	CO₂e (MTCO₂e per year)
New Well Development with Surface Disturbance	266.8
Geophysical Exploration	76.4
Well Stimulation	436.0
Total (Development)	779.2

Key:

Co₂e = carbon dioxide equivalent

MTCO₂e = metric tons of carbon dioxide equivalent

Table 4.1.4
Estimated Production Phase Greenhouse Gas Emissions

Operations and Maintenance Activity (for estimated 40 wells over the life of the 2014 RMP)	CO₂e (MTCO₂e per year)
Oil and Gas Production, combustion sources	20,000.0
Oil and Gas Production, vents, and fugitives	(included in estimated development phase emissions)
Total (Production)	20,000.0
Total (Development and Production)	20,779.2

Key:

CO₂e = carbon dioxide equivalent

MTCO₂e = metric tons of carbon dioxide equivalent

Additional GHG emissions would occur as an indirect effect during transport to refiners and refining, and during the end use of oil and gas produced by hydraulically fractured wells in the Planning Area. A rough estimate of possible indirect CO₂ emissions is provided below based on the RFD Scenario, other publicly available information, and assumptions integrated into the Central Coast Field Office Draft RMPA/EIS (BLM 2017). Possible indirect emissions were estimated by assuming annual production per well of 8,614 barrels of crude oil. Table 4.1.5 estimates 221,119 MTCO₂e of GHG emissions from the production plus

transport plus end use of crude oil that could possibly be produced annually by 40 hydraulically fractured wells over the life of the 2014 RMP. Please note that all references cited in the GHG analysis in the Central Coast Field Office Draft RMPA/EIS (BLM 2017) are incorporated here by reference.

Table 4.1.5
Estimated End Use Greenhouse Gas Emissions for
40 Hydraulically Fractured Wells

End Use GHG Emissions (Reference)	CO₂ Emission Factor	Resulting Estimate of End Use Emissions	CO₂e (MTCO₂e per year)
Production plus Transport (ARB LCFS and BLM 2017)	26.67 g CO ₂ e/MJ	—	58,114
End Use (IPCC 2006)	73,300 kg/TJ	352,117,532 CO ₂ lb/yr	159,721
End Use (EIA 2011)	10.29 kg/gal	328,289,111 CO ₂ lb/yr	148,912
End Use (USEPA 2016)	74.54 kg/MMBtu	328,178,086 CO ₂ lb/yr	148,862
Estimated End Use CO₂ Emissions	(Average of End Use Values above)	336,194,910 CO₂ lb/yr	152,498
Estimated End Use GHG Emissions (CO₂e)	Include CH ₄ and N ₂ O	—	153,005
Production Phase plus End Use GHG Emissions Total (CO₂e)		—	221,119

Sources:

ARB Calculation of 2012 Crude Average Carbon Intensity (CI) Values;
 IPCC, 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 2, Energy, 2006;
 USEPA, 2011. Voluntary Reporting of Greenhouse Gases Program. Fuel Emission Coefficients Table 1 (CO₂ for Stationary Combustion);
 USEPA, 2016. Mandatory Greenhouse Gas Reporting Regulation. 40 CFR Part 98, Subpart C, Table C-1. (Default HHV, CO₂ factors).
 USEPA, 2019. Mandatory Greenhouse Gas Reporting Regulation. 40 CFR Part 98, Subpart C, Table C-1. (Default HHV, CO₂ factors):
 USEPA, 2019. Mandatory Greenhouse Gas Reporting Regulation. 40 CFR Part 98, Subpart C, Table C-2. (Default CH₄ and N₂O Emission factors)
 BLM, 2017. Central Coast Field Office Draft Resource Management Plan Amendment and Draft Environmental Impact Statement for Oil and Gas Leasing and Development

Key:

ARB = California Air Resources Board

CFR = Code of Federal Regulations

CH₄ = methane

CO₂ = carbon dioxide

CO₂e = carbon dioxide equivalent

g = grams

gal = gallons

GHG = greenhouse gases

HHV = high heat value

IPCC = Intergovernmental Panel on Climate Change

kg = kilograms

lb = pounds

LCFS = Low Carbon Fuel Standard

MJ = mega-joules

MMBtu = million British thermal units

MT = metric tons

N₂O = nitrous oxide

TJ = terajoules

USEPA = U.S. Environmental Protection Agency

yr = year

With respect to the estimate of end use CO₂ emissions, it should be noted that it is difficult to discern with certainty how transport would occur and what end uses for the fuels extracted from a particular lease might be reasonably foreseeable. For instance, some end uses of fossil fuels extracted from federal leases include combustion of transportation fuels, fuel oils for heating or industrial use, as well as production of asphalt and road oil, and the feedstocks used to make chemicals, plastics, and synthetic materials. The estimate provided in Table 4.1.5 is based on an approximation of these end uses on a national basis using the references cited. While the BLM based these estimates on state-specific transport and national data about typical end use of produced oil and gas, it is important to note that the BLM does not exercise control over the specific end use of the oil and gas produced from any individual federal lease.

The GHG emissions from oil and gas development and production, if allowed by leasing, would occur along with end use emissions from end-users of the fuels. However, these direct and end use emissions would not be likely to conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. California's regulatory setting, including reporting of GHG and the Cap-and-Trade Program (Section 3.6.2, Regulatory Framework, BLM 2017), provides oversight and management of GHGs directly emitted during development and production and indirectly emitted by end users of the petroleum products. The estimated GHG emissions and the associated direct and indirect impacts would be minor.

4.1.5 Conformity

Chapter 3 of the 2012 Final EIS describes the general conformity analysis required for any federal action within any nonattainment and/or maintenance area. The geographic areas and their associated plans in the Planning Area that are designated as nonattainment and/or maintenance areas are:

- San Joaquin Valley Air Pollution Control District (APCD), 2007 PM₁₀ Maintenance Plan and Request for Redesignation (SJVAPCD 2007a);
- San Joaquin Valley APCD, 2007 Ozone Plan (SJVAPCD 2007b);
- San Joaquin Valley APCD, 2016 Moderate Area Plan for the 2012 PM_{2.5} Standard (SJVAPCD 2016); and
- Ventura County APCD, 2016 Ventura County Air Quality Management Plan (VCAPCD 2017).

Table 4.1.6 lists the geographic areas, the attainment status of each pollutant, and the applicable control plan for that pollutant.

While a portion of eastern Kern County is in the Planning Area, there is no oil and gas development activity in this area. Therefore, the Eastern Kern APCD plans are not evaluated for associated pollutants in the 2012 Final EIS or in this Final Supplemental EIS.

Chapter 4 of the 2012 Final EIS describes BLM's 10-step process to comply with federal conformity requirements. This process was followed for this Final Supplemental EIS to determine the conformity of the hydraulically fractured wells. The 10 steps are: (1) Determine spatial and jurisdiction applicability; (2) Describe State Implementation Plan (SIP) status and content; (3) Develop any necessary background information; (4) Develop air quality impact analysis; (5) Compare activity to applicable SIP provisions and rules; (6) Develop a conclusion statement; (7) Prepare a formal determination; (8) Conduct an agency/public review; (9) Submit the determination to appropriate regulatory agencies; and (10) Archive the results. Similar to the analysis in the 2012 Final EIS, steps 1 through 6 have been completed as part of this Final Supplemental EIS in accordance with 40 CFR 93.153 (b)(1&2). Steps 7 through 10 of this

process will not be completed because the total direct and indirect emissions are less than *de minimis* levels.

Table 4.1.6
Air Pollution Control District Attainment Status with Applicable Control Plans

Location (Air District)	Counties	Pollutant/Federal Attainment Status	Control Plan
San Joaquin Valley APCD	San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and a portion of Kern	Ozone / Nonattainment	2007 Ozone Plan
		NO _x / Attainment	
		SO _x / Attainment	
		PM _{2.5} / Nonattainment	2016 Moderate Area Plan for the 2012 PM _{2.5} Standard
		PM ₁₀ / Portions are nonattainment, portions are maintenance.	2007 PM ₁₀ Maintenance Plan and Request for Redesignation
Ventura County APCD	Ventura	Ozone / Nonattainment	
		NO _x / Attainment	
		SO _x / Attainment	2016 Ventura County Air Quality Management Plan
		PM _{2.5} / Attainment	
		PM ₁₀ / Attainment	
San Luis Obispo County APCD	San Luis Obispo	Ozone / Nonattainment (eastern portion)	
		NO _x / Attainment	
		SO _x / Attainment	No control plan yet.
		PM _{2.5} / Attainment	
		PM ₁₀ / Attainment	
Santa Barbara County APCD	Santa Barbara	This area is classified as attainment/unclassified for all criteria pollutants.	Not applicable.

Key:

2012 Final EIS = 2012 Bakersfield Environmental Impact Statement.

APCD = Air Pollution Control District.

CO = carbon monoxide.

NO_x = oxides of nitrogen.

PM_{2.5} = particulate matter smaller than 2.5 microns in diameter.

PM₁₀ = particulate matter smaller than 10 microns in diameter.

SO_x = sulfur oxides.

The emissions increases for conventional well development are broken into three groups according to APCDs in Table A-2 of the 2012 Final EIS in order to compare nonattainment/maintenance area increases to *de minimis* emission increase levels in those areas. Projected emissions from hydraulically fracturing an average of four wells per year were calculated for the entire Planning Area, as shown in Table 4.1.2, above. To obtain a total value of projected emissions (conventional well development plus hydraulically fractured well development), the annual maximum emissions for hydraulic fracturing were added to each group of conventional well development emissions. This was done since it is possible that the average of the four-per-year hydraulically fractured wells could all occur in one of the three APCDs. Thus, this conservative estimate provides a total maximum emissions if all hydraulically fractured wells were developed in one APCD in one year. These totals are then compared to *de minimis* thresholds for the nonattainment APCD. This conservative analysis shows total projected emissions to be below *de minimis* thresholds, as shown in Table 4.1.7. As a result, the conformity analysis is complete and no conformity determination is required.

It should be noted that for CO, each of the APCDs is designated as a maintenance area within the Planning Area; however, CO was not quantified in the 2012 Final EIS since it is not listed in the existing emissions inventories for oil and gas production sources.

4.1.5.1 Prevention of Significant Deterioration

The federal Prevention of Significant Deterioration (PSD) program is a New Source Review program for major sources that are located in areas designated as in attainment with the National Ambient Air Quality Standards. PSD applies to both attainment and unclassifiable areas and PSD permitting requires the use of best available control technology, air quality modeling analysis, and public involvement or comment. None of the Action Alternatives proposed currently would require PSD permitting; however, if BLM-proposed actions resulted in emissions that met major source thresholds, a PSD review would have to be conducted and the relevant air quality permits would have to be issued prior to operations.

4.1.5.2 Climate Change

Chapter 4 of the 2012 Final EIS discusses climate change in general and annual temperature change in the Planning Area specifically. Oil and gas development, vehicle fuel usage, and site abandonment are some of the processes involved in hydraulic fracturing that create GHGs such as CO₂, CH₄, and N₂O. While minor GHG emissions would occur from well development, GHGs are not quantified for conventional well development in the 2012 Final EIS. GHG emissions estimated for 40 hydraulically fractured wells are discussed above and summarized in Tables 4.1.3, 4.1.4, and 4.1.5.

4.1.6 Impacts of Alternative B

As noted above, the air quality impacts of hydraulically fracturing an average of four wells per year is the same for all Action Alternatives for all pollutants except for fugitive PM. Fugitive PM is slightly different for Alternative B, compared to other Action Alternatives, due to a difference in route miles available for motorized use compared to other alternatives. Changes discussed in the 2012 Final EIS for Alternative B that would result in changes from baseline emissions under Alternative A (No Action) are:

- Reduction in miles of routes available for motorized vehicle use;
- Reduction in the amount of non-energy minerals activity; and
- Slight increase in livestock grazing activity.

Table 4.1.7
Annual Emissions Increase by Air Pollution Control Districts Compared to General Conformity *De Minimis* Thresholds

Location (Air District)	Pollutant	Projected Emissions Increase from Conventional Well Development (tons/year)	Projected Emissions Increase from HF Well Development ^(a) (tons/year)	Projected Total Emissions Increase (tons/year)	Applicable General Conformity <i>De Minimis</i> Threshold ^(b) (tons/year)	Comments
San Joaquin Valley APCD	NO _x	2.06	2.74	4.80	10	This area is classified as extreme nonattainment for 8-hour ozone and moderate nonattainment for PM _{2.5} ; maintenance for PM ₁₀ .
	SO _x	0.37	0.004	0.38	10	
	ROG	6.78	0.21	6.99	10	
	PM _{2.5}	0.34	0.08	0.42	100	
	PM ₁₀	0.34	0.08	0.42	100	
Ventura County APCD	NO _x	0.06	2.74	2.80	50	This area is classified as serious nonattainment for 8-hour ozone.
	SO _x	0.01	0.004	0.02	50	
	ROG	0.38	0.21	0.59	50	
	PM _{2.5}	0.01	0.08	0.09	NA	
	PM ₁₀	0.01	0.08	0.09	NA	
San Luis Obispo County APCD	NO _x	0.03	2.74	2.77	100	This area is classified as marginal nonattainment for 8-hour ozone.
	SO _x	0.01	0.004	0.01	100	
	ROG	0.09	0.21	0.30	100	
	PM _{2.5}	0.003	0.08	0.08	NA	
	PM ₁₀	0.003	0.08	0.08	NA	

Table 4.1.7

Annual Emissions Increase by Air Pollution Control Districts Compared to General Conformity *De Minimis* Thresholds

Location (Air District)	Pollutant	Projected Emissions Increase from Conventional Well Development (tons/year)	Projected Emissions Increase from HF Well Development ^(a) (tons/year)	Projected Total Emissions Increase (tons/year)	Applicable General Conformity <i>De Minimis</i> Threshold ^(b) (tons/year)	Comments
Santa Barbara County APCD	NO _x	0.03	2.74	2.77	NA	This area is classified as attainment for criteria pollutants.
	SO _x	0.01	0.004	0.01	NA	
	ROG	0.09	0.21	0.30	NA	
	PM _{2.5}	0.003	0.08	0.08	NA	
	PM ₁₀	0.003	0.08	0.08	NA	

Notes:

^(a) HF emissions were not calculated by air districts like the conventional well development emissions. For the purpose of comparing total emissions from conventional and hydraulically fractured wells to *de minimis* thresholds, the assumption was made that the wells developed in a year would all be in the same APCD. Even with this conservative emissions estimate, none of the projected emissions equaled or were greater than the applicable *de minimis* thresholds. See Sections 4.1.2 and 4.1.5.

^(b) USEPA 2017.

Key:

APCD = Air Pollution Control District.

CO = carbon monoxide.

HF = hydraulic fracturing.

NA = not applicable, area is in attainment

NO_x = oxides of nitrogen.

PM_{2.5} = particulate matter smaller than 2.5 microns in diameter.

PM₁₀ = particulate matter smaller than 10 microns in diameter.

ROG = reactive organic gases.

SO_x = sulfur oxides.

The 2012 Final EIS shows a decrease in total PM emissions of 16.1 percent from the baseline for travel associated with conventional well development and any hydraulically fractured well development included in the baseline. For this land use planning level analysis, route miles available for motorized vehicle use and the daily trip count for hydraulic fracturing are not specifically available. However, it is assumed that a decrease in the mileage of available routes would lead to a corresponding decrease in PM_{2.5} and PM₁₀ fugitive emissions compared to Alternative A. The inclusion of hydraulic fracturing emissions does not affect this conclusion since hydraulic fracturing has no effect on the route miles assumed for this alternative.

The 2012 Final EIS addressed PM₁₀ emissions from non-energy minerals activity. This assumption is unchanged in this Final Supplemental EIS since the assumption is not affected by inclusion of hydraulic fracturing.

The 2012 Final EIS addressed PM₁₀ emissions from livestock grazing. This is unchanged in this Final Supplemental EIS since it is not affected by inclusion of hydraulic fracturing.

4.1.7 Impacts of Alternative C

As noted above, the air quality impacts of hydraulically fracturing an average of four wells per year is the same for all Action Alternatives for all pollutants except for fugitive PM. Fugitive PM is slightly different for Alternative C (compared to Alternatives B and E) due to a difference in route miles available for motorized use. Changes discussed in the 2012 Final EIS for Alternative C that would result in changes from baseline emissions under Alternative A (No Action) are:

- Reduction in miles of routes available for motorized vehicle use;
- Reduction in the amount of non-energy minerals activity; and
- Slight increase in livestock grazing activity.

Alternative C would decrease route miles from 1,895 to 656 miles, which is a decrease of approximately 65 percent. The 2012 Final EIS shows a corresponding decrease in total PM emissions from the baseline. The inclusion of hydraulic fracturing emissions does not affect this conclusion since hydraulic fracturing has no effect on the route miles assumed for this alternative.

The 2012 Final EIS addressed PM₁₀ emissions from non-energy minerals activity. Although the emissions decrease is not quantified in the 2012 Final EIS for non-energy mineral activity, the 2012 Final EIS analysis assumed that the 59 percent decline in activity would lead to a corresponding decline in PM₁₀ emissions (compared to Alternative A) from non-energy mineral activity. This assumption is unchanged in this Final Supplemental EIS since the assumption is not affected by inclusion of hydraulic fracturing.

The small increase in livestock grazing in Alternative C from the baseline activity was assumed in the 2012 Final EIS to lead to a corresponding increase in PM₁₀ emissions. PM₁₀ emissions from grazing activities are not quantified in the 2012 Final EIS but were considered minor; thus, any emissions increase resulting from grazing was expected to be *de minimis*. The inclusion of hydraulic fracturing emissions does not affect this conclusion since this has no effect on grazing.

4.1.8 Impacts of Alternative D

As noted above, the air quality impacts of hydraulically fracturing an average of four wells per year is the same for all Action Alternatives for all pollutants except for fugitive PM. For other resource management, Alternative D is the same as Alternative C except that livestock grazing is completely eliminated. The air quality impact of hydraulically fracturing four wells per year is the same for all alternatives except for fugitive PM. The fugitive PM impact for Alternative D is the same as Alternative C. Changes discussed in the 2012 Final EIS for Alternative D that would result in changes from baseline emissions under Alternative A (no action) are:

- Reduction in miles of routes available for motorized vehicle use;
- Reduction in the amount of non-energy minerals activity; and
- Elimination of livestock grazing activity.

Alternative D would decrease route miles from 1,895 to 656 miles, which is a decrease of approximately 65 percent. The 2012 Final EIS shows a corresponding decrease in total PM emissions from the baseline. The inclusion of hydraulic fracturing emissions does not affect this conclusion since hydraulic fracturing has no effect on the route miles assumed for this alternative.

The 2012 Final EIS addressed PM₁₀ emissions from non-energy minerals activity. Although the emissions decrease is not quantified in the 2012 Final EIS for non-energy mineral activity, the addition of hydraulic fracturing does not change the 2012 Final EIS's conclusion with regard to emissions from non-energy mineral activity.

The elimination of livestock grazing in Alternative D would lead to the complete elimination of PM₁₀ emissions due to grazing activity. The inclusion of hydraulic fracturing emissions does not affect this conclusion since this has no effect on grazing.

4.1.9 Impacts of Alternative E

As noted above, the air quality impacts of hydraulically fracturing an average of four wells per year is the same for all Action Alternatives for all pollutants except for fugitive PM. Fugitive PM is slightly different for Alternative E, compared to the other Action Alternatives, due to route miles available for motorized use. Changes discussed in the 2012 Final EIS for Alternative E that would result in changes from baseline emissions under Alternative A (No Action) are:

- Reduction in miles of routes available for motorized vehicle use;
- Reduction in the amount of non-energy minerals activity; and
- Slight increase in livestock grazing activity.

Alternative E would decrease route miles from 1,895 to 1,683 miles, which is a decrease of approximately 11 percent. The 2012 Final EIS shows a corresponding decrease in total PM emissions from the baseline. The inclusion of hydraulic fracturing emissions does not affect this conclusion since hydraulic fracturing has no effect on the route miles assumed for this alternative.

The 2012 Final EIS addressed PM₁₀ emissions from non-energy minerals activity. Although the emissions decrease is not quantified in the 2012 Final EIS for non-energy mineral activity, the 2012 Final EIS assumed that the 32 percent decline in activity would lead to a corresponding decline in PM₁₀ emissions.

This is unchanged in this Final Supplemental EIS since it is not affected by inclusion of hydraulic fracturing.

The small increase in livestock grazing in Alternative E from the baseline activity was assumed in the 2012 Final EIS to lead to a corresponding increase in PM₁₀ emissions. PM₁₀ emissions from grazing activities were not quantified in the 2012 Final EIS but were considered minor; thus, any emissions increase resulting from grazing were expected to be *de minimis*. The inclusion of hydraulic fracturing emissions does not affect this conclusion since this has no effect on grazing.

4.2 Biological Resources

4.2.1 Introduction

Biological resources include the plant and animal species and populations—including upland vegetation and riparian/wetland areas, terrestrial and aquatic wildlife, special status plants and significant plant communities, special status fish and wildlife species, including natural communities, and ecosystem processes—that occur within the Planning Area. For the purposes of this Final Supplemental EIS, special status species of both plants and animals include those listed as Sensitive by the BLM California State Office, as well as species listed under the Endangered Species Act as Threatened or Endangered (T&E), or their Designated Critical Habitat. In this analysis, vegetation resources will be discussed first, followed by wildlife resources. Finally, special status species, both plant and wildlife, will be discussed.

4.2.2 Analysis Methods and Assumptions

The analysis conducted for this Final Supplemental EIS focused on the potential direct and indirect impacts that would result from hydraulic fracturing on species, populations, and habitats within the supplemental hydraulic fracturing analysis area (Figure 4.1). Direct and indirect impacts on biological resources could result from hydraulic fracturing actions that physically alter, damage, or destroy habitat; disrupt essential behaviors such as feeding, breeding, and sheltering; or result in injury or mortality to plants or animals. Direct impacts occur as a direct result of management actions, at the same time and place as those actions. Indirect impacts occur later in time or in a different location than the original action.

Since the issuance of the 2012 Final EIS in 2012, new and relevant information has become available to incorporate into this Final Supplemental EIS analysis. On December 22, 2017, the USFWS issued a Programmatic BO on oil and gas activities on BLM lands in the San Joaquin Valley (USFWS 2017). The BO covers surface and subsurface lands administered by the BLM Bakersfield Field Office, in Kings and Kern Counties and a small portion of San Luis Obispo County. It covers individual actions or groups of actions by a single applicant within a given lease and/or section that, within a given fiscal year, disturb less than 10 acres of habitat or, for linear actions, is less than 10 miles long.

The BO addresses mitigation of impacts on T&E species, including the endangered San Joaquin kit fox (*Vulpes macrotis mutica*), blunt-nosed leopard lizard (*Gambelia sila*), giant kangaroo rat (*Dipodomys ingens*), Tipton kangaroo rat (*Dipodomys nitratoideis nitratoideis*), Kern mallow (*Eremalche kernensis*), San Joaquin woolly-threads (*Monolopia congdonii*), California jewelflower (*Caulanthus californicus*), and Bakersfield cactus (*Opuntia basilaris* var. *treleasei*).

Estimated surface disturbance from construction of well pads, roads, and pipelines associated with the potential of 0 to 40 hydraulically fractured wells is summarized in Table 4.2. These disturbance estimates are provided as short and long-term, as well as by BLM surface and non-BLM lands. Because specific locations of potential hydraulically fractured wells within the supplemental hydraulic fracturing analysis area are unknown, estimated disturbance areas used in this analysis are assumed to be distributed among biological resources in proportion to the estimated relative acreage.

The analysis assumes that BLM would require all applicable lease stipulations (Table 2.1, above, and Appendix G of the 2012 Final EIS), as well as appropriate BMPs listed in Appendix L of the 2012 Final EIS, to be implemented for all surface-disturbing activities on BLM lands. In addition, BLM would require that public lands are to be restored. Additional actions on private lands such as placement of conservation easements, purchase of credits at conservation banks, or transfer to BLM, USFWS, or the California Department of Fish and Wildlife to be managed for listed species may be required. The BO details these conditions, including conservation measures, monitoring requirements, qualifications, reporting, and species survey requirements.

Where hydraulically fractured wells would be located on non-BLM surface, constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. The operator would also be required to comply with all applicable Federal, State, and local laws and regulations.

It is important to note that impacts resulting from proposed surface-disturbing activities on BLM surface associated with a specific oil and gas development, that may include hydraulic fracturing, will be evaluated by site-specific NEPA analyses. Similarly, proposed surface-disturbing activities on non-BLM surface may be evaluated by other federal agency, project-specific NEPA analyses, or CEQA.

4.2.2.1 Upland Vegetation and Riparian/Wetland Areas

For this analysis, a distinction is made between upland vegetation and areas classified as riparian/wetland areas. Additionally, noxious weeds are considered a separate vegetation category.

Direct impacts to upland vegetation could include disruption or removal of rooted vegetation, resulting in a reduction in areas of native vegetation, reduction in total numbers of plant species (species richness) within an area, and/or reduction in or loss of total area, diversity, structure, or function of wildlife habitat. Direct impacts to riparian/wetland areas may include those described for upland vegetation, as well as increased sedimentation due to local surface disturbance, soil and bank erosion, and changes to channel morphology. The potential for environmental impacts to vegetation resources is assumed proportional to the area available for surface-disturbing activities, such as hydraulic fracturing, under each alternative. The larger the area of potential surface disturbance, the greater the potential for direct and indirect impacts to vegetation resources.

Potential indirect impacts to all vegetation types could include disruption or reduction of pollinator populations, loss of habitat suitable for colonization due to surface disturbance, introduction of noxious weeds by various vectors or conditions that enhance the spread of weeds, and general loss of habitat due to surface occupancy, surface compaction, or trampling. Upgradient physical disruption can result in sedimentation to vegetated areas. Failed reclamation or mitigation may also cause indirect impacts to

these resources. Potential indirect impacts to riparian/wetland areas include disruption of hydrological processes, decreased ability to trap sediments and nutrients and moderate surface flow, decreased infiltration for groundwater recharge, increased run-off, and focused grazing pressure or wildlife use in less impacted riparian/wetland areas. Additional indirect impacts from increased erosion and sedimentation could occur to riparian/wetland areas located down gradient from surface disturbances, even if the resource itself may be purposely avoided to reduce direct impacts. Most indirect impacts to vegetation resources are assumed to result from direct impacts in proportion to the relative amount of surface disturbance.

Noxious Weeds

Potential negative indirect impacts regarding noxious weeds may include introduction of noxious weeds by various vectors or conditions that enhance the spread of weeds, resulting in degraded vegetation communities and/or complete loss of native habitat.

4.2.2.2 Terrestrial and Aquatic Wildlife

In general, the occurrence, abundance, and distribution of wildlife are most strongly affected by habitat type, quality, and accessibility. All of these habitat characteristics may be altered as a result of increased human activity and resource development, as well as by resource management activities aimed at specific wildlife or other environmental concerns.

Direct habitat loss occurs when required life-sustaining conditions for biological organisms are lost. This can occur from activities such as direct removal of vegetation, soil excavation, topsoil removal, crushing shrubs or other woody vegetation, destroying biological soil crusts, or off-road driving that result in topsoil impacts. Removal or other negative impacts to vegetation affect wildlife by reducing the extent or quality of habitat in terms of food, cover, and structure (e.g., bedding, nesting, or perching). Impacts to soils result in changes to soil structure and fertility. These changes may inhibit the reestablishment of vegetation in the future. These impacts are quantified by calculating the amount of habitat loss for any given action. For example, removal of an area of vegetation for construction of a road or well pad removes habitat value for that affected area of many wildlife habitat values.

Habitat loss can be characterized by the duration of the impact. In the example above, some of this surface disturbance would result in temporary habitat loss from short-term disturbance that would be reclaimed and returned to pre-construction habitat conditions. Permanent habitat loss results from long-term disturbance that would not be returned to usable habitat conditions.

Modifications in habitat are generally less obvious and less severe than losses of habitat, but can become important, especially if numerous small impacts accumulate across large areas. Examples include removal of forage and trampling of soils by domestic livestock, invasions of weeds in areas where native plant vigor or cover is reduced, and removal of tree cover during timber harvesting. Modification of aquatic habitats can also occur from increased human use and resource development, including diversions for agricultural and other uses. Low-water crossings or culverted crossings of roads can create impassable segments that interfere with upstream-downstream movement by fish and aquatic macroinvertebrates.

Habitat fragmentation is increasingly recognized as an important, and often the most important, impact of human population growth and associated development on wildlife. Impacts of habitat fragmentation

result from the reduced size of individual habitat blocks and the increased percentage of “edge” on smaller blocks as compared to larger blocks.

In addition to the potential effects of reduced patch size, increased edge, and shifts in vegetation composition associated with habitat fragmentation are impacts associated with increased human activity. This is because most sources of habitat fragmentation (e.g., roads, trails, timber clear-cuts, conversion of habitats to agricultural or residential uses, and energy developments) are also associated with increased levels of human activity. While some species are more tolerant of human activity than others, virtually all species have some threshold of disturbance above which they would abandon an area, or use it at a reduced level.

As with habitat loss, habitat modifications are often characterized by an area of surface disturbance, buffered with an area that is influenced by the disturbance. The temporal impacts of habitat modification are also described by duration, as temporary or short-term versus permanent or long-term.

Habitat loss or modification, habitat fragmentation, and disturbance impacts can also affect wildlife by altering important daily or seasonal movement patterns. These patterns may be altered through shifts to avoid human activity, to avoid crossing open areas that provide inadequate cover, or to circumvent a physical barrier (e.g., fences and steep road cuts).

Harassment is an extreme type of disturbance and involves intentional actions to frighten or chase a species. Because wildlife react more severely to directed movements by people rather than incidental movements, the magnitude and duration of the displacement is generally greater. This increases the risk of injury to the fleeing animal, placing greater stress on the animal by increasing metabolic rates and creating more prolonged disruption in behavior and habitat use.

Direct mortality can also result in areas of increasing human use due to crushing, entombment, vehicle strikes, electrocution of raptors on utility lines, increased likelihood of illegal hunting, or inadvertent trampling of nests.

4.2.2.3 Special Status Plants and Significant Plant Communities

Potential direct impacts to special status plants and significant plant communities include the physical disruption or removal of rooted vegetation or disruption of habitat in the immediate vicinity of rooted plants. Direct impacts also may include disruption of a plant community that results in the reduction of total numbers of plant species (species richness) within an area, and/or reduction or loss of total area, diversity, structure, and/or function of a community. Potential indirect impacts include disruption or reduction of pollinator populations; disruption of hydrological processes (particularly in relation to wetlands and riparian habitat); loss of habitat suitable for colonization due to surface disturbance; and disturbance to vegetation from dust generation and from herbicide use and drift.

4.2.2.4 Special Status Fish and Wildlife Species

Potential impacts to special status fish and wildlife species may include direct mortality and reduction or extirpation of a population; habitat loss or modification; habitat fragmentation or disturbance; and interference with movement pattern. These impacts can reduce numbers of one or more species, potentially to the point of local extirpation; disrupt community composition and function through changes in the distribution, relative abundance, and habitat use of various species (e.g., reduced prey abundance affects predator abundance); and make populations and communities hypersensitive to

other perturbations. For example, increased habitat fragmentation can make forest-interior species more vulnerable to disturbance by reducing patch size, increasing the amount of edge, and increasing accessibility to predators or (in the case of songbirds) nest parasitism by brown-headed cowbirds.

4.2.3 Impacts of Alternative A (No Action)

Alternative A would maintain the current management situation under the existing Caliente RMP (BLM 1997) and Hollister RMP (BLM 1984), as amended. These RMPs do not address potential hydraulic fracturing in the context of their respective management situations. The current supplemental analysis does not apply to the no action alternative, which is used as a baseline for comparative effects.

4.2.4 Impacts Common to All Action Alternatives

Different areas would be open to fluid mineral leasing under each of the Action Alternatives; however, estimated short- and long-term surface impacts from hydraulic fracturing are the same (Table 4.2). These would result in the same estimated impacts to biological resources, discussed below. Up to approximately 210 of the 416,515 acres in the supplemental hydraulic fracturing analysis area could be impacted by hydraulic fracturing operations (Table 4.2).

Based on the analysis assumptions described above, approximately 0 to 9.8 acres of short-term disturbance and 0 to 23.8 acres of long-term disturbance to BLM surface would be expected from hydraulic fracturing activities over the 10-year life of the 2014 RMP (Table 4.2). The surface impacts from hydraulic fracturing operations would affect approximately 0 to 51.1 acres on non-BLM surface in the short-term and 0 to 123.9 acres on non-BLM surface in the long-term. These disturbance areas could include both direct and indirect impacts to biological resources.

Controlled Surface Use (CSU) and No Surface Occupancy (NSO) stipulations would restrict potential well locations, based on the presence of protected resources. The major stipulation of NSO – General, which prohibits surface disturbance on an entire lease, would be established for the purpose of minimizing or eliminating adverse effects on unique or significant natural resources that are incompatible with fluid mineral development. The major stipulation CSU – Sensitive Species would be established for the purpose of minimizing or eliminating adverse effects associated with fluid mineral development on federal candidate, state-listed, and BLM-listed sensitive species. All of the Action Alternatives include numerous additional CSUs for the protection of specific biological resources such as raptors, critical habitat, priority species, plant communities, and habitats, as summarized in Table 2.1. These create additional, often overlapping protections for biological resources from disturbance or impact from potential hydraulic fracturing activities.

4.2.4.1 Upland Vegetation and Riparian/Wetland Areas

The analysis integrates the assumption that all NSO and CSU stipulations for resources would be applied in accordance with the 2014 RMP, reducing potential impacts to vegetation communities and wildlife habitat. Disturbance would be minimized on areas with ecologically important resources by compliance with requirements outlined in the Programmatic BO, as well as appropriate BMPs (Appendix L) and conditions in Appendix G and Appendix B of the 2012 Final EIS. In addition, it is assumed that any entity causing a permitted ground-disturbing activity would comply with specified reclamation and revegetation practices, as well as annual monitoring and reporting, until BLM deems that success criteria are achieved.

Mitigation would be required to replace vegetation communities permanently or temporarily altered by hydraulic fracturing activities. Where hydraulically fractured wells are located on non-BLM surface, constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. The operator would also be required to comply with all applicable Federal, State, and local laws and regulations. Under Alternative B, a number of NSO and CSU stipulations established by the 2014 RMP would protect relevant and important values from adverse effects associated with fluid mineral development. These stipulations would provide protection from long-term ground-disturbing activities and additional protection to relevant and important habitat. In addition, some hydraulic fracturing operations could result in negligible indirect impacts.

Since it is unknown where these impacts would occur, the assumption is that future applicants would propose surface-disturbing activities to be located in such a way as to avoid riparian/wetland vegetation, comply with applicable federal and state permitting requirements, implement appropriate BMPs, and comply with CSU and NSO stipulations. In addition, it is assumed that any entity causing a permitted ground-disturbing activity would comply with specified reclamation and revegetation practices, as well as annual monitoring and reporting, until BLM deems that success criteria are achieved. It is expected that the Action Alternatives would result in negligible impacts to upland vegetation and riparian/wetland areas.

4.2.4.2 Terrestrial and Aquatic Wildlife

Potential impacts to terrestrial and aquatic wildlife would depend on the species occurrence, abundance, and distribution within areas proposed for hydraulic fracturing. To assess the potential for direct and indirect impacts, future applicants would be required to conduct surveys to assess species utilization and occurrence surrounding a proposed leasing area. Results from surveys would be analyzed in project-specific NEPA documents to determine what mitigation measures would be required in order to avoid or minimize impacts. Results of the NEPA process would also include development of appropriate mitigation measures and/or stipulations to ensure that potential habitat loss or modifications, habitat fragmentation, wildlife harassment, and mortality are analyzed to ensure that species populations and habitats are maintained. It is expected that the Action Alternatives would result in negligible impacts to terrestrial and aquatic wildlife.

4.2.4.3 Special Status Plants and Significant Plant Communities

Special status plants and significant plant communities receive important protections in the Action Alternatives. This includes ACECs to protect areas of ecological importance and habitat for 83 special status species, of which eight are listed as T&E. The purpose of an ACEC is to protect natural resource values and establish conditions or restrictions associated with any development within its boundary. Therefore, direct impacts would be avoided or minimized by requiring potential leasing applicants to conduct surveys for special status plants and significant plant communities. Leasing applicants would also be required to comply with documents developed for the ACECs. In some cases, lease stipulations established by the 2014 RMP would protect relevant and important values from adverse effects associated with fluid mineral development. These stipulations would provide protection from long-term ground-disturbing activities and additional protection to relevant and important habitat.

As noted above, the Programmatic BO (USFWS 2017) was issued after the publication of the 2012 Final EIS. Results from the Section 7 formal consultation process require additional conservation measures, reporting/ monitoring requirements, and species-specific and habitat restoration/compensation requirements that were not analyzed in the 2012 Final EIS. Therefore, BLM would require species-specific conservation measures, as well as general project surveys, monitoring, and reporting for potential hydraulic fracturing activities. In addition, BLM would also apply habitat restoration and compensation/replacement, as outlined in the BO. Implementation of these measures would be expected to result in negligible impacts to T&E species or their Designated Critical Habitat. These actions would be required for T&E plant and wildlife species.

Due to the limited surface disturbance, and numerous protective measures and lease stipulations, the Action Alternatives are expected to result in negligible impacts to special status plants and significant plant communities.

4.2.4.4 Special Status Fish and Wildlife Species

Potential direct and indirect impacts to special status fish and wildlife species from hydraulic fracturing activities depends on species occurrence within a potential leasing area. Leasing applicants would be required to conduct surveys to determine species occurrence and utilization within the leasing area to avoid or minimize species impacts. All leasing areas would be required to comply with applicable federal and state stipulations and mitigation requirements to ensure that hydraulic fracturing activities do not result in local extirpation of a species; disrupt community composition and function through changes in the distribution, relative abundance, and habitat use; or make populations and communities hypersensitive to other perturbations. Due to the limited surface disturbance, and numerous protective measures and lease stipulations, the Action Alternatives are expected to result in negligible impacts to special status fish and wildlife species.

4.2.5 Impacts of Alternative B

As shown in Table 2.1 and Table 2.2, this alternative includes CSU for the Compensation Lands ACEC, which would further reduce potential for surface impacts after mitigation. A potential fluid mineral leasing area could only be open for leasing if it is consistent with the documents that established the compensation lands. This ACEC provides managed habitat for the species identified in the compensation documents developed in coordination with the USFWS and California Department of Fish and Wildlife to promote species recovery. Disturbance within the Conserved Lands area of ecological importance would be managed not to exceed 10 percent in reserve areas and 25 percent in corridor areas. Conditions established in the documents for the ACEC would be used to protect natural values in potential fluid mineral leasing areas.

4.2.6 Impacts of Alternative C

Alternative C includes a number of discretionary closures, including on the Compensation Lands ACEC, which overlaps with 203 acres in the Buena Vista supplemental hydraulic fracturing analysis area. This area could be closed to oil and gas leasing at the discretion of BLM. Closure of this area to oil and gas development, would also preclude hydraulic fracturing and reduce potential impacts from this activity to all biological resources within this area.

4.3 Cultural Resources

Potential impacts to cultural resources from all activities and programs except use of hydraulic fracturing in the oil and gas program are summarized in Section 4.4 of the 2012 Final EIS. Estimated impacts of hydraulic fracturing in the oil and gas program are provided below.

4.3.1 Methods of Analysis and Assumptions

Impacts to cultural resources are proportional to the amount of new surface disturbance associated with the number of wells subject to hydraulic fracturing. The amount of surface disturbance has the potential to negatively affect cultural resources. The negative effects may include whole or partial loss of the resource and its cultural or data values.

The following assumptions were used in this analysis:

- Development of the hydraulically fractured wells may result in direct and indirect impacts to cultural resources.
- Direct impacts may include any activity that physically destroys or irreversibly alters a cultural resource
- Indirect impacts are defined as degradation to cultural resources as a consequence of the activity that is removed in time or space from a potential impact (e.g., erosion outside of a construction zone), but are still reasonably foreseeable.
- The four supplemental hydraulic fracturing analysis areas (Lost Hills, Buena Vista, Bakersfield, and Sespe) comprise 416,515 acres (Table 4.3).

It is important to note that impacts resulting from proposed surface-disturbing activities on BLM surface associated with a specific oil and gas development project, which may include hydraulic fracturing, will be evaluated in the future with a site-specific NEPA analyses and Section 106 reviews. Similarly, proposed federally permitted surface-disturbing activities on non-BLM federal surface would be subject to environmental impact analysis evaluated by other federal surface management agency-specific NEPA analyses and National Historic Preservation Act (NHPA) review. For non-federally permitted projects, on non-federal lands, cultural resource compliance is regulated under the California Public Resources Code (PRC) and CEQA (Sec. 21083.2 and 21084.1).

Impacts of Alternative A (No Action)

Alternative A would maintain the current management situation under the existing Caliente RMP (BLM 1997) and Hollister RMP (BLM 1984), as amended. The current supplemental analysis does not apply to the no action alternative, which is used as a baseline for comparative effects.

4.3.2 Impacts Common to All Action Alternatives

For all Action Alternatives, an average of zero to four new wells on new leases are assumed to be hydraulically fractured per year. Over a 10-year program, 0 to 40 wells may be drilled. Disturbance associated with the construction and use of hydraulically fractured wells and pads would impact approximately 0 to 9.8 acres of BLM surface in the short-term and approximately 0 to 23.8 acres of BLM surface in the long-term after interim reclamation. Hydraulic fracturing operations would impact

approximately 0 to 51.1 acres on non-BLM surface in the short-term and approximately 0 to 123.9 acres on non-BLM surface in the long-term (Table 4.2).

This analysis assumes that potential surface disturbance from hydraulically fractured wells, as identified in the supplemental analysis, would follow applicable surface use plans and restrictions, per land surface ownership. All applicable lease stipulations (Table 2.1, above, and Appendix G of the 2012 Final EIS), as well as appropriate BMPs listed in Appendix L of the 2012 Final EIS, would be implemented for all surface-disturbing activities on BLM lands. Where hydraulically fractured wells would be located on non-BLM surface, constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations.

The 2014 RMP contains an avoidance stipulation for historic properties, as outlined in Section L.6 of Appendix L of the 2012 Final EIS. Therefore, no adverse effects to historic properties are anticipated from development of hydraulically fractured wells included in this supplemental analysis. The operator would also be required to comply with all applicable Federal, State, and local laws and regulations.

BLM and other Federal agencies must follow the NHPA (54 U.S.C. 306108) Section 106 guidelines and regulations and other related statutes when permitting oil and gas developments, including hydraulic fracturing, on their lands. Federal agencies will also follow their internal cultural resources guidance documents, agreements with the California Office of Historic Preservation, and tribal agreements. For non-federally permitted projects, protection of cultural resources on non-federal lands is regulated under the PRC, CEQA (Sec. 21083.2 and 21084.1).

4.4 Native American Values

Potential impacts to Native American values from all activities and programs except use of hydraulic fracturing in the oil and gas program are summarized in Section 4.4 of the 2012 Final EIS. Estimated impacts of hydraulic fracturing in the oil and gas program are provided below.

4.4.1 Methods of Analysis and Assumptions

Impacts to Native American values are proportional to the amount of new surface disturbance and the number of wells subject to hydraulic fracturing. The amount of surface disturbance and the number of wells have the potential to negatively affect cultural landscapes, topographic features, sacred sites, water sources, sensitive plant communities, and wildlife important to native peoples. The negative effects may include whole or partial loss of the resource, and lack of access to the resource.

The following assumptions were used in this analysis:

- Development of hydraulically fractured wells may result in direct and indirect impacts to Native American values.
- Direct Impacts are any activity that physically destroys or irreversibly alters natural or cultural resources of importance to the culture and traditions of Native American people. These include sacred sites/areas, traditional use areas, and natural features such as caves, topographic features, and water sources considered important to Native peoples.

- Indirect impacts are degradation to natural or cultural resources that have meaning to Native American people as a consequence of the activity that is removed in time or space from a potential impact but are reasonably foreseeable (e.g., erosion outside of a construction zone)
- The four supplemental hydraulic fracturing analysis areas (Lost Hills, Buena Vista, Bakersfield, and Sespe) comprise 416,515 acres.

It is important to note that impacts resulting from proposed surface-disturbing activities on BLM surface associated with a specific oil and gas development project, which may include hydraulic fracturing, will be evaluated in the future with site-specific NEPA analyses and NHPA analyses. This would include the appropriate level of tribal consultation. Similarly, proposed federally permitted surface-disturbing activities on non-BLM federal surface would be subject to environmental impact analysis evaluated by other federal surface management agency-specific NEPA analysis, NHPA review and tribal consultation. For non-federally permitted projects, on non-federal lands tribal consultation is regulated under the PRC, CEQA (Sec. 21083.2 and 21084.1).

4.4.2 Impacts of Alternative A (No Action)

Alternative A would maintain the current management situation under the existing Caliente RMP (BLM 1997) and Hollister RMP (BLM 1984), as amended. These RMPs do not address potential hydraulic fracturing in the context of their respective management situations. Therefore, the current supplemental analysis would not result in any substantive change to the estimated impacts to Native American values, had they been addressed in the 2012 Final EIS.

4.4.3 Impacts Common to All Action Alternatives

Under all Action Alternatives, an average of zero to four new wells on new leases are assumed would be hydraulically fractured per year. Over a 10-year program, 0 to 40 wells may be drilled. Disturbance associated with the construction and use of hydraulically fractured wells and pads would impact approximately 0 to 9.8 acres of BLM surface in the short-term and approximately 0 to 23.8 acres of BLM surface in the long-term after interim reclamation. Hydraulic fracturing operations would impact approximately 0 to 51.1 acres on non-BLM surface in the short-term and approximately 0 to 123.9 acres on non-BLM surface in the long-term (Table 4.2).

BLM and other Federal agencies must follow their specific agency guidance regarding consultation and coordination with Native American people and at a minimum must include adherence to Executive Order (EO) 13007, Indian Sacred Sites; American Indian Religious Freedom Act (42 U.S.C. 21.1 Sec. 1996 and 1996a); and the Religious Freedom Restoration Act of 1993 (42 U.S.C. 21B, Sec. 2000bb et seq.), Archaeological Resources Protection Act and NHPA. Federal agencies would also follow any existing agreements with tribes.

Potential impacts to Native American values that may be associated with BLM permitted projects would also be addressed by following the procedures for tribal relations and consultation in the BLM Handbook 1780-1 Improving and Sustaining BLM- Tribal Relations (BLM 2016), which promotes meaningful and effective tribal consultation. In addition, for federally permitted projects, implementation of Section 106 compliance, BMPs, SOPS, and stipulations as outlined in Section L.6 of Appendix L in the 2014 RMP, would avoid, minimize, or mitigate potential adverse effects to historic properties with religious and cultural significance to tribes.

For non-federally permitted projects, protection of Native American values on private lands, State of California Lands, and political subdivisions is under PRC Sections 5097.91 – 5097.97 that establishes a Native American Heritage Commission (NAHC), governs state and local agency cooperation with the NAHC, and creates a process to identify and protect sacred places.

4.5 Paleontological Resources

Potential impacts to paleontological resources from all activities and programs except use of hydraulic fracturing in the oil and gas program are summarized in Section 4.6 of the 2012 Final EIS. Estimated impacts of hydraulic fracturing in the oil and gas program are provided below.

4.5.1 Methods of Analysis and Assumptions

Impacts to paleontological resources are proportional to the amount of new surface disturbance and the number of wells subject to hydraulic fracturing. The amount of surface disturbance and the number of wells have the potential to negatively affect paleontological finds directly through well pad and associated infrastructure construction and indirectly through erosion and increased access for fossil collecting.

The following assumptions were used in this analysis:

- Development of the hydraulically fractured wells may result in direct and indirect impacts to paleontological resources.
- Direct impacts may include the destruction of fossil remains, which has the potential to occur during ground disturbance within paleontologically sensitive geologic formations.
- Indirect impacts could result from soil instability along slopes and road cuts within paleontologically sensitive formations. In addition, oil field development may increase ease of access to locations where paleontologically sensitive geologic formations are present, resulting in an increased risk of unauthorized fossil collection in these areas.
- The four supplemental hydraulic fracturing analysis areas (Lost Hills, Buena Vista, Bakersfield, and Sespe) encompass 416,515 acres.

It is important to note that impacts resulting from federally permitted projects associated with a specific oil and gas development project, which may include hydraulic fracturing, will be evaluated in the future with site-specific NEPA.

4.5.2 Impact of Alternative A (No Action)

Alternative A would maintain the current management situation under the existing Caliente RMP (BLM 1997) and Hollister RMP (BLM 1984), as amended. These RMPs do not address potential hydraulic fracturing in the context of their respective management situations. Therefore, the current supplemental analysis would not result in any substantive change to the estimated impacts to paleontological resources from fluid mineral management, as analyzed in Section 4.6 of the 2012 Final EIS.

4.5.3 Impacts Common to All Action Alternatives

The proposed number of wells hydraulically fractured per year would be an average of zero to four. Over a 10-year program, 0 to 40 wells may be drilled. Short- and long-term disturbance associated with

the construction and use of hydraulically fractured well pads would impact approximately 0 to 9.8 acres of BLM lands in the short-term and approximately 0 to 23.8 acres of BLM soil in the long-term after interim reclamation. Hydraulic fracturing operations would impact approximately 0 to 51.1 acres on non-BLM soil in the short-term and approximately 0 to 123.9 acres on non-BLM soil in the long-term.

On both BLM and non-BLM surface, potential impacts to paleontological values from permits issued in relation to extraction of subsurface federal minerals, would be addressed through guidance and policies provided in BLM Handbook H-8270-1, General Procedural Guidance for Paleontological Resource Management and the BLM Manual MS-8270, Paleontological Resource Management. These documents are supplemented by Instruction Memorandum 2009-011, Assessment and Mitigation of Potential Impacts to Paleontological Resources (DOI 2009) and 2016-124, Potential Fossil Yield Classification System for Paleontological Resources on Public Lands (DOI 2016). Procedures in these guidance documents are meant to satisfy the requirements of the Omnibus Public Land Management Act of 2009, National Environmental Policy Act (NEPA) of 1969 (42 USC 4321 et seq.), FLPMA of 1976 (43 USC 1701 et seq.), and other federal authorities.

Potential impacts to paleontological values would also be addressed by guidance provided in the BLM, Bakersfield Field Office Approved Resource Management Plan and Record of Decision (BLM 2014). Paleontological Resources Decision 1 implements measures to protect paleontological resources from inadvertent damage or destruction through:

- Avoidance
- Fencing
- Stabilization
- Collection or excavation and deposit in museum repository
- Interpretation, or
- Administrative closure

Paleontological Resources Decision 4 ensures that site-specific NEPA analysis, which may include field inventory and fossil specimen recovery, implements the Potential Fossil Yield Classification as a standard part of the review for all surface disturbing projects throughout the Decision Area.

BLM and other federal agencies must follow their agency guidance documents, NEPA and the Paleontological Resources Preservation Act, which protect paleontological resources on federal lands. Protection of paleontological resources on State of California Lands is regulated under the PRC, CEQA, Appendix G (Sec. 8.16.2.2) and may require the evaluation of effects on any project undertaken, assisted, or permitted by the state or the state's political subdivisions. This can include projects on private land. Implementation of this is dependent upon county regulations.

4.6 Soil Resources

Potential impacts to soil resources from all activities and programs except use of hydraulic fracturing in the oil and gas program are summarized in Section 4.7 of the 2012 Final EIS. Estimated impacts of hydraulic fracturing in the oil and gas program are provided below.

4.6.1 Methods of Analysis and Assumptions

Impacts to soil are proportional to the amount of new surface disturbance for each alternative (i.e., increased disturbance would result in a proportionate increase in adverse impacts to soils).

The increase or reduction in potential for accelerated soil erosion, and subsequent loss or maintenance of soil productivity, is qualitatively used to further describe these impacts.

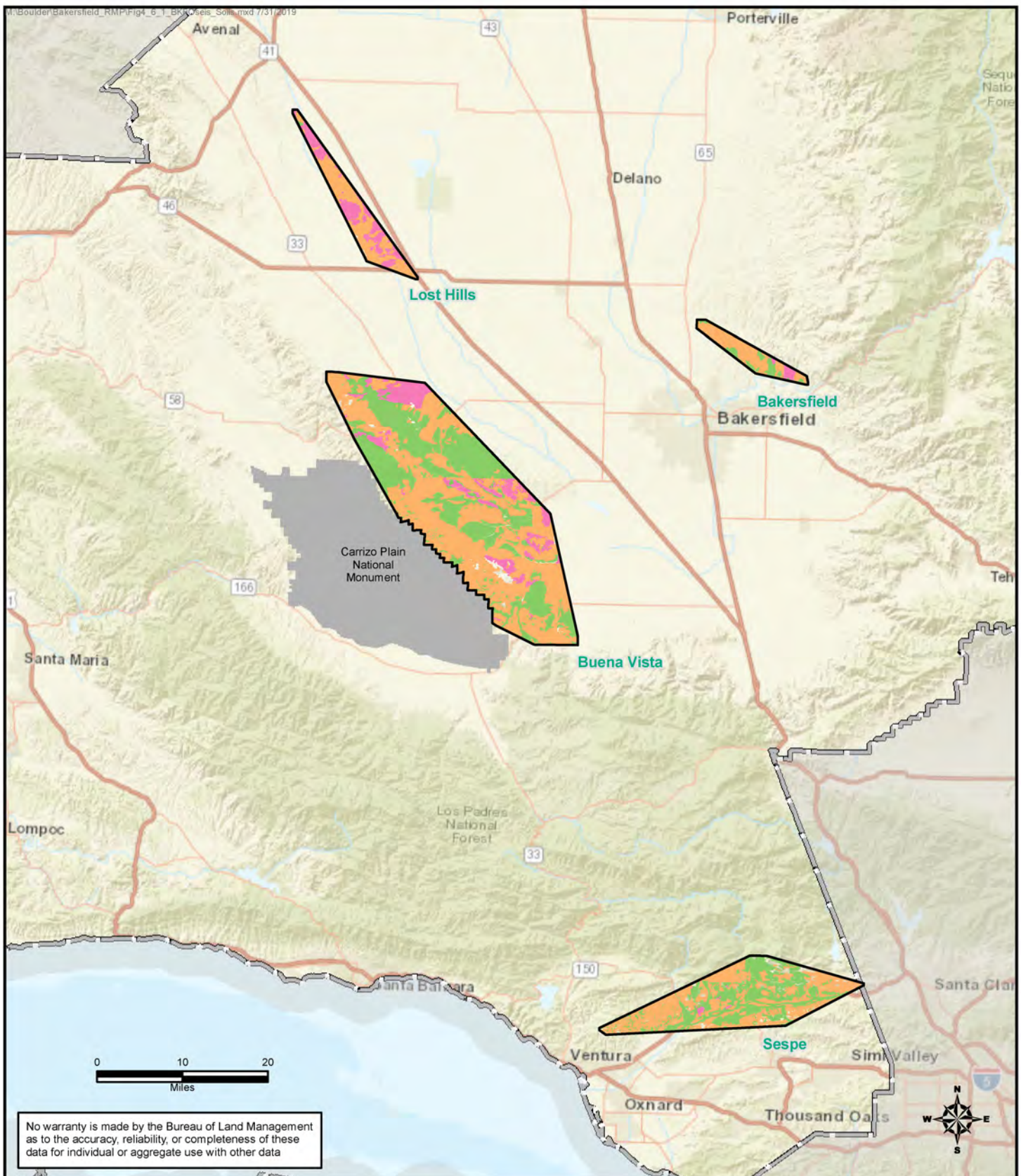
Prime or Important Farmland soil, including Farmlands of State Importance and Prime Farmlands if Irrigated are present in the Lost Hills, Buena Vista, and Bakersfield supplemental hydraulic fracturing analysis areas (Figure 3.7.1 in the 2012 Final EIS). Most of the supplemental hydraulic fracturing analysis areas comprise a mix of soils with erosion potentials (Figure 4.6.1), and the acres of each are listed in Table 4.6. The Lost Hills, Buena Vista, and Bakersfield areas are known endemic areas for valley fever (Figure 3.7.4 in the 2012 Final EIS).

Table 4.6
Erosion Potential

Analysis Area	Analysis Area (acres)	High Erosion Potential (acres)	%	Moderate Erosion Potential (acres)	%	Low Erosion Potential (acres)	%
Lost Hills	34,029	11,987	35%	21,292	63%	199	1%
Buena Vista	268,469	22,289	8%	140,314	52%	191,433	71%
Bakersfield	17,557	1,418	8%	11,895	68%	4,169	24%
Sespe	96,460	500	1%	46,497	48%	41,962	44%

Source: U.S. Department of Agriculture, Natural Resources Conservation Service. (Various Dates as provided in the 2011 Draft RMP). Web Soil Survey, CA031 (Kings County, California), CA666 (Kern County California, Northwestern Part), CA667 (San Luis Obispo County, California, Carrizo Plain Area), CA668 (Kern County, Northeastern Part and Southeastern Part of Tulare County, California), CA674 (Ventura Area, California), CA675 (Antelope Valley Area, California), CA691 (Kern County California, Southwest Part), CA772 (Los Padres National Forest Area, California). Available Online at <https://websoilsurvey.sc.egov.usda.gov/>

Surface disturbance associated with hydraulic fracturing operations is summarized in Table 4.2. Interim reclamation would be implemented under all Action Alternatives and would minimize erosion from disturbed areas. Sensitive soils (highly erodible) are more susceptible to erosion and runoff than other soil types. Soil erosion could contribute to sedimentation in streams.



Legend

Susceptibility to Erosion

- High: K factor > .4
- Moderate: K factor .24 - .4
- Low: K factor .02 - .20

- Carrizo Plain National Monument (Excluded from analysis)
- Bakersfield Field Office
- SHF Analysis Area - named for adjacent oil fields

Soils Susceptibility to Erosion
Bureau of Land Management
Bakersfield Field Office
Final SEIS

Source: U.S. Department of Agriculture, Natural Resources Conservation Service. (Various Dates as provided in the 2011 Draft RMP).
 Web Soil Survey, CA031 (Kings County, California), CA666 (Kern County California, Northwestern Part), CA667 (San Luis Obispo County, California, Carrizo Plain Area), CA668 (Kern County, Northeastern Part and Southeastern Part of Tulare County, California), CA674 (Ventura Area, California), CA675 (Antelope Valley Area, California), CA691 (Kern County California, Southwest Part), CA772 (Los Padres National Forest Area, California). Available Online at <https://websoilsurvey.sc.egov.usda.gov/>

Figure 4.6.1

The lack of a detailed soil inventory that includes the location of biological crusts, as well as concern regarding soils hosting high levels of *Coccidioides immitis* (pathogenic fungus that causes valley fever), limits the ability to analyze impacts on these soil types at the land use planning level analysis of this Final Supplemental EIS but would be included as necessary in analysis of site-specific projects.

This analysis assumes that potential surface disturbance from hydraulically fractured wells, as identified in the supplemental analysis, would follow applicable surface use plans and restrictions, per land surface ownership. All applicable lease stipulations (Table 2.1, above, and Appendix G of the 2012 Final EIS), as well as appropriate BMPs listed in Appendix L of the 2012 Final EIS, would be implemented for all surface-disturbing activities on BLM lands. In addition, BMPs from the Gold Book BMPs (BLM and US Forest Service 2007) and interim and final reclamation measures (43 CFR 3101.1-2) would be followed for federal mineral leases developed through hydraulically fractured wells on BLM surface. Wells developed on U.S. Forest Service lands would be subject to the Gold Book BMPs as well.

Mitigation measures described in SB4, Chapter 313 would be applied to reduce impacts to natural resources on all hydraulically fractured wells. If the wells would be located in Kern County, the Kern County Zoning Ordinance, Chapter 19.98 (Oil and Gas Production) would also apply (Kern County 2015). Additionally, all wells on non-BLM surface would likely be subject to additional environmental impact analysis under CEQA.

It is important to note that impacts resulting from proposed surface-disturbing activities on BLM surface associated with a specific oil and gas development project, which may include hydraulic fracturing, would be evaluated in the future with site-specific NEPA analyses. Similarly, proposed surface-disturbing activities on non-BLM surface would be subject to environmental impact analysis evaluated by other federal agency-specific NEPA analyses, or under CEQA.

4.6.2 Impacts of Alternative A (No Action)

Alternative A would maintain the current management situation under the existing Caliente RMP (BLM 1997) and Hollister RMP (BLM 1984), as amended. These RMPs do not address potential hydraulic fracturing in the context of their respective management situations. Therefore, the current supplemental analysis would not result in any substantive change to the estimated impacts to soil resources from fluid mineral management, as analyzed in Section 4.7 of the 2012 Final EIS.

4.6.3 Impacts Common to All Action Alternatives

Different areas would be open to fluid mineral leasing under each of the Action Alternatives; however, estimated short- and long-term surface impacts from hydraulic fracturing are the same (Table 4.2). These would result in the same estimated impacts to soil resources, discussed below.

Once disturbed, soil would be susceptible to accelerated erosion and transport by being exposed to the erosional forces of water and wind. Surface disturbance from hydraulic fracturing operations would degrade soil quality and productivity and lead to increased erosion, loss of soil stability, changes in vegetation, compaction, and reduced reclamation potential. The removal of organic matter and disturbance to natural soil horizons would decrease soil productivity.

Highly erodible soils are present throughout the supplemental hydraulic fracturing analysis areas, but impacts would be reduced through appropriate siting and BLM BMPs (Appendix L, Sections L4 and L7 of the 2012 Final EIS). Impacts to Prime and Unique Farmland (approximately 11,490 acres in supplemental

hydraulic fracturing analysis areas) would include potential loss of productivity, along with other erosional effects depending on where wells would be located. Because of the relatively small area of disturbance, approximately 0 to 209 acres overall (Table 4.2), impacts would be negligible. Biological crusts are present in the Planning Area but are not well mapped. Biological crusts would be identified and evaluated during site-specific NEPA analysis for individual wells.

Potential indirect effects include potential changes in vegetation communities, increased erosion into and sedimentation of streams, and health impacts to agricultural products from blowing dust because of disturbed soil.

NSO and CSU stipulations for other resources would be applied per the 2014 RMP. Implementation of these stipulations would reduce potential erosion by limiting surface disturbance. Disturbance would be minimized on special soils (e.g., serpentine soils, soils highly susceptible to erosion, and Prime or Other Important Farmlands). BLM BMPs (Appendix L, Sections L4 and L7 of the 2012 Final EIS) would be used to limit soil erosion. Minimizing disturbance, conserving topsoil, reseeding disturbed areas, and avoiding steep slopes and special soil would mitigate some impacts to soil resources. The operator would also be required to comply with all applicable federal, state, and local laws and regulations.

A maximum of 0.02 percent of the supplemental hydraulic fracturing analysis areas would potentially experience surface disturbance to soils as a results of hydraulic fracturing activities. Under Alternative B, the abovementioned mitigation of impacts to soil resources would be applied to activities on BLM and non-BLM lands. Therefore, hydraulic fracturing operations under Alternative B would be expected to have negligible adverse soil impacts overall. Some impacts could be more severe in small, localized areas should mitigation measures not completely address long-term changes in soil fertility or structure resulting from topsoil loss and soil compaction. These impacts could result in loss or change in current plant cover patterns. These areas of localized impacts to soils could potentially extend beyond the 10-year analysis period.

4.7 Visual Resources

Potential impacts to visual resources from all activities and programs except use of hydraulic fracturing in the oil and gas program are summarized in Section 4.8 of the 2012 Final EIS. No new and relevant information is needed to support this Final Supplemental EIS, as the analysis of visual resource management under the No Action and Action Alternatives accounted for a range of oil and gas production, which may include the potential for hydraulic fracturing.

4.7.1 Analysis Methods and Assumptions

Analysis methods and assumptions for visual resources are located in Section 4.8 of the 2012 Final EIS.

It is important to note that impacts resulting from proposed surface-disturbing activities on BLM surface associated with a specific oil and gas development project, which may include hydraulic fracturing, will be evaluated in the future with site-specific NEPA analyses. Similarly, proposed surface-disturbing activities on non-BLM surface would be subject to environmental impact analysis evaluated by other federal surface management agency-specific NEPA analyses, or under CEQA.

4.7.2 Impact of Alternative A (No Action)

Alternative A would maintain the current management situation under the existing Caliente RMP (BLM 1997) and Hollister RMP (BLM 1984), as amended. These RMPs do not address potential hydraulic

fracturing in the context of their respective management situations. Therefore, the current supplemental analysis would not result in any substantive change to the estimated impacts to visual resources from fluid mineral management, as analyzed in Section 4.8 of the 2012 Final EIS.

4.7.3 Impacts Common to All Action Alternatives

Section 4.8.2 of the 2012 Final EIS addresses impacts of management common to all Action Alternatives. As described in that section, for all four of the Action Alternatives the application of visual resource management (VRM) BMPs as terms and conditions (stipulations) to all drilling activities, including hydraulic fracturing, would aid in achieving VRM objectives.

Short-term visual impacts of hydraulic fracturing (i.e., height of the drilling rig, night lighting of the well site, and night lighting of the rig mast) would be the same as for conventional wells. An additional short-term visual impact of hydraulic fracturing would be a 43-foot-tall pump that would remain in place for the limited amount of time needed to complete the process, typically one to two days. Short-term impacts associated with construction would also include heavy equipment and employee vehicles (stationary and traveling to/from well pad locations), fugitive dust, etc.

The area of disturbance for each well would result in both short-term and long-term visual impacts. Compared to conventional wells, short-term impacts of hydraulically fractured well pads would be approximately 3.5 acres larger, and long-term impacts of hydraulically fractured well pads would be approximately 2 acres larger. Some impacts to visual resources could be more noticeable in small, localized areas should mitigation measures not completely address long-term changes in soil fertility or structure resulting from topsoil loss and soil compaction. These impacts could result in loss or change in current visual plant cover patterns. These areas of localized impacts to soils could potentially extend beyond the 10-year analysis period.

All of the four supplemental hydraulic fracturing analysis areas are classified as VRM Class IV. By definition, VRM Class IV provides for management activities that require major modification of the landscape character, and the level of change to the characteristic landscape can be high; however, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements. Given that the number of wells that would be hydraulically fractured is an average of zero to four-per-year over the 10-year period of the 2014 RMP and is limited to the four supplemental hydraulic fracturing analysis areas, it is expected that visual impacts from hydraulic fracturing would be negligible. Therefore, the information presented in the 2012 Final EIS, including the methods of analysis, assumptions, and impacts discussion, is incorporated by reference.

4.8 Water Resources

Potential impacts to water resources from all activities and programs except use of hydraulic fracturing in the oil and gas program are summarized in Section 4.9 of the 2012 Final EIS. Possible impacts of hydraulic fracturing in the oil and gas program are provided below.

4.8.1 Methods of Analysis and Assumptions

A detailed description of hydraulic fracturing is provided in Chapter 1. With regard to potential impacts to water resources, hydraulic fracturing consists of the following activities that are part of the water “life cycle”: water acquisition, constituent mixing and handling, injection of fluids through wells and into

subsurface formations during hydraulic fracturing operations, and fracturing fluid flowback storage and disposal (USEPA 2016; Dunn-Norman et al. 2018). Each of these activities may present potential risks to surface and groundwater resources. This analysis will look at each of these activities to assess the severity and duration of potential impacts.

The following assumptions are provided to refine the scope of the assessment of potential impacts of hydraulic fracturing on water resources in the defined study area:

- The exact location of new wells on new leases that would be hydraulically fractured is not known. As in other supplemental analyses, it is assumed that these wells would be located within the supplemental hydraulic fracturing analysis areas (Figure 4.1). For analysis purposes, it is assumed that drilling and completion practices would be similar in all the supplemental hydraulic fracturing analysis areas.
- Data for California indicate that hydraulic fracturing consumes about 100,000 gallons (0.31 acre-feet) of water per well (DOGGR 2015a, 2016, 2018c). In addition, drilling would require 4,200 gallons per day (DOGGR 2015b). Wells take an average of 23 days to drill (Kern County 2015), which would consume about 100,000 gallons. Therefore, water consumption per hydraulically fractured well is assumed to be about 200,000 gallons (0.61 acre-feet).
- Water sources for hydraulic fracturing are produced water (8.8 percent), groundwater supply wells (25.4 percent), and surface water from public water sources (65.8 percent) (Kern County 2015).
- A maximum of 40 new wells on new leases would be hydraulically fractured during the planning period (10 years). These wells would have an average true vertical depth of 2,700 feet. However, it is possible that some of the wells could exceed 10,000 feet true vertical depth (DOGGR 2015b).
- Exploratory drilling and testing of the Monterey Formation as a shale play have not yielded promising results (CCST 2014). It is unlikely that the Monterey Formation would be exploited as a continuous and unconventional resource utilizing horizontal drilling and massive multi-stage hydraulic fracturing. A continuous and unconventional hydrocarbon resource is one in which the hydrocarbons are dispersed throughout a geologic formation rather than existing as a discrete, localized occurrence (USGS 2014a).
- Hydraulic fracturing has been integral over 40 years in the development of oil fields in the southern San Joaquin Basin. Although many wells in the southern San Joaquin Basin are directionally drilled, only a small percentage have been horizontally drilled. Of these horizontal wells, it is possible that a few may have been hydraulically fractured. In 2013, 99 percent of the permits for horizontal wells were in existing producing areas (CCST 2014). Barring a major change in economic conditions (oil prices), drilling would occur primarily in established field areas and most of the 0 to 40 new hydraulically fractured wells under consideration would be vertical wells.
- Characterization of the salinity of aquifers or formation water is based on the concentration of total dissolved solids (TDS). Fresh water has less than 3,000 milligrams per liter (mg/L) TDS, and protected water has less than 10,000 mg/L TDS. Underground sources of drinking water (USDWs) as defined in 40 CFR, Section 144.3 are protected waters, subject to specific conditions or exemptions.

- The potential effects of hydraulic fracturing on surface water and soils may not be substantially different from routine oil field operations, and the chemicals used may be similar (USGS 2014b).
- In the analysis of flowback and produced water disposal, this assessment will rely on statistics from DOGGR Well Stimulation Annual Reports covering the reporting periods from January 1, 2014, to September 30, 2015; July 1, 2015, to June 30, 2016; and July 1, 2016, to December 31, 2016 (DOGGR 2015a, 2016, and 2018c).
- Hydraulic fracturing would be conducted on about 400 non-federal wells per year over the planning period based on four years of hydraulic fracturing data compiled by DOGGR (2015a, 2016, 2018c), assuming no substantial changes in wells drilled per year. Most of these wells would be in Kern County.

It is important to note that impacts resulting from proposed activities on BLM surface associated with a specific oil and gas development project, which may include hydraulic fracturing, will be evaluated in the future with site-specific NEPA analyses. Similarly, proposed surface-disturbing activities on non-BLM surface would be subject to environmental impact analysis evaluated by other federal agency-specific NEPA analyses, or under CEQA.

4.8.2 Impacts of Alternative A (No Action)

Alternative A would maintain the current management situation under the existing Caliente RMP (BLM 1997) and Hollister RMP (BLM 1984), as amended. These RMPs do not address potential hydraulic fracturing in the context of their respective management situations. Therefore, the current supplemental analysis would not result in any substantive change to the estimated impacts to water resources from fluid mineral management, as analyzed in Section 4.9 of the 2012 Final EIS.

4.8.3 Impacts Common to All Action Alternatives

4.8.3.1 Impacts to Surface Water

Surface water quality could be directly impacted by leaks or spills into water bodies or wetland areas due to transportation, storage, and use of hazardous materials, including fuels, fracturing chemicals, and produced water. Indirect effects could occur by leaks or spills onto upland surfaces where contaminants could migrate to surface waters. However, protective measures to minimize the risk of contamination from accidental releases at oil and gas production and processing facilities would be implemented according to Spill Prevention, Control, and Countermeasure and emergency response plans. Lease stipulations could be used to provide setbacks between hydraulic fracturing activities and surface water resources.

Under California State regulations, the ephemeral and intermittent streams that occur in the hydraulic fracturing analysis areas are considered watercourses. Kern County also specifically defines intermittent streams as watercourses. Ephemeral and intermittent streams by definition do not regularly carry surface water. Therefore, direct adverse impacts to surface water resources from hydraulic fracturing are expected to be negligible because of federal, state and local regulations governing discharges in protected waterways as defined by regulation (BLM 2012; Kern County 2015). BLM BMPs for well construction and drilling would also minimize impacts to surface water. There is a small potential for adverse impacts to the dry watercourses themselves, should mitigation measures and protective measures fail or be misapplied. These in turn could indirectly affect surface water during subsequent precipitation events.

4.8.3.2 Impacts to Groundwater

Water Use

Based on the assumptions listed above, approximately 400 wells per year would be hydraulically fractured in California (DOGGR 2015a, 2016, and 2018c). Most of the wells would be drilled in old producing areas in western Kern County where hydraulic fracturing maximizes recovery of oil from diatomite reservoirs. Based on the water consumption assumptions described above, the drilling and hydraulic fracturing of 400 wells would use up to an estimated 80.0 million gallons (246 acre-feet) of water per year. Hydraulic fracturing of an average of zero to four wells assumed in the Planning Area would consume 0.0 to 800,000 gallons (0.0 to 2.5 acre-feet). Over the 10-year planning period, these new wells on new leases in the Planning Area would be expected to use up to an estimated 8.0 million gallons (25 acre-feet) of water compared to an estimated 800 million gallons (2,455 acre-feet) consumed by 400 wells per year over 10 years, as assumed for all of California.

Estimated surface and groundwater use in Kern County is about 788.4 billion gallons (2,420,000 acre-feet) per year (USGS 2018a). Most of the water is used for irrigation. Maximum water consumption of four or fewer wells would be substantially smaller than the annual consumption of surface and groundwater in Kern County. The impact of water use for hydraulic fracturing of an average of zero to four wells per year would be negligible, in comparison.

Constituent Mixing and Handling

Mixing and handling of hydraulic fracturing fluids on well pads poses a potential threat to groundwater. Table 4.8 lists some of the commonly used constituents of fracturing fluids. The amounts and contents of fracturing fluids would be based on the downhole conditions to maximize the efficiency of the fracturing process.

The constituents listed in Table 4.8 make up a relatively small proportion of hydraulic fracturing fluid. Generally, water is the main constituent (90 to 97 percent by volume), with proppant the second largest (2 to 10 percent by volume), and chemicals and additives at 2 percent by volume (USEPA 2016).

Impacts to groundwater could result from leaks and spills of fluids from storage containers, transportation incidents, flow lines, and leaks from impoundments. The groundwater resources most likely to be affected are those contained within the Tulare formation and overlying alluvium on the west side of the San Joaquin Valley, and those contained within the Kern River Formation on the east side of the San Joaquin Valley. These resources are most likely to be affected because they are the shallowest in the Planning Area.

According to the United States Environmental Protection Agency (USEPA) (2016), spills of hydraulic fracturing fluids have stemmed primarily from equipment failure or human error and mainly involved storage containers. The potential to impact groundwater “depends on the composition of the spilled fluid, spill characteristics, spill response activities, and the fate and transport of the spilled fluid” (USEPA 2016). Because of these factors, impacts to groundwater may not be readily apparent for a number of years.

Table 4.8
Typical Constituents of Hydraulic Fracturing Fluids

Constituent Type	Purpose	Chemical Types
Proppant	Maintains open fractures to allow gas and fluids to flow to the well bore.	Silica sand, sintered bauxite, zirconium oxide, ceramic beads
Acid	Cleans out cement and drilling mud from casing perforations prior to fracturing operations.	Hydrochloric acid (HCl), 3 percent to 28 percent
Breaker	Reduces the viscosity of the fluid in order to release proppant into fractures and enhance the recovery of the fracturing fluid.	Peroxydisulfates
Biocide	Inhibits growth of organisms that could produce gases (e.g., hydrogen sulfide). Also prevents the growth of bacteria, which can reduce the ability of the fluid to carry proppant into the fractures.	Gluteraldehyde; 2,2-dibromo-3-Nitrilopropionamide
Buffer/Ph Adjuster	Adjusts and controls the pH of the fluid in order to maximize the effectiveness of other additives such as crosslinkers.	Sodium or potassium carbonate; acetic acid
Clay Stabilizer	Prevents swelling and migration of formation clays, which could block pore spaces and thereby reduce permeability.	Salts (e.g., tetramethyl ammonium chloride; potassium chloride [KCl])
Corrosion Inhibitor	Reduces corrosion on steel tubing, well casings, tools, and tanks that store fracturing fluids that contain acid.	Methanol; ammonium bisulfate for oxygen scavengers
Cross Linker	Increases fracturing fluid viscosity, allowing the fluid to carry more proppant into the fractures.	Potassium hydroxide; borate salts
Friction Reducer	Allows fracture fluids to be injected at optimum rates and pressures by minimizing friction.	Sodium acrylate-acrylamide copolymer; polyacrylamide (PAM); petroleum distillates
Gelling Agent	Increases fracturing fluid viscosity, allowing the fluid to carry more proppant into the fractures.	Guar gum; petroleum distillates
Iron Control	Prevents the precipitation of metal oxides which could plug off the formation.	Citric acid
Scale Inhibitor	Prevents the precipitation of carbonates and sulfates (calcium carbonate, calcium sulfate, barium sulfate), which could plug off the formation.	Ammonium chloride; ethylene glycol
Solvent	Additive that is soluble in oil, water, and acid-based treatment fluids, used to control the wettability of contact surfaces or to prevent or break emulsions.	Various aromatic hydrocarbons
Surfactant	Reduces fracturing fluid surface tension, thereby aiding fluid recovery.	Methanol; isopropanol; ethoxylated alcohol

Sources: Revised from Long et al. 2015; New York State Department of Environmental Conservation 2011, Table 5.6.

Data collected by DOGGR (2015a, 2016, and 2018c) in California over the period from January 2014 to December 2017 indicate no spills or emergency responses involving fracturing fluids. USEPA data on hydraulic fracturing fluid spills indicate that impacts to groundwater may be rare, occurring only once out of 457 incidents studied by the USEPA (2015, 2016). In the study, the most common materials spilled were produced water and flowback fluid. Most of the spills (56 percent) were less than 1,000 gallons, and there were much fewer (5.3 percent) large volume incidents, i.e. greater than 20,000 gallons.

New information regarding groundwater and field fluids used in oil and gas well stimulation treatments (hydraulic fracturing and acid well stimulation), published by the State Water Resources Control Board, became available after publication of the Draft Supplemental Environmental Impact Statement (State Water Resources Control Board 2019). Results pertinent to this analysis are discussed below.

One component of this annual report summarizes the 2018 results of the Regional Monitoring Program (synonymous with the United States Geological Survey California Oil, Gas, and Groundwater Program). The results of this monitoring program found infrequent mixing of oil and gas field fluids in a small number of groundwater locations. Detections sometimes occurred in water wells near areas of high produced water injection and high well density. This combination of factors may provide pathways for oil field solutes and gases to reach groundwater. In other areas, it is possible that detection of oil and gas field fluids may be the result of historic disposal in surface ponds. The specific constituents were not distinguished, nor was the potential source—hydraulic fracturing, acid well stimulation, or some other cause. These results note that the occurrence of oil field fluids in groundwater was dependent on hydrogeologic setting, and no determination as to cause was cited. Given the planning level of detail integrated in this supplemental analysis, these results do not change the impact analysis below.

As discussed above in Section 4.8.2.1, protective measures to minimize the risk of contamination from accidental releases at oil and gas production and processing facilities would be implemented according to Spill Prevention, Control, and Countermeasure and emergency response plans. Lease stipulations, COAs, and company implemented BMPs also can be used to lessen the risk to groundwater, especially in areas where aquifers are considered vulnerable. Given the likely size and frequency of spills of hydraulic fracturing fluids and record of no spills over a period of three years, authorization of 40 or fewer wells is not likely to pose a risk to groundwater. The risk of impacts to groundwater due to spills of fracturing fluids from the completion of an average of zero to four wells per year would be negligible.

Injection of Hydraulic Fracturing Fluids

Injection of hydraulic fracturing fluids poses risks to groundwater. There are two major pathways through which fracturing fluids may impact groundwater: a breakdown in barriers designed to prevent leakage of fluids from the well, and migration of fractures outside of the target producing formation.

The containment of fluids in the well relies on the concept of well integrity, or maintaining physical barriers, operational standards, organizational procedures, and regulatory framework to prevent the migration of fluids out of the borehole, protect aquifers, and separate aquifers from hydrocarbon-bearing zones. Physical barriers include steel casing, cement, and blowout preventers. A type of physical barrier also includes drilling fluid, which, among other uses, provides a hydrostatic barrier to prevent the unintended release of formation fluids to the surface during drilling and completion. Operational standards can include the monitoring of pressures in well annuli (the spaces between strings of casing or the production casing and the drilled hole) and can provide indications of leakage through primary barriers such as cement sheaths and casing. Remedial measures can be implemented if monitoring

indicates that there is a problem with well integrity. Organizational procedures involve a company's protocols for the reporting of failures or shortfalls in meeting standards. The regulatory framework involves state and federal rules and guidelines governing the drilling, completion, and operation of the wells.

Data collected by DOGGR (2015a, 2016, and 2018c) over the period from January 2014 to December 2017 indicate no loss of integrity as a result of hydraulic fracturing. New regulations regarding well integrity require the following actions before WST operations may be conducted (DOGGR 2015a):

- Require operators to conduct pressure testing before WST.
- DOGGR must evaluate cement-casing bond logs to determine if there is sufficient cement to prevent “significant migration of fluids, particularly under the increased pressures that occur during WST operations” (DOGGR 2015a).

The other major pathway that poses a risk to aquifers is the migration of fracturing fluids from the target zone. The geological conditions in the San Joaquin Basin with regard to aquifer salinity make it difficult to assess the risk to protected water resources (TDS less than 10,000 mg/L). Protected or useable aquifers (USDWs) are defined by the USEPA (2016) as “an aquifer or portion of an aquifer that:

- Supplies any public water system or that contains a sufficient quantity of groundwater to supply a public water system; and
- Currently supplies drinking water for human consumption; or
- Contains fewer than 10,000 mg/L total dissolved solids and is not an exempted aquifer.”

Generally, the base of USDWs becomes deeper from northwest to southeast in the southern San Joaquin Basin (Gillespie et al. 2017). The eastern portion of the area near Bakersfield receives abundant recharge from the Sierra Nevada, resulting in lower salinity and better water quality at greater depths. Some oil zones produce water that is suitable for irrigation. On the west side, depths to the base of USDWs are variable, and in some cases higher salinity aquifers overlie fresher aquifers at relatively shallow depths (2,000 feet).

Because of concerns about oil and gas activities and potential impacts to protected groundwater, an interagency partnership called the California Oil, Gas, and Groundwater Program has been formed to study the problem. The United States Geological Survey is the technical lead supported by state and federal agencies, including BLM. The study will require several years and involves several activities in various locations, which include some of the study areas in this analysis. The activities include airborne magnetic surveys to measure salinities over large areas, direct sampling and analysis of groundwater samples, analysis of potential pathways, constructing three-dimensional geological models, and geochemical analysis (USGS 2018b). Products from this scientific effort will include publications documenting subsurface salinities in the Planning Area.

As information from the aforementioned study becomes available, authorizing officers will be able to better assess subsurface conditions during the APD process and provide COAs that would protect useable aquifers. DOGGR is also collecting information on fracture heights and lengths that would be helpful in assessing APDs.

New results from the DOGGR Program show that hydraulic fracturing of two adjacent wells in the Lost Hills Field resulted in a decrease in salinity of produced water. Geochemical conditions surrounding hydraulically fractured wells re-equilibrate to the geochemistry of the surrounding formation fairly rapidly (weeks to months). This rapid re-equilibration is due to the fact that very small volumes of fluid are injected compared to formation fluid volumes. Out-of-zone migration would have to reach protected resources before the transient conditions have re-equilibrated for fluids associated with hydraulic fracturing to cause an impact (McMahon et al. 2018).

Impacts to groundwater from loss of well integrity or out-of-zone migration of fracturing fluids from an average of zero to four wells would be negligible. If present trends continue, the drilling and hydraulic fracturing of up to 40 wells on new leases over the 10-year planning period would also have negligible impact.

Flowback Management and Disposal

Fluid that is produced after hydraulic fracturing operations is often referred to as flowback. Although it is possible to distinguish between flowback and produced water using geochemical analyses, these are typically not done during normal operations. The sampling frequency would need to be high during the first few days after hydraulic fracturing in order to observe the change in conditions. The USEPA considers produced water and flowback to be essentially the same (USEPA 2016). However, flowback is required to be treated separately per Senate Bill 4 regulation. It is typically maintained in segregated tanks prior to being cleaned-up and diluted to facilitate recycling. Because water purchased from irrigation districts is the largest source of hydraulic fracturing fluid in California (68 percent), these fluids are generally much fresher than the oil field formation waters into which they are injected (Pacific Institute 2016; Gillespie and Anderson 2017).

Management of flowback and disposal is a major activity in the hydraulic fracturing water cycle. Management mainly involves the temporary storage of waste fluids prior to injection or reuse. The risks and issues associated with surface spills and leaks during constituent mixing are similar for storage of flowback. Often, these fluids need to be temporarily stored prior to disposal, reinjection, or recycling. They can be stored either in tanks or in lined impoundments. If fluids cannot be recycled or re-injected for secondary recovery, they are disposed of by reinjection into a zone that has been permitted for that purpose. The main issues with disposal wells involve well integrity, as discussed above for production wells, and movement of disposed fluids out of the intended injection zone and potential impacts to USDWs.

The Underground Injection Control (UIC) Program is responsible for regulating the construction, operation, permitting, and closure of injection wells that place fluids underground for storage or disposal. Injection wells are divided into six classes under the UIC Program (USEPA 2018):

- Class I - Inject hazardous wastes, industrial non-hazardous liquids, or municipal wastewater beneath the lowermost USDW;
- Class II - Inject brines and other fluids associated with oil and gas production, and hydrocarbon storage;
- Class III- Inject fluids associated with solution mining of minerals beneath the lowermost USDW;
- Class IV - Inject hazardous or radioactive wastes into or above USDWs. These wells are banned unless authorized under a federal or state groundwater remediation project;

- Class V - All injection wells not included in Classes I-IV. In general, Class V wells inject non-hazardous fluids into or above USDWs and are typically shallow, onsite disposal systems. However, there are some deep Class V wells that inject below USDWs; and
- Class VI - Inject carbon dioxide for long-term storage, also known as geologic sequestration of carbon dioxide.

Class II wells are used for the injection of oil and gas fluid production waste, the injection of fluids to assist in the recovery of hydrocarbons, and the injection and retrieval of hydrocarbons at underground storage facilities. Class II wells are regulated by DOGGR (because USEPA has delegated that authority to DOGGR). Injection wells are subject to mechanical integrity testing and other regulatory requirements to ensure that disposed fluids are not leaking from the well or out of the zone of injection.

Over the period from January 1, 2014, to December 31, 2017, Well Stimulation Treatment Annual Reports indicate that nearly 100 percent of recovered flowback was disposed by injection into Class II injection wells. The volume of fluid was not disclosed (DOGGR 2015a, 2016, 2018c).

Impacts to groundwater due to spills of flowback fluids from the completion of an average of zero to four wells in any given year, or up to 40 wells over 10 years, would be negligible. Pursuant to the APD process, and throughout the life of a well, leaseholders must identify to BLM how and where produced water, including flowback, is to be disposed of. Class II well disposal can be the best environmental practice to dispose of produce water. UIC rules reduce the risk of impacts to USDWs. Information gained from the California Oil, Gas, and Groundwater Program should assist UIC regulators to assess Class II well APDs.

Impacts to groundwater from loss of disposal well integrity or out-of-zone migration of disposed fluids from an average of zero to four wells would be negligible. If present trends continue, the drilling and hydraulic fracturing of up to 40 wells on new leases over the 10-year planning period would also have negligible impact.

4.9 Livestock Grazing

Potential impacts to livestock grazing from all activities and programs except use of hydraulic fracturing in the oil and gas program are summarized in Section 4.13 of the 2012 Final EIS.

BLM has determined that the direct, indirect, and cumulative impacts to livestock grazing operations and opportunities from fluid mineral development within the Bakersfield Field Office were sufficiently analyzed in the 2012 Final EIS. In this analysis, fluid mineral development was deemed to have negligible effects on livestock grazing. The additional impacts associated with hydraulic fracturing would not change that analysis.

4.10 Minerals Management

Potential impacts to minerals management from all activities and programs except use of hydraulic fracturing in the oil and gas program are summarized in Section 4.14 of the 2012 Final EIS. Estimated impacts of hydraulic fracturing in the oil and gas program are provided below.

4.10.1 Methods of Analysis and Assumptions

In California, there are few studies that demonstrate a connection between earthquakes and hydraulic fracturing or between earthquakes and wastewater disposal from hydraulic fracturing. The impacts discussed in this section are estimated based on information from published federal, state, and scholarly work (see Section 3.10).

Impacts to leasable, solid, and saleable minerals are proportional to the amount of new surface disturbance that would result from each alternative.

The total acreage of all four supplemental hydraulic fracturing analysis areas that would potentially be impacted by hydraulic fracturing would be 416,515 acres (Table 4.3), as illustrated in Figure 4.1.

The following assumptions were used in this analysis:

- One hydraulically fractured well per well pad.
- Well pads would be 4 acres (Table 4.1).
- 0 to 40 hydraulically fractured wells could be installed over 10 years under new federal mineral leases.
- Federal mineral leases could be accessed from BLM lands or non-BLM lands, including other federal agencies, state, county, and private ownership.
- New hydraulically fractured wells on new federal mineral leases would occur within the supplemental hydraulic fracturing analysis areas.

4.10.2 Impact of Alternative A (No Action)

Alternative A would maintain the current management situation under the existing Caliente RMP (BLM 1997) and Hollister RMP (BLM 1984), as amended. These RMPs do not address potential hydraulic fracturing in the context of their respective management situations. Therefore, the current supplemental analysis would not result in any substantive change to the estimated impacts to minerals management from fluid mineral management, as analyzed in Section 4.14 of the 2012 Final EIS.

4.10.3 Impacts Common to All Action Alternatives

Earthquakes are a frequent natural occurrence in California; however, they can also be induced by other causes such as underground mining, reservoir impoundment, and the injection and withdrawal of fluids as part of oil and gas production activities (NRC 2013). Earthquakes caused by these types of activities are called induced seismicity. California has a long history of induced seismicity. This includes the first documented case of hydraulic fracturing induced seismicity (Kanamori and Hauksson 1992) and many other causes of induced seismicity—for example, mining induced seismicity (Yerkes et al. 1983), geothermal energy production induced seismicity (Eberhart-phillips et al. 2006), oil and gas production induced seismicity (Kovach 1974), groundwater withdrawal induced seismicity (Amos et al. 2014), enhanced oil recovery induced seismicity (Teng et al. 1973), and wastewater injection induced seismicity (Goebel et al. 2016). Earthquakes are caused by a combination of factors, including faults and stress within the earth. Few wells that are hydraulically fractured or are waste water wells result in induced earthquakes (Rubinstein and Mahani 2015).

4.10.3.1 Hydraulic Fracturing Induced Earthquakes

Around the world, there is increasing evidence that hydraulic fracturing involving millions of gallons of fluids injected into shale beds along horizontal wells results in induced seismicity (Lei et al. 2019; Mahani et al. 2017; Skoumal et al. 2018b; Yoon et al. 2017). A notable distinction between California and other oil and gas development areas is that oil and gas production in California does not utilize large fluid volume, shale bed hydraulic fracturing. To date, the largest documented earthquake correlated to hydraulic fracturing induced seismicity in the United States was magnitude 3.5 in Oklahoma (Skoumal et al. 2018a). Hydraulic fracturing induced seismicity is believed to account for approximately 2% of all seismicity in Oklahoma (Skoumal et al. 2018a). In California, Kanamori and Hauksson (1992) reported one anomalous earthquake in the Orcutt oil field, Santa Maria Basin. This 3.5 magnitude, shallow earthquake had a signature similar to earthquakes in the Wilmington oil field and occurred several hours after hydraulic fracturing operations were conducted. This is the only reported incident of hydraulic fracturing associated with an earthquake in California. The low magnitudes of earthquakes associated with hydraulic fracturing may be related to the short duration of hydraulic fracturing operations and the smaller volumes of injected and flowback water (CCST 2015). Additionally, most of the hydraulic fracturing in the Planning Area occurs in vertical wells at relatively shallow injection depths (CCST 2015).

The probability of inducing seismicity during any underground fluid injection depends on site-specific conditions, which would be evaluated in future site-specific NEPA analysis as necessary. Conditions that are associated with increasing probability of inducing seismicity include whether injection is into a bedding plane, the proximity of the injection to basement, previous occurrence of induced seismicity, distribution of pre-existing faults or fractures, pre-existing stress conditions, and permeability, among other factors. The hazard of seismic occurrence generally increases as the volume of injection increases, but the magnitude of an expected earthquake cannot be controlled by limiting fluid volumes. Research on the correlation between hydraulic fracturing and earthquakes worldwide is ongoing, and advances in measurement and correlation continue to improve.

For the following reasons, the expectation is there would be negligible impacts related to hydraulic fracturing-induced earthquakes:

- In California, only one earthquake has been suspected of being related to hydraulic fracturing operations;
- In California, hydraulic fracturing operations are short in duration (approximately one day per well);
- In California, amounts of fluid injected during hydraulic fracturing are relatively small (approximately 100,000 gallons per well); and
- In California, SB4 requires seismic monitoring during all hydraulic fracturing activities.

4.10.3.2 Wastewater Disposal Induced Earthquakes

Cases of wastewater disposal-induced earthquakes in the United States have been reported (Frohlich et al. 2011, 2014; Frohlich 2012; Kim 2013; Keranen et al. 2014), associated with approximately 35,000 wastewater disposal wells active in the United States. Approximately 1.8 million hydraulic fracturing treatments involving over approximately 1 million wells have been conducted from 1947 to 2010 in the United States (Gallegos and Varela 2014), and there are currently approximately 80,000 active enhanced oil recovery wells in the United States (Weingarten et al. 2015) with few recent associated earthquakes (Gan and Frohlich 2013). Based on these and other studies, researchers have

concluded that wastewater disposal is responsible for the majority of, and the most damaging, induced earthquakes associated with oil and gas development (Horton 2012; Keranen et al. 2013; Frohlich et al. 2014; Rubinstein et al. 2014). Increased fluid pressure is the probable driving mechanism for induced earthquakes, and wastewater disposal wells can raise fluid pressures higher over longer periods of time and over larger areas than hydraulic fracturing or enhanced oil recovery (Rubinstein and Mahani 2015).

The largest observed earthquake suspected to be related to wastewater disposal in the United States to date is a magnitude 5.8 event in 2016 near Pawnee, Oklahoma (Chen et al. 2017; Keranen et al. 2013; Sumy et al. 2014). Typical wastewater volumes in California from hydraulic fracturing are generally less than those associated with hydraulic fracturing operations in other parts of the country where induced earthquakes have occurred (CCST 2015). To date, there has only been one documented case of an anomalous earthquake associated with hydraulic fracturing operations in California. The earthquake was a 3.5 magnitude and produced a signature similar to earthquakes in Wilmington oil field (Kanamori and Hauksson 1992). In their report, Kanamori and Hauksson (1992) do not specify whether the anomalous earthquake was correlated with wastewater disposal or another component of the hydraulic fracturing process.

4.10.4 Impacts of Alternative B

Under Alternative B, approximately 1,011,470 acres would be open to fluid mineral leasing, most of which would be subject to major constraints (both CSU – Protected Species and CSU – Sensitive Species). Up to approximately 210 acres of surface disturbance within the 416,515-acre supplemental hydraulic fracturing analysis areas could be impacted by hydraulic fracturing operations (Table 4.2). A CSU stipulation would be established, CSU – Existing Surface Use/Management, for the purpose of minimizing or eliminating conflict between fluid mineral development and existing surface use on both public lands and split estate overlying federal minerals, including risk to public health and safety, and social and economic impacts (e.g., noise and aesthetics). Additionally, a CSU stipulation, CSU – Defense, would be established for the purpose of minimizing or eliminating conflict between fluid mineral development and military base operations.

Short- and long-term disturbance associated with the construction and use of well pads, roads, pipelines, and other infrastructure associated with hydraulically fractured wells, would reduce lands available for other leasable, solid, or saleable mineral extraction, regardless of surface ownership. Up to 33.6 acres of BLM surface and up to 175 acres of non-BLM surface minerals could be impacted, depending on the placement of hydraulically fractured well pads and the presence of leasable, solid, or saleable minerals. Additionally, hydraulic fracturing operations could remove leasable, solid, or saleable minerals because of well pad, road, and pipeline construction.

4.10.5 Impacts of Alternative C

Under Alternative C, approximately 966,160 acres would be open to fluid mineral leasing, subject to major constraints (both CSU – Protected Species and CSU – Sensitive Species). A CSU stipulation would be established, CSU – Existing Surface Use/Management, for the purpose of minimizing or eliminating conflict between fluid mineral development and existing surface use on both public lands and split estate overlying federal minerals, including risk to public health and safety, and social and economic impacts (e.g., noise and aesthetics). Additionally, a CSU stipulation, CSU – Defense, would be established for the purpose of minimizing or eliminating conflict between fluid mineral development and military base operations.

Short- and long-term disturbance associated with the construction and use of well pads, roads, pipelines, and other infrastructure associated with hydraulically fractured wells, would reduce lands available for other leasable, solid, or saleable mineral extraction, regardless of surface ownership. Up to 33.6 acres of BLM surface and up to 175 acres of non-BLM surface minerals within the 416,515-acre supplemental hydraulic fracturing analysis areas could be impacted, depending on the placement of hydraulically fractured well pads and the presence of leasable, solid, or saleable minerals. Additionally, hydraulic fracturing operations could remove leasable, solid, or saleable minerals because of well pad, road, and pipeline construction.

4.10.6 Impacts of Alternative D

Under Alternative D, approximately 966,160 acres would be open to fluid mineral leasing, subject to major constraints (both CSU – Protected Species and CSU – Sensitive Species). A CSU stipulation would be established, CSU – Existing Surface Use/Management, for the purpose of minimizing or eliminating conflict between fluid mineral development and existing surface use on both public lands and split estate overlying federal minerals, including risk to public health and safety, and social and economic impacts (e.g., noise and aesthetics). Additionally, a CSU stipulation, CSU – Defense, would be established for the purpose of minimizing or eliminating conflict between fluid mineral development and military base operations.

Short- and long-term disturbance associated with the construction and use of well pads, roads, pipelines, and other infrastructure associated with hydraulically fractured wells, would reduce lands available for other leasable, solid, or saleable mineral extraction, regardless of surface ownership. Up to 33.6 acres of BLM surface and up to 175 acres of non-BLM surface minerals (Figure 4.2) within the 416,515-acre supplemental hydraulic fracturing analysis areas could be impacted, depending on the placement of hydraulically fractured well pads and the presence of leasable, solid, or saleable minerals. Additionally, hydraulic fracturing operations could remove leasable, solid, or saleable minerals because of well pad, road, and pipeline construction.

4.10.7 Impacts of Alternative E

Under Alternative E, approximately 1,011,470 acres would be open to fluid mineral leasing, subject to major constraints (both CSU – Protected Species and CSU – Sensitive Species). A CSU stipulation would be established, CSU – Existing Surface Use/Management, for the purpose of minimizing or eliminating conflict between fluid mineral development and existing surface use on both public lands and split estate overlying federal minerals, including risk to public health and safety, and social and economic impacts (e.g., noise and aesthetics). Additionally, a CSU stipulation, CSU – Defense, would be established for the purpose of minimizing or eliminating conflict between fluid mineral development and military base operations.

Short- and long-term disturbance associated with the construction and use of well pads, roads, pipelines, and other infrastructure associated with hydraulically fractured wells, would reduce lands available for other leasable, solid, or saleable mineral extraction, regardless of surface ownership. Up to 33.6 acres of BLM surface and up to 175 acres of non-BLM surface minerals (Figure 4.2) within the 416,515-acre supplemental hydraulic fracturing analysis areas could be impacted, depending on the placement of hydraulically fractured well pads and the presence of leasable, solid, or saleable minerals. Additionally, hydraulic fracturing operations could remove leasable, solid, or saleable minerals because of well pad, road, and pipeline construction.

4.11 Areas of Critical Environmental Concern

Potential impacts to ACECs from all activities and programs except use of hydraulic fracturing in the oil and gas program are summarized in Section 4.17 of the 2012 Final EIS. Estimated impacts of hydraulic fracturing in the oil and gas program are provided below.

4.11.1 Methods of Analysis and Assumptions

Impacts to ACECs are proportional to the amount of new surface disturbance for each alternative (i.e., increased disturbance would result in a proportionate increase in adverse impacts to soils).

The acreage of each ACEC, and associated relevant and important values, within the four supplemental hydraulic fracturing analysis areas is shown in Table 4.11 and illustrated in Figure 4.11.

Table 4.11
ACECs Within Supplemental Hydraulic Fracturing Analysis Areas

Analysis Area	Analysis Area (acres)	ACEC	ACEC (acres)	% of Analysis Area	Relevance and Important Values
Lost Hills	34,029	Kettleman Hills	223	0.7	Paleontological resources and T&E plant and animal species
Buena Vista	268,469	Chico Martinez	3,031	1.1	Paleontological and geologic resources
		Compensation Lands	203	0.1	T&E species
		Lokern-Buena Vista	42,792	15.9	T&E species and associated habitats
Bakersfield	17,557	NA	NA	NA	NA
Sespe	96,460	Hopper Mountain	3,815	4	California condor

Key:

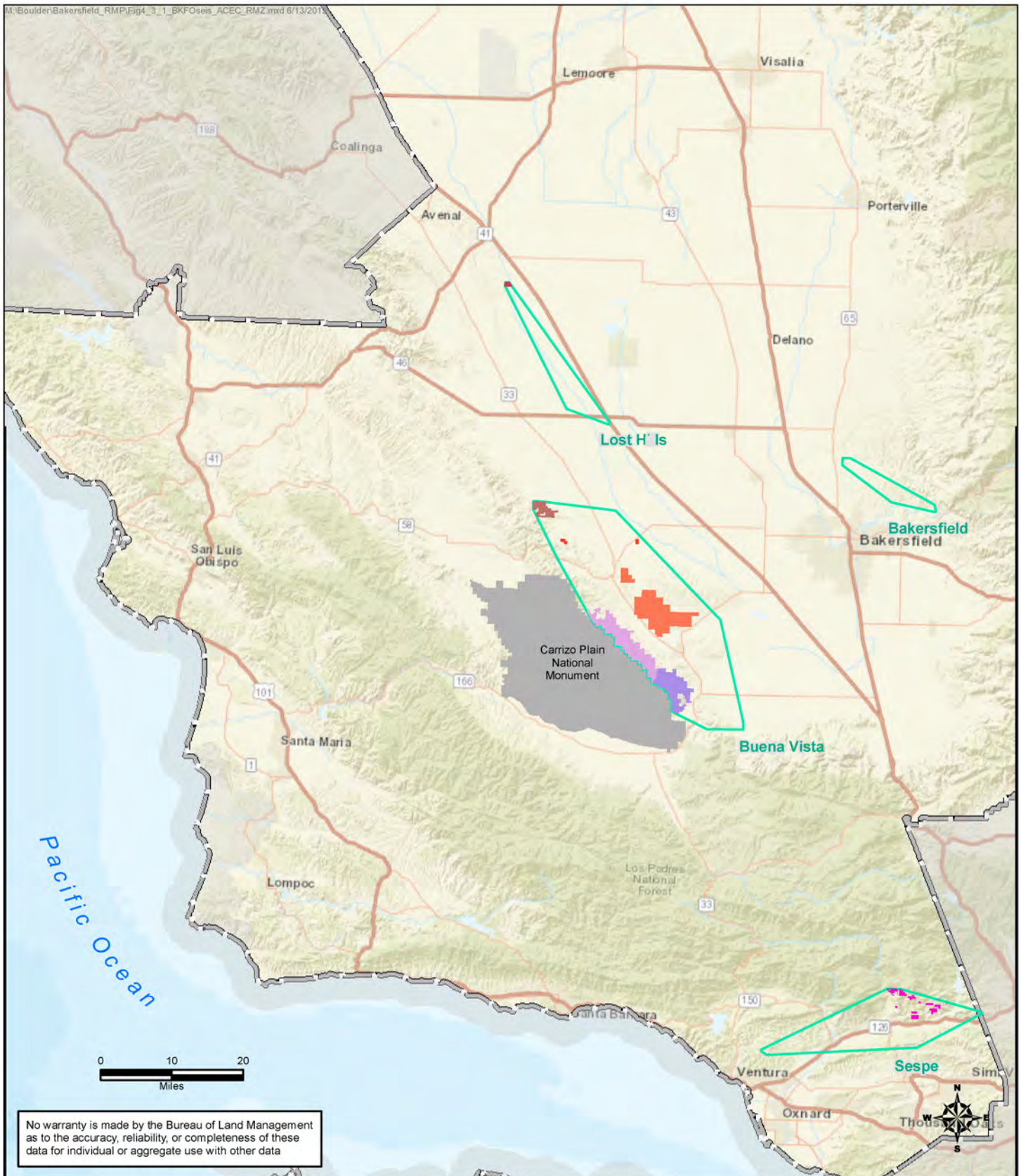
ACEC = Area of Critical Environmental Concern

NA = not applicable

T&E = threatened or endangered

This analysis assumes that potential surface disturbance from hydraulically fractured wells, as identified in the supplemental analysis, would follow applicable surface use plans and restrictions, per land surface ownership. All applicable lease stipulations (Table 2.1, above, and Appendix G of the 2012 Final EIS), as well as appropriate BMPs listed in Appendix L of the 2012 Final EIS, would be implemented for all surface-disturbing activities on BLM-managed mineral estate.

Where hydraulically fractured wells would be located on non-BLM surface, constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, protective measures, mitigation measures, and BMPs from SB4, Chapter 313, as well as Kern County Zoning Ordinance, Chapter 19.98 (Oil and Gas Production) (Kern County 2015) would apply to mitigate potential impacts. Wells on non-BLM surface would likely be subject to additional environmental impact analysis under CEQA.



Legend

- Carrizo Plain National Monument (Excluded from analysis)
- Bakersfield Field Office
- SHF Analysis Area - identified by associated oil fields

- ACEC**
- Chico Martinez
- Compensation Lands
- Hopper Mountain
- Kettleman Hills
- Lokern-Buena Vista

- RMZ**
- Temblor North
- Temblor South

**ACECs and RMZs
in the SHF Analysis Areas
Bureau of Land Management
Bakersfield Field Office
Final SEIS**

Figure 4.11

It is important to note that impacts resulting from proposed surface-disturbing activities on BLM surface associated with a specific oil and gas development project, which may include hydraulic fracturing, will be evaluated in the future with site-specific NEPA analyses. Similarly, proposed surface-disturbing activities on non-BLM surface would be subject to environmental impact analysis evaluated by other federal agency-specific NEPA analyses, or under CEQA.

4.11.2 Impacts of Alternative A (No Action)

Alternative A would maintain the current management situation under the existing Caliente RMP (BLM 1997) and Hollister RMP (BLM 1984), as amended. These RMPs do not address potential hydraulic fracturing in the context of their respective management situations. Therefore, the current supplemental analysis would not result in any substantive change to the estimated impacts to ACECs from fluid mineral management, as analyzed in Section 4.17 of the 2012 Final EIS.

4.11.3 Impacts Common to All Action Alternatives

Impacts from Action Alternatives are described in the following sections.

4.11.4 Impacts of Alternative B

Under Alternative B, approximately 1,011,470 acres would be open to fluid mineral leasing. Up to approximately 209 acres of surface disturbance within the 416,515-acre supplemental hydraulic fracturing analysis areas could be impacted by hydraulic fracturing operations (Table 4.2). NSOs would be established for minimizing or eliminating adverse effects on unique or significant natural and cultural resources and protected species that are incompatible with fluid mineral development. This NSO would include ACECs.

Under Alternative B, a number of NSO and CSU stipulations would be established to protect relevant and important values (see Table 4.11) in ACECs, including the Compensation Lands, from adverse effects associated with fluid mineral development. These stipulations would provide protection from long-term ground-disturbing activities and additional protection to relevant and importance values in ACECs.

NSOs and CSUs would provide protection to ACECs from hydraulic fracturing operations. Therefore, negligible direct impacts would be expected. Some hydraulic fracturing operations could result in negligible indirect impacts. Operations in areas adjacent to ACECs could result in spills or leaks that would impact ACECs; dust and soil from operations could drift to adjacent ACECs, potentially impacting vegetation and habitat resources.

4.11.5 Impacts of Alternative C

Under Alternative C, approximately 966,160 acres would be open to fluid mineral leasing, subject to major stipulations (both CSU – Protected Species and CSU – Sensitive Species). Up to approximately 209 acres of surface disturbance within the 416,515-acre supplemental hydraulic fracturing analysis areas could be impacted by hydraulic fracturing operations (Table 4.2). Approximately 3,880 acres would also be subject to an NSO stipulation, and additional CSU stipulations may be applied to all new leases as determined appropriate and in conformance with the 2014 RMP. NSOs would be established for minimizing or eliminating adverse effects on unique or significant natural and cultural resources and protected species that are incompatible with fluid mineral development.

Approximately 203 acres of the Compensation Lands ACEC in the Buena Vista supplemental hydraulic fracturing analysis area would be closed to oil and gas leasing at the discretion of BLM, but NSO and CSU stipulations would not be established. Closure of these lands to oil and gas development would preclude hydraulic fracturing and reduce impacts to Compensation Lands ACEC.

NSOs and CSUs would protect ACECs from hydraulic fracturing operations. Therefore, negligible direct impacts would be expected. Some hydraulic fracturing operations could result in negligible indirect impacts. Operations in areas adjacent to ACECs could result in spills or leaks that would impact ACECs; dust and soil from operations could drift to adjacent ACECs, potentially impacting vegetation and habitat resources.

4.11.6 Impacts of Alternative D

Under Alternative D, approximately 966,160 acres would be open to fluid mineral leasing, subject to major stipulations (both CSU – Protected Species and CSU – Sensitive Species). Up to approximately 209 acres of surface disturbance within the 416,515-acre supplemental hydraulic fracturing analysis areas could be impacted by hydraulic fracturing operations (Table 4.2). NSOs would be established for minimizing or eliminating adverse effects on unique or significant natural and cultural resources and protected species that are incompatible with fluid mineral development. These NSOs would include ACECs.

A major stipulation, NSO – General, would be established that prohibits surface disturbance on the entire lease for the purpose of minimizing or eliminating adverse effects on unique or significant natural and cultural resources that are incompatible with fluid mineral development. A major stipulation, CSU – Sensitive Species, would be established for the purpose of minimizing or eliminating adverse effects associated with fluid mineral development on federal candidate, state-listed, and BLM-listed sensitive species.

NSOs and CSUs would provide protection to ACECs from hydraulic fracturing operations. Therefore, negligible direct impacts would be expected. Some hydraulic fracturing operations could result in negligible indirect impacts. Operations in areas adjacent to ACECs could result in spills or leaks that would impact ACECs; dust and soil from operations could drift to adjacent ACECs, potentially impacting vegetation and habitat resources.

4.11.7 Impacts of Alternative E

Under Alternative E, approximately 1,011,470 acres would be open to fluid mineral leasing, subject to major stipulations (both CSU – Protected Species and CSU – Sensitive Species). Of this, at least 3,590 acres would also be subject to an NSO stipulation. Additional CSU stipulations may be applied to all new leases in conjunction with the lease sale as determined appropriate and in conformance with the 2014 RMP. NSOs would be established for minimizing or eliminating adverse effects on unique or significant natural and cultural resources and protected species that are incompatible with fluid mineral development.

NSOs and CSUs would provide protection to ACECs from hydraulic fracturing operations. Therefore, negligible direct impacts would be expected. Some hydraulic fracturing operations could result in negligible indirect impacts. Operations in areas adjacent to ACECs could result in spills or leaks that

would impact ACECs; dust and soil from operations could drift to adjacent ACECs, potentially impacting vegetation and habitat.

4.12 Social and Economic Resources

Potential impacts to areas of social and economic resources are summarized in Section 4.23 of the 2012 Final EIS.

No new and relevant information is needed to support this Final Supplemental EIS, as the analysis of fluid mineral management under both the No Action and Action Alternatives accounted for a range of oil and gas production, which would include the potential for hydraulic fracturing.

4.12.1 Analysis Methods and Assumptions

Analysis methods follow those described in Section 4.23 of the 2012 Final EIS.

It is important to note that impacts resulting from proposed surface-disturbing activities on BLM surface associated with a specific oil and gas development project, which may include hydraulic fracturing, will be evaluated in the future with site-specific NEPA analyses. Similarly, proposed surface-disturbing activities on non-BLM surface would be subject to environmental impact analysis evaluated by other federal surface management agency-specific NEPA analyses, or under CEQA.

4.12.2 Impacts of Alternative A (No Action)

Alternative A would maintain the current management situation under the existing Caliente RMP (BLM 1997) and Hollister RMP (BLM 1984), as amended. These RMPs do not address potential hydraulic fracturing in the context of their respective management situations. Therefore, the current supplemental analysis would not result in any substantive change to the estimated impacts to social and economic resources from fluid mineral management, as analyzed in Section 4.23 of the 2012 Final EIS.

4.12.3 Impacts of Management Common to All Action Alternatives

Section 4.23.2 of the 2012 Final EIS addressed impacts to social and economic resources from management common to all Action Alternatives. The impacts associated with the Action Alternatives are the same regarding the economic implications of fluid mineral management decisions in the 2014 RMP, including hydraulic fracturing (Section 4.23.2.1), as well as regarding the social aspects of oil and gas development, which would also include hydraulic fracturing (Section 4.23.2.2).

Section 4.23.2.1 of the 2012 Final EIS considered a historic production of 15 to 19 million barrels of oil and 5 million thousand cubic feet (MCF) of gas annually on Federal mineral estate. This production would result in approximately 2,871 total jobs (direct, indirect, and induced). Over the 10-year life of the 2014 RMP, 0 to 40 wells may be hydraulically fractured on new leases. Hydraulically fractured well pads would require a crew size of two to five workers for construction, similar to conventional wells. However, during a standard hydraulic fracturing operation, approximately 8 to 15 employees may be present on each shift, and additional personnel from the owner operator may be on site to observe and run ancillary equipment, as necessary. While no more than one shift typically is needed in a day, this may result in a few more workers than for a conventional well, which typically employs crews of approximately 12 workers. The differences in crew size would result in a negligible change to the

number of workers considered as part of the economic impact analysis of fluid minerals conducted as part of the 2012 Final EIS.

Section 4.23.2.2 of the 2012 Final EIS addresses the social impacts of oil and gas production continuing within its historic range. As noted, employment would contribute to the quality of life for those depending on the oil and gas industry and connected industries, and the additional number of workers would result in a negligible change. Air quality, traffic congestion, noise, and other concerns have been expressed by communities near potential oil and gas development locations. Communities in proximity to BLM surface within the Planning Area could experience increases in quality of life as a result of enhanced travel management decisions in the 2014 RMP. Other supplemental analyses did not reveal any new effects that would also impact social or economic values or uses, whether market or non-market. Due to the limited changes specifically associated with hydraulic fracturing (for which 0 to 40 wells on new leases are anticipated for the life of the 2014 RMP) in terms of employment, air quality, traffic congestion, noise, environmental justice, population, and housing, a negligible change would be expected as compared to the analysis conducted as part of the 2012 Final EIS.

4.13 Cumulative Impacts

This Final Supplemental EIS tiers to the 2012 Final EIS and parallels the 2012 Final EIS in format and organization for cumulative impacts and provides consistency between the two documents. As in the 2012 Final EIS, in order to fully understand the cumulative impacts of actions associated with the Proposed RMP, each alternative must be addressed in its entirety (management common to all action alternatives and the alternative itself), rather than by individual program elements. To aid in understanding, however, programs can be grouped by the issues addressed in the plan and described in the 2012 Final EIS Chapter 1, Scoping and Planning Issues (e.g., grouping biological, cultural, and paleontological resources addresses the cumulative impacts as they relate to Issue 3 – ensure protection of natural and cultural resources in a multiple-use environment). The cumulative impact analysis in the 2012 Final EIS complies with CEQ (1997) guidance that such analysis focus on meaningful impacts, not exhaustively analyze all possible cumulative impacts. Therefore, the 2012 Final EIS analyzed past, present, and future actions anticipated to have environmental impacts similar to the potential incremental impacts identified from future leasing and development management decisions in the 2014 RMP. This included impacts resulting in meaningful impacts to historically important resources or with a potential for violating legal standards or laws. It also includes other identified projects or actions in the Cumulative Impact Assessment Area (CIAA) that relate to the identified issues.

4.13.1 Methods of Analysis

The methods and assumptions used in the 2012 Final EIS cumulative impact analysis are described in Section 4.25 of the 2012 Final EIS. In general, the 2012 Final EIS addresses cumulative impacts by grouping resources by the issues addressed in the PRMP, described in Section 1.4.2 of the 2012 Final EIS. The same methods and assumptions are applied in this Final Supplemental EIS to provide consistency between the analyses. Cumulative impacts were considered in the context of:

- Baseline conditions described in Chapter 3 of the 2012 Final EIS;
- Estimated incremental impacts on individual resources described in Chapter 4 of the 2012 Final EIS;
- The actions and decisions described in the RFDS; and

- Factors from CEQ guidance for considering cumulative impacts under NEPA (CEQ 1997), as follows:
 - Does the affected resource have substantial value relative to legal protection and/or ecological, cultural, economic, or social importance?
 - Are reasonable foreseeable future actions anticipated to have environmental impacts similar to the incremental impacts identified for RMP alternatives?
 - Have any recent or ongoing NEPA analyses of similar actions in the geographic area identified important adverse or beneficial cumulative impact issues?
 - Has the impact to the resource been historically important, such that the importance of the resource is defined by past loss, past gain, or investments to restore resources?

Additional assumptions for the supplemental analysis of cumulative impacts include integration of all new and relevant information summarized in Section 1.4.1 of this Final Supplemental EIS, as integrated into the impact analysis presented in Chapter 4.

For this supplemental analysis, incremental impacts discussed in prior sections of this chapter are considered cumulative to hydraulic fracturing that may be associated with the following actions:

- New oil and gas wells on existing leases;
- Operations of existing oil and gas wells on existing leases;
- Operations on existing oil and gas wells on private surface; and
- New oil and gas wells on new private leases.

4.13.2 Cumulative Impacts on Resource Related to Issue 1

Adequately address the need for access to and continued availability of, public lands for multiple recreational uses and open spaces.

The cumulative impacts on resources related to Issue 1 are fully described in Section 4.25.1 of the 2012 Final EIS. The supplemental analysis of hydraulic fracturing, based on fluid mineral management decisions in the PRMP, would not result in changes to this cumulative impact analysis because the fluid mineral management alternatives analyzed in the 2012 Final EIS and this Final Supplemental EIS do not alter the access to or availability of public lands for recreational uses. Other resource programs, uses, and designations affect access and availability for recreational uses. Analysis of the impacts of the programs, uses, and designations is presented in the 2012 Final EIS.

4.13.3 Cumulative Impacts on Resource Related to Issue 2

Establish a balance between the extent of the travel network and the protection of natural and cultural resources including an appropriate allocation of routes to the various modes of transport.

The cumulative impacts on resources related to Issue 2 are fully described in Section 4.25.2 of the 2012 Final EIS. The supplemental analysis of hydraulic fracturing, based on fluid mineral management actions in the PRMP, would not result in changes to this cumulative impact analysis because the extent of the travel network and travel network decision in the 2014 RMP are not altered by the potential for hydraulic fracturing.

4.13.4 Cumulative Impacts on Resource Related to Issue 3

Ensure appropriate protection for Threatened and Endangered species, critical habitat, other biological resources, and cultural and paleontological resources in a multiple-use environment.

The cumulative impacts on resources related to Issue 3 are described in Section 4.25.3 of the 2012 Final EIS. The CIAA for these resources includes the entire Planning Area. Cumulative impacts estimated in the supplemental analysis of hydraulic fracturing, based on fluid mineral management actions in the PRMP, integrate consideration of additional protective measures to be applied to these resources. These include the Programmatic BO (USFWS 2017), as well as other surface management direction and guidance, including those mandated by PRC Section 3161 (b)(3)(A) and (B) of Chapter 1, Division 3 (the State's laws for the conservation of petroleum and gas) (SB4).

Alternative A

Alternative A would maintain the current management situation under the existing Caliente RMP (BLM 1997) and Hollister RMP (BLM 1984), as amended. These RMPs do not address potential hydraulic fracturing in the context of their respective management situations. Therefore, the current supplemental analysis would not result in any substantive change to the estimated cumulative impacts, as analyzed in Section 4.25.3 of the 2012 Final EIS.

All Action Alternatives

As noted in Section 4.25.3 of the 2012 Final EIS, these four alternatives provide for compliance with legal preservation and protection mandates. They also continue to allow human activities that could contribute to the overall trends resulting in loss of natural and cultural resources. This cumulative contribution is minimal (anticipated at or about 18,000 acres of surface disturbance over the life of the plan) and confined in its extent (approximately 2 percent of the CIAA) and negligible compared to other impacts to these resources expected to occur across the Planning Area.

Many management decisions under these alternatives are designed to protect and preserve these resources on BLM surface, and some on federal mineral estate. These discretionary actions include designation of ACECs, application of Fluid Minerals leasing stipulations, implementation of BMPs and other mitigation measures (Appendix L of the 2012 Final EIS), implementation of conservation strategies, application of Central California Standards for Rangeland Health, as well as integration of prescriptive management of areas of ecological importance. Many of these actions, such as requirements mandated in SB4, would be conducted in collaboration with private, state, and federal land managers within the CIAA. Additional protections and restrictions on disturbance would be applied to T&E species and Designated Critical Habitat through mandated actions in the Programmatic BO (USFWS 2017).

BLM surface and federal mineral estate is a relatively small component of the CIAA. The cumulative benefits resulting from protective actions applied to this surface area may not be sufficient to prevent the significant loss (e.g., preclude species recovery of species or habitat, or the loss of eligible cultural resource) of these natural and cultural resources from all cumulative surface-disturbing activities, over time, throughout the Planning Area. This includes many special status species such as California condor and San Joaquin kit fox.

4.13.5 Cumulative Impacts on Resource Related to Issue 4

Continue to appropriately manage livestock grazing to provide for economic benefit, rural lifestyles and vegetation management while protecting other resources.

The cumulative impacts on livestock grazing and other resources related to Issue 4 are fully described in Section 4.25.4 of the 2012 Final EIS. As noted in Section 4.9 of this Final Supplemental EIS, the direct, indirect, and cumulative impacts to livestock grazing operations, as well as opportunities from fluid mineral development within the Bakersfield Field Office, were deemed sufficiently analyzed in the 2012 Final EIS. Negligible impacts on livestock grazing were associated with fluid mineral development. Therefore, the additional impacts associated with hydraulic fracturing would not change that analysis.

4.13.6 Cumulative Impacts on Resource Related to Issue 5

Balance the demand for energy development (including oil and gas, wind, and solar energy) and other land use authorizations (such as road and transmission corridor rights-of-way) with other resource values.

The cumulative impacts on resources related to Issue 5 are described in Section 4.25.5 of the 2012 Final EIS. The supplemental analysis of hydraulic fracturing, based on fluid mineral management actions in the PRMP, is not expected to result in changes to this analysis. No changes to the fluid mineral management decisions are proposed in this Final Supplemental EIS and the analysis in the 2012 Final EIS determined that proposed management under all alternatives would result in negligible changes in the ability to explore and develop oil and gas reserves.

4.13.7 Cumulative Impacts on Resource Related to Issue 6

Address the impacts of Climate Change on the management of public lands including strategies that will reduce impacts and incorporate appropriate monitoring.

GHGs for hydraulic fracturing are quantified in this Final Supplemental EIS analysis in the chapter four, direct and indirect effects section for air and atmospheric values. In the affected environment section for air and atmospheric values, global carbon dioxide equivalent metrics for oil and gas production and consumption are presented, and provide context for the emissions estimates calculated in chapter four. No further cumulative analysis of climate change is provided because the phenomenon is innately a result of cumulative impacts, and analysis of greenhouse gas emissions serves as a proxy for assessing potential climate change effects. Thus, the discussion of direct and indirect impacts of potential hydraulic fracturing resulting from issuance of this Final Supplemental EIS on global climate change adequately address cumulative impacts.

4.14 Irretrievable or Irreversible Commitment of Resources

Irretrievable or irreversible commitment of resources is fully defined and described in Section 4.26 of the 2012 Final EIS. Results of the supplemental analysis conducted in this Final Supplemental EIS would not change the results of the 2012 Final EIS assessment of these issues.

4.15 Unavoidable Adverse Impacts

Unavoidable adverse impacts are fully defined and described in Section 4.27 of the 2012 Final EIS. Results of the supplemental analysis conducted in this Final Supplemental EIS would not change the results of the 2012 Final EIS assessment of these issues.

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5 Chapter Five

5.1 Introduction

This chapter describes and chronicles the public outreach and participation opportunities made available throughout the development of this Final Supplemental EIS, and describes the consultation and coordination efforts with Tribes, government agencies, and other stakeholders that have occurred to date. It also includes a list of the agencies, organizations, and individuals who have prepared this document.

5.2 Public Scoping and Outreach

5.2.1 Scoping Process

“Scoping” is the term used in the CEQ regulations implementing NEPA (40 CFR, Part 1500 et seq.) to define the early and open process for determining the scope of issues to be addressed during NEPA project planning. The scoping process provides an avenue to involve the public in identifying significant issues related to potential land use management actions. It also helps identify any issues that are not significant and can therefore be eliminated from detailed analysis.

The scoping process is the method for determining the scope, focus, and content for a Supplemental EIS. Scoping helps to identify the methods of assessment, environmental effects, and mitigation measures to be analyzed, and eliminates from detailed study any issues that are not significant or relevant to the decision at hand. In the case of this Final Supplemental EIS, it was used to determine whether changes are needed to the fluid mineral management decisions in the 2014 RMP under the range of alternatives assessed in the 2012 Final EIS. Therefore, the focus of the scoping process for the Final Supplemental EIS was to identify new information related to environmental effects, methods of assessment, and mitigation measures.

Scoping also provides an opportunity for active participation from a variety of stakeholders, including proponents and opponents of a proposed action, and encourages the expression of thoughts and/or concerns during the decision-making process.

Scoping comments and responses provided by BLM were summarized in the Scoping Summary Report (BLM 2018), which is available to the public on the project website (see Section 5.2.5). The Scoping Summary Report outlines the scoping process in detail and provides a summary of public comments by affiliation and by topic. It also includes a copy of the press release, NOI, stakeholder list, and submissions and responses.

5.2.2 Notice of Intent

The NOI is the legal document notifying the public of BLM’s intent to initiate the planning process and, in this case, to prepare a Supplemental EIS for a major federal action. The NOI is intended to invite the participation of the affected and interested agencies, organizations, and members of the public in determining the scope and significant issues to be addressed in the planning alternatives and analyzed in a Supplemental EIS.

The NOI identifies the purpose and need for the Supplemental EIS and provided information about a Supplemental EIS, preliminary planning issues and criteria, the scoping process, and contact information.

An NOI to prepare a Draft Supplemental EIS and potential amendment to the 2014 RMP was issued by the DOI on August 7, 2018, and published in the Federal Register on August 8, 2018 and also initiated a 30-day scoping period, which closed September 7, 2018.

5.2.3 Press Release and Public Outreach

On August 7, 2018, BLM Central California District distributed a press release to all television, radio, newspaper, magazine, independent, and blog media outlets within the jurisdiction of the Bakersfield Field Office announcing the beginning of the NEPA planning process and that the 30-day scoping period would begin on August 8. The BLM Central California District Public Affairs Officer called reporters and publishers at key media outlets to alert them of the press release.

The press release was also posted to the BLM California website and shared on the social media platforms Facebook, Twitter, and Flickr. This notice included information on the Planning Area, the type of planning documents that would be prepared, preliminary planning issues to be analyzed, where to find additional information online at the project website, the various ways the public could submit scoping comments, and whom to contact for more information. The press release was also emailed to a database of tribal members, stakeholders, and interested parties. The project ePlanning website was published to the public with postings of the Federal Register Notice, press release, Planning Area map and geographic information system data, and instructions for how to submit comments.

5.2.4 Scoping Meetings

No public scoping meetings were held.

5.2.5 Project Web Site

The BLM project number for this Final Supplemental EIS is: **DOI-BLM-CA-C060-2018-0082-EIS**

The project website for this Final Supplemental EIS is:

<https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=100601&dctmId=0b0003e8810ab8e2>

The project website provides background information about the project, which includes a public involvement timeline and calendar, maps and photos, and copies of public information documents such as the NOI and Public Scoping Summary Report. The site also provides a link to the comment form for submitting comments about the project and on this document specifically. BLM continuously updates the website with information, documents, and announcements.

5.2.6 Project Contact Information

Scoping comments were obtained regarding the Draft Supplemental EIS via the following methods:

Email: blm_ca_bkfo_oil_gas_update@blm.gov.

Mail: Bakersfield Field Office, Bureau of Land Management, Attn: Bakersfield RMP Hydraulic Fracturing Analysis, 3801 Pegasus Drive, Bakersfield, CA 93308.

Website: <https://www.Federalregister.gov/documents/2018/08/08/2018-16957/notice-of-intent-for-potential-amendment-to-the-resource-management-plan-for-the-bakersfield-field>

Documents pertinent to this proposal were made available to be examined during regular business hours at:

Bureau of Land Management, Bakersfield Field Office
3801 Pegasus Drive, Bakersfield, CA 93308

5.2.7 Additional Outreach

BLM notified Congressional and State Legislature elected officials, and county representatives, upon initiation of this Draft Supplemental EIS process and upcoming public scoping period.

Due to intense and wide-spread media interest, BLM conducted several interviews with national, regional, and local journalists throughout the entire 30-day scoping period. The Bakersfield Field Office Manager fielded questions and provided background information. Numerous and varied news organizations carried several articles on the opening of the BLM planning effort, including E&E News, Oil & Gas Journal, Sacramento Bee, New Times San Luis Obispo, Santa Barbara Independent, Sierra Sun Times, Kern Valley Sun, KTVA-AM, KBAK-TV (CBS), and KBFX-TV (Fox) Eyewitness News.

5.3 Consultation and Coordination

The following subsections document BLM's consultation and coordination efforts during the preparation of this Final Supplemental EIS.

5.3.1 Cooperating Agencies

A cooperating agency is any federal, state, or local government agency or Native American Tribe that enters into a formal agreement with the lead federal agency to help develop an environmental analysis. More specifically, cooperating agencies "work with the BLM, sharing knowledge and resources, to achieve desired outcomes for public lands and communities within statutory and regulatory frameworks" (BLM Land Use Planning Handbook H-1601-1; BLM 2005b).

No cooperating agencies have been named for this Final Supplemental EIS process.

5.3.2 National Historic Preservation Act Review

NHPA review, including consultation with Native American tribes and the State Historic Preservation Officer, was conducted for the 2012 RMP. It was determined that those issues addressed in this Supplemental EIS did not require additional Section 106 review.

5.3.3 Native American Consultation

Native American Tribes have a unique legal and political relationship with the government of the United States. EO 13175 requires federal agencies to coordinate and consult on a government-to-government basis with sovereign Native American tribal governments whose interests may be directly and substantially affected by activities on federally administered lands. Other laws, regulations, DOI guidance, and EOs require consultation to identify the cultural values, religious beliefs, traditional practices, and legal rights of Native American people that could be affected by BLM actions on federal lands. These include the NHPA of 1966 (as amended), the American Indian Religious Freedom Act of 1978, the Native American Graves Protection and Repatriation Act, EO 13175 (2010), DOI Secretarial Order 3215 (DOI 2000), Secretarial Order 3317 with DOI Tribal Consultation Policy (2011), 512 Department Manual Chapter 2 (DOI 1995), BLM Handbook 1780-1 Improving and Sustaining BLM- Tribal Relations (BLM 2016), BLM Manual H-8160-1 (BLM 2005b), and EO 13007 Indian Sacred Sites. Consultation with Native American Tribes is also part of the NEPA scoping process and a requirement of FLPMA.

BLM has sent five notification letters to the Native American Tribes listed in Table 5.1 on May 30, 2018, August 7, 2018, September 21, 2018, and December 10, 2018 and April 22, 2019. BLM solicited the Tribes' opinions and/or concerns related to the potential impacts of hydraulic fracturing technology. The letters also invited the Tribes to initiate government-to-government consultation. In addition, follow-up calls and emails were made to confirm receipt and answer any questions. A face-to-face meeting was held with the North Fork Rancheria and phone conferences were held with Michael Khus Zarate and Donna Miranda Begay.

Table 5.1
Tribal Consultation

Tribes	Contacts
Big Sandy Rancheria Band of Western Mono Indians	Ms. Elizabeth Kipp, Chairperson Tom Zizzio, Tribal Administrator Ms. Hazel Earley, Environmental Program
Cold Springs Rancheria of Mono Indians	Ms. Carol Bill, Chairperson Mr. Raymond Gutteriez, Environmental Program Mr. Jared Alden, USEPA Manager
North Fork Rancheria of Mono Indians	Mr. Gary Walker, Chairperson Ms. Judy Elaine Fink, Vice Chairperson Mr. George Lopez, Cultural Resources
Picayune Rancheria of Chukchansi Indians	Ms. Jennifer Ruiz, Chairperson
Santa Ynez Band of Chumash Indians	Mr. Kenneth Kahn, Chairperson Mr. Bo Armenta, Chairperson, Elders Council Mr. Freddie Romero, Cultural Resources Mr. Sam Cohen, Tribal Attorney Ms. Karen Keever, Tribal Administrator
Table Mountain Rancheria	Ms. Leanne Walker-Grant, Chairperson Mr. Cliff Raley, Environmental Director Mr. Samuel Elizondo, Environmental Officer

Table 5.1
Tribal Consultation

Tribe	Contacts
Tejon Indian Tribe	Mr. Bob Pennell, Cultural Resources
	Mr. Octavio Escobedo, Chairperson
	Mr. Colin Rambo, THPO Technician
	Ms. Sandra Hernandez, Tribal Administration
Tubatulabal Tribe	Dr. Donna Miranda-Begay, Tribal Researcher
Santa Rosa Rancheria Tachi Tribe	Mr. Reuben Barrios, Chairperson
	Mr. Greg Cuara, Cultural Resources
	Ms. Shana Powers, Cultural Resources Director
	Mr. Robert Jeff, Cultural Resources
Tule River Indian Tribe	Mr. Neil Peyron, Chairperson
	Ms. Kerri Vera, Environmental Program Director
Northern Chumash, Carrizo Plain Native American Advisory Committee, Chairman	Michael Khus Zarate
yak tit'yu tit'yu yak tilhini, Northern Chumash Tribe	Mona Tucker, Chairperson

5.3.4 Special Status Species Consultation

Special Status Species consultation was completed for the Bakersfield Resource Management Plan (USFWS Reference number: 08ESMF00-2012-F-0682). Oil and gas development on BLM lands was further analyzed in the Programmatic Biological Opinion on Oil and Gas Activities on Bureau of Land Management Lands in the San Joaquin Valley (USFWS Reference number: 08ESMF00-2016-F-0683). Both consultations concluded that the effects of the proposed action(s) are not likely to jeopardize the continued existence of any T&E species. The results of this supplemental analysis calculating the impacts of limited hydraulic fracturing, additive to those identified in the 2012 Final EIS, did not show a notable increase in total impacts to listed species in the planning area. Therefore, additional consultation has been determined to be unnecessary, and this Final Supplemental EIS documents that decision.

5.4 Publication of the Draft Supplemental EIS

5.4.1 Document Release and Notice of Availability

BLM published the Notice of Availability (NOA) of the Draft Supplemental EIS in the Federal Register on April 26, 2019 (BLM 2019). The NOA provided information on the public comment period and instructions for interested members of the public to provide written comments on the Draft Supplemental EIS. The Federal Register notice summarized BLM's procedure for announcing public meetings during the comment period and indicated the availability of hard copies of the Draft Supplemental EIS at the BLM Bakersfield Field Office. In addition, the NOA provided supplementary information on the planning area, the process of developing the Draft Supplemental EIS, and the alternatives and issues evaluated in the Draft Supplemental EIS.

5.4.2 Announcements and Advertisements

In addition to publication in the Federal Register, BLM provided announcements of the NOA for the Draft Supplemental EIS and information regarding public review and comment through a variety of other methods, including a press release and an announcement on the BLM project website. These methods are described below.

The press release and announcement of the availability of the Draft Supplemental EIS for public review were posted to the BLM project website on April 25, 2019. The press release and announcement summarized the issues analyzed in the Draft Supplemental EIS and provided information regarding the public comment period and how comments could be submitted, including a project website address for electronic submission of comments and a physical mailing address for hard-copy submission of comments. The press release and announcement also provided advanced notice of planned public meetings on the Draft Supplemental EIS.

Beginning on April 25, 2019, the entire Draft Supplemental EIS document, including maps and appendices, was available on the BLM project website.

5.4.3 Public Meetings

Three public meetings were held in communities within the BLM Bakersfield Field Office Planning Area after release of the Draft Supplemental EIS. The dates, times, and locations of these meetings were announced on the project website and via press release on April 25, 2019 and are listed below.

Kern County Administrative Office
Bakersfield, California
Tuesday, May 21, 2019
6 p.m. to 8 p.m.

Embassy Suites by Hilton
San Luis Obispo, California
Wednesday, May 22, 2019
6 p.m. to 8 p.m.

Santa Barbara City College
Santa Barbara, California
Thursday, May 23, 2019
6 p.m. to 8 p.m.

Each meeting began with an introductory presentation of information by BLM representatives about the BLM land management process, RMPs, and the NEPA process; development of the Draft Supplemental EIS; and primary topics addressed in the Draft Supplemental EIS. Requirements for written comments only on the Draft Supplemental EIS were repeated from the NOA and public meeting press releases. Meeting attendees were then invited to speak to the assembled group in two-minute increments.

Hard copy comment forms, with the BLM website address, were provided at each meeting. Attendees had the opportunity to provide written comments at the meetings or to take copies of the comment forms and mail in written comments later or were referred to the BLM website to submit written comments digitally.

5.4.4 Public Comment Collection and Analysis

As announced in the NOA, BLM accepted written comments on the Draft Supplemental EIS via electronic submission through a dedicated project website, mail, or as hard copy during public meetings, over the 45-day public review and comment period between April 26, 2019, and June 10, 2019.

Comment Collection. Public comments received during the comment period were stored, organized, and addressed using a comment management database designed to allow consistent comment coding and response. Hard copy comments received at the public meetings or via mail were scanned by the Bakersfield Field Office and converted to electronic format before being entered into the database. While email was not an official method of comment submission, BLM received some comments via email. Email comment submissions were converted to pdf format and entered into the database. Each comment submission entered into the database was auto-assigned a unique identification number. Contact information provided by each unique commenter was entered into the database.

Digital form letter comment submissions were received from thousands of commenters. Individual copies of these submissions were uploaded into the database. Hard copy form letters that were submitted as a batch were entered into the database as one entry, and individual contact information was not recorded. Form letters were reviewed for individual submissions that substantially changed the original meaning of the comment or included additional substantive comments. Any form letter meeting either criterion was considered a unique comment and entered into the database as such. While petitions and transcripts contained signatures and comments by thousands of individuals, these types of comment submissions were entered into the database as one submission and processed to account for all major issues presented therein.

Comment Analysis. Individual substantive comments and unique, non-substantive opinion or position statements that addressed particular topics or issues related to the planning process, Planning Area, or Draft Supplemental EIS were identified, given a unique identification number, and coded according to a comment category. Methods by which comments were categorized as “substantive” or “non-substantive” are detailed below.

5.4.5 Comments by Issue Category

A total of 30 comment categories were designated, and these categories are listed in Table 5.4. Individual comments were identified and analyzed based on content. The BLM project team developed draft comment responses, which were provided to BLM subject matter experts for review. Many comments concerned identical or similar issues. In these cases, collective responses were developed that note where information and analysis related to the issues raised in these comments may be found in the Final Supplemental EIS.

Broadly, the comment categories included:

- Resource areas analyzed in the Supplemental EIS;
- Broad topics of opinion statements related to the Supplemental EIS or resource areas; and
- Opinion statements opposing hydraulic fracturing, generally opposing oil and gas development and opposing opening public lands to such activities.

Substantive and Non-substantive Comments

BLM considered every comment, whether it was provided repeatedly by many people with the same message(s) or by a single commenter raising a technical point or making a personal statement. Analysis of public comments emphasized the content of a comment rather than the number of comments received. According to Council on Environmental Quality (CEQ) regulations for implementing NEPA, BLM is required to identify and formally respond to all substantive public comments (Section 1503.4). On the basis of the CEQ regulations, a substantive comment does one or more of the following:

- Questions, with reasonable basis, the accuracy of information in the NEPA document;
- Questions, with reasonable basis, the adequacy of, methodology for, or assumptions used for the environmental analysis;
- Presents new information relevant to the analysis;
- Presents reasonable alternatives other than those analyzed in the NEPA document; and/or
- Causes changes to or revisions of the alternatives (BLM 2008).

In contrast, non-substantive comments simply state a position in favor of, or against, an alternative or proposed management action; agree or disagree with a BLM policy or proposal; provide information not directly related to the issues or impact analyses or otherwise express a personal preference or opinion unsupported by data (BLM 2008).

BLM has reviewed and considered all non-substantive comments received and has provided a collective response. Although non-substantive comments may be considered by the decision-maker, they generally will not affect the analysis in the Final Supplemental EIS.

5.4.6 *Comment Response*

BLM received 16,210 comment submissions by the close of the public comment period on June 10, 2019. The largest category of comment submissions (approximately 94.18 percent) was multiple copies of 19 different form letters. Each form letter submission with the corresponding number of signatures received is provided in Table 5.2. Form letters 1 and 5 were the most frequently submitted form letters. Form letters 13 and 18 contained thousands of signatures via one submission, with 51,801 and 10,705 signatures respectively. Appendix B, Public Comment Summary Report, presents the full text of each form letter with BLM's accompanying response.

Table 5.2
Summary of Form Letter Submissions

Form Letter Type	Number of Signatures
Form Letter 1	3,328
Form Letter 2	1,676
Form Letter 3	112
Form Letter 4	22
Form Letter 5	8,190
Form Letter 6	39
Form Letter 7	40
Form Letter 8	1,811
Form Letter 9	7
Form Letter 10	6
Form Letter 11	4
Form Letter 12	2,894
Form Letter 13	51,801
Form Letter 14	1,173
Form Letter 15	96
Form Letter 16	482
Form Letter 17	4,285
Form Letter 18	10,705
Form Letter 19	4
Total Form Letter Signatures	86,675

The remaining non-substantive (non-form letter) submissions consisted of 821 position statements containing opinions rather than substantive comments on the information, assumptions, or analysis in the Draft Supplemental EIS. Non-substantive position statements or opinions tended to express opposition to leasing or hydraulic fracturing for oil or gas within the Planning Area. Non-substantive position statements or opinions tended to fall into one of three general opposition categories. Table 5.3 lists these types of position statements and/or opinions and provides the number of each type of comment submission received. All other issues presented in non-substantive position statements received fewer than 20 comments each.

Table 5.3
Summary of Most Frequently Mentioned Issues in Unique, Non-substantive Comments

Issue	Number of Comments
Opinion – Opposed to hydraulic fracturing	499
Opinion – Opposed to opening public lands to fossil fuel development and hydraulic fracturing	231
Opinion – Opposed to hydraulic fracturing and fossil fuel industry development	41
Total Comments	771

The remaining 118 comment submissions provided substantive comments on several topics, including specific resource areas, mitigation, alternatives, cumulative impacts, and the NEPA process. A number of these submissions contained more than a single comment. The issues most frequently commented on included climate and air quality (106 comments), water resources (90 comments), the NEPA process (42 comments), alternatives (36 comments), and cumulative impacts (33 comments). All other topics/resource areas were commented on fewer than 30 times. Most comments were submitted by individuals (75 submissions), followed by organizations (31 submissions), then government agencies (five local agency submissions, three state agency submissions, and four federal agency submissions). Substantive comments are tallied by issue addressed and presented in Table 5.4. The full Public Comment Summary Report with the results of all comments received on the Draft SEIS, as well as associated BLM responses, is available in Appendix B.

Table 5.4
Summary of Substantive Comments by Issue

Issue	Number of Comments
Alternatives	36
Areas of Critical Environmental Concern (ACEC)	3
Biological Resources	26
Climate and Air Quality	106
Cultural Resources	23
Cumulative Impacts	33
Environmental Justice	9
General	29
Lands and Realty	4
Lands with Wilderness Characteristics	1
Mitigation	21
NEPA Process	42
Oil and Gas Leasing and Development	29
Opinion - Alternatives	1
Opinion - In favor of oil and gas exploration and development	4
Opinion - NEPA process	5

Table 5.4
Summary of Substantive Comments by Issue

Issue	Number of Comments
Opinion - opposed to hydraulic fracturing	5
Opinion - opposed to hydraulic fracturing and fossil fuel industry development	10
Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	3
Other	12
Public Health and Safety	17
Recreation	1
Request for Extended Comment Period	5
Seismic Activity	21
Socioeconomics	4
Special Status Species	2
T&E Species	18
Visual Resources	1
Water Resources	90
Wilderness	1
Total Comments	562

5.5 List of Preparers

An interdisciplinary team of resource specialists from BLM and specialists from independent, third-party consulting firms prepared this document. Under guidance and direction from BLM, the team prepared the Draft Supplemental EIS and this Final Supplemental EIS.

Table 5.5
List of Preparers

Name	Discipline
BLM, Bakersfield Field Office	
Carly Summers	Project Manager, Administrative Record
Tiera Arbogast	Assistant Project Manager, Air Resources, Soil Resources
John Hodge	Assistant Field Manager, Minerals
Jeromy Caldwell	Assistant Field Manager, Resources Division
Jeff Prude	Oil and Gas
Sarah Bullock	Wildlife Ecology
CJ Chase	Wildlife Ecology
Romina Copado	Geographic Information Systems
Kimberly Taylor (via USGS)	Water Resources
Tamara Whitley	Cultural Resources, Native American Values, Paleontological Resources

Table 5.5
List of Preparers

Name	Discipline
Stewart Allen	Social and Economic Resources
Brie Chartier	Visual Resources
Karen Doran	Livestock Grazing
BLM California State Office	
Jim Scrivner	State Office Coordinator, Minerals
Elizabeth Meyer-Shields	State Office Coordinator, Resources
Melissa Harris	State Office Coordinator
Sandra McGinnis	Resources Branch Chief
Serena Baker	Public Affairs Specialist
Leroy Mohorich	Technical Review Team
Amy Fesnock	Technical Review Team
Christina Lund	Technical Review Team
Tony Overly	Technical Review Team
James Barnes	Technical Review Team
Jim Weigand	Technical Review Team
John Granada	Technical Review Team
Richard Alire	Technical Review Team
BLM National Operations Center	
Craig Nicholls	Air Resources
Paul Summers	Water Resources
Contractor, Ecology and Environment, Inc.	
Maureen O'Shea-Stone	Project Manager
Bill Richards	Project Manager
Jennifer Jackson	Deputy Project Manager
Susan Serreze	Soil Resources, ACECs, Minerals Management – Fluid Minerals
Scott Severs	Biological Resources & Special Status Species
Noreen Roster	Biological Resources & Special Status Species
Susan Nordstrom	Visual Resources
Bruce Wattle	Air Resources
Ted Hoefer	Cultural Resources, Native American Values, Paleontological Resources
Leslie Kirchler-Owen	Social and Economic Resources
Bonnie Gibson	Deputy Project Manager, Cultural Resources, Project Record, CORES, Public Scoping
Chris Jessen	Geographic Information Systems
Amy Cook	Technical Editor
Hilary Hoffman	Technical Editor
Pat Mooney	Word Processing

Table 5.5
List of Preparers

Name	Discipline
Jan Brick	Section 508 Compliance
Jackie Antonio	CORES System Support
Contractor, WRB Consultants, LLC	
Bill Berg	Water Resources

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6 Chapter Six

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Appendix A
Cultural Resources Site and Isolated Find Information for Sites
Recorded Since 2012, Located within the Hydraulic Fracturing
Analysis Areas

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Table A-1
Historic and Archaeological Sites

Site Number	Resource		Site Description
	Type	Age	
CA-KER-2730	Object	Historic	capped wellhead identified as Wallace and Crail # 10
Unknown	Object	Historic	concrete pad adjacent to a modern pumpjack
Unknown	Object	Historic	capped wellhead identified as Wallace and Crail # 18
Unknown	Object	Historic	capped wellhead Wallaca and Crail # 6 and a few pieces of historic debris
Unknown	Object	Historic	capped wellhead Wallace and Crail # 1 and very lightly density, diffuse debris scatter
Unknown	Object	Historic	capped wellhead Wallace and Crail # 3 and a few pieces historic debris
Unknown	Object	Historic	single capped wellhead
Unknown	Object	Historic	capped wellhead Balboa #27 and a partial concrete foundation
Unknown	Object	Historic	utility pole, electrical box and the round bottom of a storage tank
Unknown	Object	Historic	cold-rolled, galvanized, riveted steel pipe
Unknown	Object	Historic	capped wellhead Wallace and Crail #2 and a few pieces of historic debris
CA-KER-10207	Site	Prehistoric	Lithic scatter
CA-KER-10208	Site	Prehistoric	Lithic scatter
CA-KER-10209	Site	Prehistoric	2 groundstone artifacts, 1 sandstone metate, and 1 miscellaneous piece of groundstone with slight use wear
CA-KER-10210	Site	Multicomponent	Prehistoric lithic scatter of projectile point and flakes. Historic refuse scatter of corrugated metal, galvanized steel, brick lined furnace, conveyor belt, electrical equiment, milled lumber, and glass fragments
CA-KER-10211	Site	Historic	Trash scatter
CA-KER-10430	Site	Historic	Brick scatter
CA-KER-10431	Site	Historic	Trash scatter of household and oilfield related debris. Glass, brick, metal fragments, wire nails, and milled lumber.
CA-KER-10432	Site	Historic	Trash scatter of cans, glass, earthen ware, oilfield related debris, metal, nails, auto parts
CA-KER-10436	Site	Historic	abandoned oil well with 2 features, a backdirt pile amd a sparse hisotric debris scatter and measures 165ft.
CA-KER-10441	Site	Historic	2 features and assoc. artifacts that are likely remains of a boiler for a steam driven oil extraction pumping unit from first half of 20th cent.
CA-KER-10442	Site	Historic	4 concrete footing foundations and a metal retaining wall in an area measuring 55ft
CA-KER-1206	Site	Prehistoric	BRMs, 1 chert flake, and 1 hammerstone
CA-KER-1984	Site	Historic	Well recently abandoned.
CA-KER-1995	Site	Historic	Original survey: historic-era material including glass, ceramic fragments; unidentified calcined bone fragments, one clam shell fragment; and a variety of metal objects. No chert or other prehistoric artifacts at the site
CA-KER-1996	Site	Historic	Originally recorded by Conway and Jenkins (1981); site consists of concrete pad, large retaining pond, 2 circular pits, debris scatter, red brick concentration, roads, and assoc. piping.
CA-KER-2195	Site	Historic	a refuse scatter with two concentrations of broken and melted glass with some cans and other misc. refuse in a wash and covering a 50-x-15-ft. area
CA-KER-2549	Site	Historic	Site has been destroyed ASM was not able to relocate site. Originally recorded in 1989 by R. Billman as 4 tank foundations.
CA-KER-2549	Site	Historic	An abandoned historic oil well
CA-KER-2582	Site	Historic	historic oil extraction site, MURVALE #10,

Table A-1
Historic and Archaeological Sites

Resource		Age	Site Description
Site Number	Type		
CA-KER-2729	Site	Historic	capped wellhead wallace & crail #9, concrete foundations and a small, light density debris scatter
CA-KER-2804	Site	Historic	Trash scatter: brick, metal debris, milled wood planks, glass fragments, slag and an intact vertical pipe.
CA-KER-2805	Site	Prehistoric	Lithic scatter
CA-KER-2806	Site	Prehistoric	Lithic scatter with 2 grey chert cores and 28 chert flakes
CA-KER-2914	Site	Historic	Historic oil derrick #24 concrete footing. Site originally recorded in 1990, updated in 2011 & 2014.
CA-KER-3200	Site	Historic	Trash scatter of brick, brick slag, industrial artifacts, and a metal wellhead sign.
CA-KER-3281	Site	Historic	Artifacts noted include early firebrick fragments, cobalt and oxidized glass fragments, abalone shell, and other artifacts
CA-KER-3363	Site	Historic	originally recorded by D. Kayser (1992) as a large oil field industrial/domestic complex with multiple industrial foundations and refuse deposits. it is likely this site has now been subsumed into CA-KER-7926H, exact location remains unknown
CA-KER-4023	Site	Historic	abandoned railroad grade of the Sunset Railway, first recorded in 1994 by David Scott and Bruce Steidl.
CA-KER-4202	Site	Historic	consists of capped wellhead Midnorth #4, concrete foundation pedestals, wooden foundation feature and a light density background scatter of industrial and household debris situated on a gently sloping alluvial fan.
CA-KER-4202	Site	Historic	1913 oil well site with protruding pipe, associated concrete pad with machinery pedestals, nails, bricks, cables
CA-KER-4297	Site	Historic	remains of oil well Sunset 18B #306. Metal debris and a concrete block. Originally recorded 1994 by Gardner, McQueen and Switalski. Also see CRIR 615
CA-KER-4298	Site	Historic	consists of historic concrete foundation, brick foundation, wooden beams wrapped in metal casing, tank remains, concrete rubble pile and background scatter of industrial debris situated within the Maricopa Flat.
CA-KER-4298	Site	Historic	Oil field site with steel-reinforced concrete foundation and pedestals, probably remains of a heater or boiler house
CA-KER-4299	Site	Historic	Capped Oil well Maricopa S #42-F. Originally orded 12/16/1994
CA-KER-4300	Site	Historic	consists of capped wellhead Pacific #3 and metal identifying sign located in Kern County, California.
CA-KER-4301	Site	Historic	originally recorded by R. Parr, J. Gardner, C. McQueen and H. Switalski (1994) as capped wellhead Pacific #2 and an identifying metal sign located in Kern County, California. Updated by ASM
CA-KER-4307	Site	Historic	historic capped wellhead Annex #3-A, a fairly diffuse industrial and household related refuse scatter. During the current investigation the capped wellhead remains, but the concrete pad and pedestals appear destroyed.
CA-KER-4309	Site	Historic	originally recorded by R. Parr, J. Gardner, C. McQueen and H. Switalski (1994) as the foundation remains of a tank farm that included two circular concrete tank pads, one wooden tank pad foundation and a concrete footing with machine mount pedestal.
CA-KER-4310	Site	Historic	consists of a series of brick foundations, a depression, brick scatter and refuse scatter. The site was originally recorded as part of CA-KER-2369H/P-15-002369 by Jackson and Pruett in 1988
CA-KER-4312	Site	Historic	originally recorded by R. Parr, J. Gardner, C. McQueen and H. Switalski (1994) as capped wellhead Midnorth #10 and a light density debris scatter of red bricks, milled wood, glass and metal fragments
CA-KER-4313	Site	Historic	originally recorded as the location of well Midnorth #7 located in Kern County, California
CA-KER-4314	Site	Historic	originally recorded by R. Parr, J. Gardner, C. McQueen and H. Switalski (1994) as capped wellhead Midnorth #3 a light density historic debris scatter and a concrete pad with machine mount pedestals

Table A-1
Historic and Archaeological Sites

Resource		Age	Site Description
Site Number	Type		
CA-KER-4315	Site	Historic	originally recorded by R. Parr, J. Gardner, C. McQueen and H. Switalski (1994) as capped wellhead Midnorth #1 and a metal identification sign.
CA-KER-4367	Site	Historic	originally recorded by R. Parr, J. Gardner, C. McQueen and H. Switalski (1994) as a capped wellhead Midnorth #16, several concrete pads and machine mount pedestals and a light density historic refuse scatter.
CA-KER-4522	Site	Prehistoric	originally described as a hearth feature eroding out of a cut bank. ASM found presence of fragmentary fire affected sandstone; site eroding.
CA-KER-4523	Site	Prehistoric	diffuse scatter of fire-affected rock
CA-KER-5097	Site	Historic	site of Well 45, originally recorded by R. Schiffman in 1997, and updated in 2009 by C. Davis & W. Sprague of Pacific Legacy; described as an "active oil well. Originally bull wheel configuration. Poor condition..."
CA-KER-5224	Site	Historic	Historic oil well with associated debris. Concrete machine mount.
CA-KER-5224	Site	Historic	historic oil well and associated debris.
CA-KER-5226	Site	Historic	Light historic scatter of glass, lumber, and other oil-field related debris a tank pad that once housed four tanks
CA-KER-5227	Site	Prehistoric	two concentrations of fire affected rocks
CA-KER-5273	Site	Historic	Historic well pad, boiler pads, trash scatter.
CA-KER-5273	Site	Historic	historic well pad, two boiler pads, and a trash scatter
CA-KER-5274	Site	Historic	Update; historic refuse scatter
CA-KER-5705	Site	Historic	remains of a gas absorption plant
CA-KER-5706	Site	Historic	concrete foundation
CA-KER-5708	Site	Historic	concrete pad and historic refuse scatter
CA-KER-5866	Site	Historic	capped wellhead and associated foundations
CA-KER-5974	Site	Historic	Seven loci of various oil-production related features, structural remains, and debris deposits in relatively close proximity with a continuous debris scatter extending between them.
CA-KER-6325	Site	Historic	3 concrete footings, amethyst glass fragments, machinery parts, boiler glass fragments, and an abandoned well
CA-KER-6338	Site	Historic	historic refuse scatter
CA-KER-659	Site	Prehistoric	hearth feature and associated mano; site not found during survey
CA-KER-773	Site	Historic	Update: former location of barn, houses, and bunk houses relocated to CA-KER-774
CA-KER-781	Site	Historic	Possible line cabin or homestead site
CA-KER-7925	Site	Historic	originally recorded by C. Millington and L. Hoffman (2009) as a trashdump of 1920s historic refuse and two small concrete foundations
CA-KER-7926	Site	Historic	consists of a large oil production complex situated within the Maricopa Flat; 9 additional features and 4 additional concentrations, as well as an extensive light density historic background scatter that continues beyond the site boundaries
CA-KER-7927	Site	Historic	originally recorded by C. Millington and V. Austerman (2009) as a concrete-lined pit and low-density scatter of industrial debris. ASM revealed the existence of a much larger historic refuse scatter of primarily household debris.
CA-KER-7928	Site	Historic	originally recorded by C. Millington and V. Austerman (2009) as a large, debris scatter of household and industrial refuse and seven features.

Table A-1
Historic and Archaeological Sites

Resource			
Site Number	Type	Age	Site Description
CA-KER-7930	Site	Historic	historic refuse scatter situated on a gently sloping plain within the Maricopa Flat. Located at 590 ft.
CA-KER-7931	Site	Historic	historic refuse scatter situated on a gently undulating plain within the Maricopa Flat. Located at 590- ft
CA-KER-7940	Site	Historic	historic refuse scatter located in Kern County, California; Revisited by ASM. Recorded by V. Austerman and L. Hoffman (2009) as a mix of household and industrial debris and two concrete foundations
CA-KER-805	Site	Historic	update; historic period oil production locale originally recorded in 1977 by MacGerry. site composed of multiple feature types: structural foundations, storage tanks, pipeline, various scatters.
CA-KER-8316	Site	Historic	Oil well with concrete pad and wooden platform.
CA-KER-8317	Site	Historic	Abandoned oil well
CA-KER-843	Site	Prehistoric	4 distinctly concentrated lithic scatters, including cores, flakes and angular shatter and 9 other similar lithic artifacts, no formal/diagnostic tools were observed. most likely represents an assay-quarry workshop
CA-KER-8477	Site	Historic	Remains of an oil derrick foundation, pump jack foundation, associated debris.
CA-KER-8484	Site	Historic	site consists of an artifact and brick scatter near a standing pipe of unknown function at the northern edge of a wash, covering an area of about 40-x-18-m
CA-KER-8485	Site	Historic	site is a very small sparse artifact scatter in a shallow wash in an area of about 11-x-10-m
CA-KER-8487	Site	Historic	site consists of a wellhead and concrete jack line foundation, a spill area, associated refuse deposits in the wellhead area and also to the east, and other structural and mount remains to the north and northwestUpdate 9/27/2013: NRHP EVAL
CA-KER-8488	Site	Historic	site consists of a complex of foundations, footings, brick concentrations, and artifact scatter covering an area of about 85 x 35-m, and lying just north of a dirt road
CA-KER-8489	Site	Historic	large site consists of an abandoned wellhead with a large associated artifact scatter extending across a hillside to the northeast of the well
CA-KER-8501	Site	Historic	debris scatter
CA-KER-8506	Site	Historic	Update: 4 concentrated refuse scatters: brick concrete, asphalt, and metal, sump
CA-KER-8516	Site	Historic	site includes abandoned well (marked TO1?) and two associated brick concentrations; there are very few other artifacts in the area, including in the area of the wellhead itself
CA-KER-8518	Site	Historic	site consists of a dense brick deposit with some associated artifacts, and a single circular concrete and brick-lined subsurface feature with wood inside
CA-KER-8519	Site	Historic	site consists of abandoned Well #52, a sparse artifact scatter, and a fairly extensive linear array of bricks and brick fragments eroding out along what was possibly a former berm.
CA-KER-8526	Site	Historic	light density brick scatter & concrete foundation
CA-KER-8534	Site	Historic	light density debris scatter
CA-KER-8535	Site	Historic	historic debris scatter
CA-KER-8536	Site	Historic	historic homestead
CA-KER-8537	Site	Historic	refuse scatter
CA-KER-8540	Site	Multicomponent	Update; multiple component site consisting of a light scatter of lithic debitage and shell fragments overlaid by a small historic trash component

Table A-1
Historic and Archaeological Sites

Site Number	Resource		Site Description
	Type	Age	
CA-KER-8541	Site	Historic	light density, dispersed brick scatter of ~100 red and tan fire affected bricks and some historic trash
CA-KER-8542	Site	Historic	refuse scatter and wellhead
CA-KER-8544	Site	Historic	large hisotric refuse scatter
CA-KER-8545	Site	Historic	small refuse scatter
CA-KER-8559	Site	Historic	refuse scatter
CA-KER-8561	Site	Historic	collapsed wooden structure
CA-KER-8562	Site	Historic	discrete brick scatter with two in-situ concrete and brick foundation footings and two fragmented concrete foundation footings
CA-KER-8568	Site	Historic	site consists of an abandoned well head with associated brick concentrations and artifacts
CA-KER-8570	Site	Historic	two light density tin can scatters
CA-KER-8572	Site	Multicomponent	light density and shell scatter overlaid with a dispersed hisotric trash
CA-KER-8573	Site	Historic	moderate density scatter of red and tan bricks, metal debris and an open, exposed well shaft at the base of the Buena Vista hills
CA-KER-8575	Site	Historic	two brick concentrations
CA-KER-8756	Site	Historic	P-15-01 0038 is a historic site associated with early-twentieth century oil development
CA-KER-8932	Site	Historic	Capped well head, wooden derrick pad, concrete pad with concrete machine mounts, and an unidentified concrete foundation. Originally recorded in 2009 and updated in 2012 & 2013
CA-KER-8947	Site	Historic	Present at the site are a capped well head, four derrick leg footings, numerous concrete pedestals, and a metal-lined pit to the north of the leg footings.
CA-KER-8949	Site	Historic	possible historic residence or oil production-related building site covering a 80-x-55-m
CA-KER-8951	Site	Historic	mixed historic/recent domestic and construction refuse scatter.
CA-KER-8953	Site	Historic	Unknown
CA-KER-8961	Site	Historic	2014 Update: Oil well with concrete foundation, wooden derrick componenets, and associated refuse scatter
CA-KER-8965	Site	Historic	site consists of an abandoned wellhead and associated artifact scatter covering an area of about 80-x-55-m, and lying just 75-m north of Midway Road
CA-KER-9077	Site	Historic	6 prospect trenches located on eastern slope of a small hill; Update 8/21/2013: location not a cultural resource as defined by OHP and BLM guidelines.
CA-KER-9270	Site	Historic	Refuse scatter of porcelain fragments, wire nails, sheet metal, amethyst, brown and colorless glass, lumber, and brick.
CA-KER-9271	Site	Historic	Brick and glass scatter
CA-KER-9272	Site	Historic	Refuse scatter of bricks, glass fragments, wood, sheet metal, metal scrap, and ceramic fragments.
CA-KER-9273	Site	Historic	Brick scatter with metal and glass fragments
CA-KER-9274	Site	Historic	Brick scatter
CA-KER-9275	Site	Historic	Glass scatter including amethyst, brown glass, and wire nails.
CA-KER-9276	Site	Historic	Refuse scatter of fire affected brick, wire nails, and metal fragments.
CA-KER-9277	Site	Historic	Refuse scatter of various colored glass fragments, milled wood, wire nails, brick, scrap metal, and jar fragments.
CA-KER-9278	Site	Historic	Brick scatter

Table A-1
Historic and Archaeological Sites

Site Number	Resource		Site Description
	Type	Age	
CA-KER-9279	Site	Historic	Brick scatter
CA-KER-9280	Site	Historic	Brick scatter
CA-KER-9281	Site	Historic	Brick scatter
CA-KER-9282	Site	Historic	Brick scatter. Bricks are fragmented and fire affected.
CA-KER-9283	Site	Historic	Refuse scatter of brick and glass.
CA-KER-9284	Site	Historic	Brick scatter
CA-KER-9288	Site	Historic	Refuse scatter: bottle and window glass, ceramics, dishware, tin cans, nails, metal machine parts, and bricks.
CA-KER-9289	Site	Historic	Scatter of fire affected brick
CA-KER-9290	Site	Historic	Refuse scatter of structural debris including brick, machine parts, nails, lumber, and glass
CA-KER-9291	Site	Historic	Oil derrick and associated refuse scatter of nails, lumber, machine parts, metal and ceramic fragments, tin cans, and amethyst glass.
CA-KER-9292	Site	Historic	Refuse scatter of various colored glass fragments, ceramic fragments,, wire nails, shotgun shell fragments, wire fragments, and abalone shell fragments.
CA-KER-9294	Site	Historic	Refuse scatter: variety of colored glass, metal comb, wire nails, and metal bottle caps.
CA-KER-9295	Site	Historic	Refuse scatter: various colored glass fragments, ceramic fragments, and metal fragments.
CA-KER-9296	Site	Historic	Refuse scatter: various colored glass, ceramic fragments, and a sanitary can.
CA-KER-9297	Site	Historic	Refuse scatter: various colored glass fragments, ceramic fragments, wire nails, and tin can fragments.
CA-KER-9298	Site	Historic	Refuse scatter: Colorless and amethyst glass fragments, colorless intact jars, ceramic plate fragments, tin can fragments, and gas can.
CA-KER-9299	Site	Historic	Refuse scatter: Amethyst glass fragments, lumber, and wire nails.
CA-KER-9301	Site	Prehistoric	small discrete concentration of hundreds of small Anodonta sp. shell fragments
CA-KER-9302H	Site	Historic	moderate refuse scatter
CA-KER-9303	Site	Historic	small scatter of red/tan fire bricks
CA-KER-9304	Site	Historic	foundational remains of a historic wooden or steel oil derrick
CA-KER-9305	Site	Historic	late nineteenth to early twentieth century refuse scatter
CA-KER-9306	Site	Historic	diffuse refuse scatter
CA-KER-9307	Site	Historic	foundational remains of a wooden or steel oil derrick
CA-KER-9308	Site	Historic	small structural scatter
CA-KER-9309	Site	Historic	refuse scatter
CA-KER-9310	Site	Historic	refuse scatter that includes structural, domestic, transportation, and indefinite use items
CA-KER-9311	Site	Historic	large diffuse refuse scatter
CA-KER-9316	Site	Historic	light density brick scatter comprising two small concentrations
CA-KER-9317	Site	Historic	large early 20th century moderately dense brick scatter
CA-KER-9319	Site	Historic	small, sparse brick scatter
CA-KER-9320	Site	Historic	wooden foundation structure and a brick, glass, and ceramic scatter
CA-KER-9322	Site	Historic	foundational remains of a historic wooden or steel oil derrick and the remains of a steam boiler foundation

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Historic and Archaeological Sites

Site Number	Resource		Site Description
	Type	Age	
CA-KER-9323	Site	Historic	functional remains of a historic wooden or steel oil derrick
CA-KER-9324	Site	Historic	light density small brick scatter
CA-KER-9325	Site	Historic	capped wellhead and a moderate density scatter
CA-KER-9326	Site	Historic	foundational remains of a historic or steel oil derrick and associated trash scatter
CA-KER-9327	Site	Historic	foundational remains of a historic wooden or steel oil derrick
CA-KER-9328	Site	Historic	foundational remains of a historic wooden or steel oil derrick
CA-KER-9329	Site	Historic	moderately dense red brick scatter
CA-KER-9330	Site	Historic	foundational remains of a historic [wooden/steel] oil derrick
CA-KER-9331	Site	Historic	foundational remains of a historic wooden or steel oil derrick
CA-KER-9332	Site	Historic	moderately dense brick scatter
CA-KER-9333	Site	Historic	foundational remains of a historic wooden or steel oil derrick
CA-KER-9334	Site	Historic	foundational remains of unknown oil-industry-related machinery
CA-KER-9335	Site	Historic	small discrete brick scatter
CA-KER-9336	Site	Historic	foundational remains of a historic wooden or steel oil derrick
CA-KER-9337	Site	Historic	moderate brick scatter consisting of red and tan bricks
CA-KER-9339	Site	Historic	historic brick concentration
CA-KER-9340	Site	Historic	small, discrete scatter of structural debris
CA-KER-9341	Site	Historic	a small, discrete historic refuse scatter
CA-KER-9342	Site	Historic	dense to moderately dense mid-twentieth century refuse scatter
CA-KER-9343	Site	Historic	moderate density structural debris scatter
CA-KER-9344	Site	Historic	historic structural debris scatter
CA-KER-9345	Site	Historic	moderate density refuse scatter
CA-KER-9346	Site	Historic	scatter of structural debris
CA-KER-9347	Site	Historic	small, sparse refuse scatter
CA-KER-9348	Site	Historic	small artifact scatter
CA-KER-9349	Site	Historic	historic artifact scatter
CA-KER-9350	Site	Historic	foundation remains for a steam boiler
CA-KER-9351	Site	Historic	brick scatter
CA-KER-9352	Site	Historic	sparse to moderately dense brick scatter
CA-KER-9353	Site	Historic	moderately dense artifact scatter
CA-KER-9356	Site	Historic	Four concrete footings - probably for a oil derrick.
CA-KER-9357	Site	Historic	Steam boiler foundation, concentration of fire bricks, capped wellhead
CA-KER-9358	Site	Historic	Four foundation footings - probably for a oil derrick.
CA-KER-9359	Site	Historic	Four concrete foundations footings - probably for a oil derrick.
CA-KER-9360	Site	Historic	Four concrete foundation footings - probably for a oil derrick.
CA-KER-9361	Site	Historic	capped wellhead #1, a concrete machine foundation and small brick concentration

Table A-1
Historic and Archaeological Sites

Site Number	Resource		Site Description
	Type	Age	
CA-KER-9362	Site	Historic	Four foundation footings probably footings for an oil derrick
CA-KER-9363	Site	Historic	Four concrete foundation footings probably a derrick foundation
CA-KER-9364	Site	Historic	Four concrete foundation footings probably a derrick foundation
CA-KER-9365	Site	Historic	Light density brick scatter & metal machine parts.
CA-KER-9366	Site	Historic	eight stacked rock wall features. The alignments are unmortared
CA-KER-9421	Site	Historic	Abandoned Sunset Railway. (See also: P-15-004024, CA-KER-4023H)
CA-KER-9453	Site	Historic	a metal wellhead casing filled with cement and 7 concrete footings
CA-KER-9454	Site	Historic	4 concrete footing foundations flush with the ground
CA-KER-9455	Site	Historic	4 square concrete footing foundations level with the ground.
CA-KER-9456	Site	Historic	structural debris scatter
CA-KER-9457	Site	Historic	4 roughly circular depressions associated with a small scatter of firebricks
CA-KER-9458	Site	Historic	structural debris
CA-KER-9459	Site	Historic	structural debris scatter
CA-KER-9460	Site	Historic	moderate structural debris scatter and 3 small depressions
CA-KER-9462	Site	Historic	structural debris scatter
CA-KER-9463	Site	Historic	diffuse, moderately sparse structural debris scatter
CA-KER-9464	Site	Historic	structural debris scatter
CA-KER-9465	Site	Historic	small refuse scatter
CA-KER-9466	Site	Historic	remains of a concrete jack line foundation; rectangular concrete pad and 2 small raised rectangular footings.
CA-KER-9467	Site	Historic	concrete boiler foundation and scatter of red fire-affected bricks
CA-KER-9469	Site	Historic	brick scatter
CA-KER-9470	Site	Historic	small refuse scatter
CA-KER-9471	Site	Historic	structural debris scatter
CA-KER-9472	Site	Historic	concrete jack line foundation
CA-KER-9508	Site	Historic	historic brick scatter that consists of structural debris including unmarked firebricks, brick fragments, wire, wire nails and brick slag.
CA-KER-9530	Site	Historic	Remnants of historic oil derrick associated with "Maricopa-Wellington 1"
CA-KER-9531	Site	Historic	Oil extraction facility. Abandoned wellhead "2." Brick boiler box
CA-KER-9532	Site	Historic	Sparse refuse scatter
CA-KER-9533	Site	Historic	Four concrete foundation footings - probably the foundation for an oil derrick
CA-KER-9534	Site	Historic	Two concrete foundation footings probably oil derrick foundations
CA-KER-9535	Site	Historic	Historic refuse
CA-KER-9536	Site	Historic	A concentration of industrial artifacts.
CA-KER-9537	Site	Historic	Capped wellhead "J-2.," industrial artifacts, remains of a metal tank.
CA-KER-9538	Site	Historic	historic site consists of three discrete concentrations, a single feature and a large, diffuse background scatter of historic debris.

Table A-1
Historic and Archaeological Sites

Resource		Age	Site Description
Site Number	Type		
CA-KER-9539	Site	Historic	historic site consists of a large, diffuse trash scatter with two concentrations and a single brick feature.
CA-KER-9540	Site	Historic	historic site consists of a moderate density debris scatter made up primarily of structural items such as unmarked fire bricks, brick fragments, aqua boiler watch glass and wood lathes.
CA-KER-9541	Site	Historic	historic site consists of a light density historic refuse scatter with heat altered debris including domestic, structural and indeterminate items.
CA-KER-9542	Site	Historic	site is a large, slightly diffuse, and highly fragmented debris scatter characterized by four discrete concentrations and three features.
CA-KER-9543	Site	Historic	a historic site that contains a small concentration of red and tan firebricks and an oiled road that travels through the site.
CA-KER-9544	Site	Historic	historic site is a sparse refuse scatter with one discrete concentration containing structural and indeterminate artifacts adjacent to a blown out barbwire fence line
CA-KER-9545	Site	Historic	historic trash scatter characterized by three distinct artifact concentrations
CA-KER-9546	Site	Historic	historic shed located in a wide, shallow roughly north/south oriented, low area within the Maricopa Flat
CA-KER-9547	Site	Historic	historic refuse scatter located on a nearly level plain within the Maricopa Flat with a northern aspect
CA-KER-9548	Site	Historic	consists of 4 historic features and a historic refuse scatter situated on the eastern bank of a shallow, narrow dry drainage with a northern aspect
CA-KER-9549	Site	Historic	historic debris scatter situated on a gentle slope east of several low, rolling foothills with a western aspect
CA-KER-9550	Site	Historic	historic structural debris scatter situated on a nearly level plain east of a series of rolling hills within Maricopa Flat with a northwest aspect
CA-KER-9551	Site	Historic	consists of two concrete foundations and a light density historic debris scatter situated on a gently sloping plain within Maricopa Flat.
CA-KER-9552	Site	Historic	consists of capped oil well #1A, concrete foundation pedestals, a semi-buried wooden frame and a historic debris scatter situated on the eastern slope of a low hill within the Maricopa Flat
CA-KER-9553	Site	Historic	light density, highly fragmented historic refuse scatter located on a nearly level plain in an area of high soil disturbance within the Maricopa Flat
CA-KER-9554	Site	Historic	historic site consists of capped wellhead ΓÇ£3TTCO,ΓÇ¥ a wood-lined square pit of unknown function, several large wooden boards, and a light density debris scatter situated in an area of hardened oil sands
CA-KER-9555	Site	Historic	historic site is a linear feature of embedded red fire bricks located along the side slope of a roughly north/south trending low hill within the Maricopa flat
CA-KER-9556	Site	Historic	large historic scatter of structural debris characterized by two discrete concentrations, mortared brick foundation, a brick boiler or heater foundation, and two concrete pads
CA-KER-9557	Site	Historic	historic site consisting of a light density structural debris scatter and several concrete machine mount foundations
CA-KER-9558	Site	Historic	large diffuse historic structural and household debris scatter with a single concentration near the center of the site and an excavated pipeline that runs east/west through the site, crossing under an overgrown dirt road.
CA-KER-9559	Site	Historic	light density historic debris scatter of household and industrial debris

Table A-1
Historic and Archaeological Sites

Site Number	Resource		Site Description
	Type	Age	
CA-KER-9560	Site	Historic	consists of two distinct concentrations of historic debris with a light density industrial artifact background scatter
CA-KER-9561	Site	Historic	historic debris scatter with a corresponding brick scatter and structural artifacts surrounding several concrete foundation features
CA-KER-9562	Site	Historic	historic site consisting of a light density, industrial background scatter extending beyond the site boundaries and throughout the survey area.
CA-KER-9565	Site	Historic	historic light to moderate density refuse scatter consisting of industrial, domestic, personal and indeterminate artifacts
CA-KER-9584	Site	Historic	historic, highly fragmented structural debris scatter that consists of a concentration of 15+ red firebricks, brick fragments, brick slag, wood lathes, metal pipe, metal debris and concrete chunks.
CA-KER-9614	Site	Historic	site is a wooden pumping rig at Well #52; includes wooden rig apparatus and an adjacent wooden platform, still largely intact, covering an 18-x-10-m area; it lies just north of a dirt road.
CA-KER-9615	Site	Historic	site consists of an extensive series of foundations, wall remains, landscaping trees, and associated debris covering an area of about 325 x 140 m.
CA-KER-9616	Site	Historic	small, sparse artifact scatter that has been disturbed by the construction of a large new rig pad to the north
CA-KER-9617	Site	Historic	site consists of five aligned pits surrounded by bricks, brick fragments, and brick dust, as well as some vitrified material in an area of about 25 x 16 m
CA-KER-9618	Site	Historic	site consists of a large concrete foundation structure with a brick concentration upslope to the east, covering an 36-x-18-m area.
CA-KER-9619	Site	Historic	site consists of five aligned pits surrounded by bricks, brick fragments, and brick dust, as well as some vitrified material and bricks still in alignment in an area of about 25 x 10 m
CA-KER-9621	Site	Historic	updated by Stantec brick scatter with berms and a wooden subsurface box structure associated with abandoned Well #10. The site covers an area of approximately 85 x 30 m.
CA-KER-9625	Site	Historic	site consists of abandoned well #81 and an associated artifact scatter
CA-KER-9626	Site	Historic	site contains highly fragmented, sparse historic refuse on a flat rise just north of Well #12
CA-KER-9627	Site	Historic	site consists of an abandoned well head (Well #63) with associated brick concentrations and artifact scatter
CA-KER-9628	Site	Historic	site consists of a substantial brick deposit that has been cut by road construction. It is set on a hillside and covers an area of about 40 x 22 m
CA-KER-9629	Site	Historic	site consists of abandoned Well #32 and an associated artifact scatter
CA-KER-9630	Site	Historic	site consists of abandoned Well #33 and an associated sparse artifact scatter
CA-KER-9638	Site	Historic	site consists of an abandoned wellhead and associated debris covering an area of about 40 x 7-m, and lying just south of Broad Creek
CA-KER-9639	Site	Historic	site consists two artifact pits that lie very close together, one to the north and the other to the south in an area of about 16-x-11-m, and lying about 20-m south of a dirt road
CA-KER-9640	Site	Historic	site consists of two dense brick concentrations with an associated artifact scatter covering an area of about 55-x-30-m, and lying just north of a dirt road
CA-KER-9641	Site	Historic	area contains a concentration of bricks, brick fragments, and brick dust with some fragmentary artifacts in an area of about 42-x-34-m

Table A-1
Historic and Archaeological Sites

Resource			
Site Number	Type	Age	Site Description
CA-KER-9641	Site	Historic	small concentration of structural debris surrounding 4 depressions
CA-KER-9642	Site	Historic	site consists of an abandoned wellhead (#83 or 23?) and an associated artifact scatter covering an area of about 105-x-45-m
CA-KER-9643	Site	Historic	site is a brick scatter site with a likely associated small refuse deposit in an adjacent shallow wash covering an area of about 60-x-25-m
CA-KER-9644	Site	Historic	site consists of an abandoned wellhead (Well #6) with an associated sparse artifact scatter and a brick concentration area to the west covering an area of about 70-x-25-m
CA-KER-9765	Site	Historic	Earthen sump, concrete foundation with wooden support beams, can scatter, milled lumber, concrete footings. remnants of wooden cable spool.
CA-KER-9766	Site	Historic	Abandoned oil well, concrete foundation, refuse scatter of brick, cans, nails, lumber, and cable
CA-KER-9767	Site	Historic	Abandoned well head with concrete footings, large foundation, remnants of wooden flume, circular pad, refuse scatter of brick, amethyst glass, nails, cable, boiler watch fragments, and milled lumber
CA-KER-9768	Site	Historic	Refuse scatter of amethyst glass, machine cut bone fragments, and cans
CA-KER-9769	Site	Historic	concrete foundations, corrugated metal structure, refuse scatter of milled lumber and brick, can, nails, glass
CA-KER-9770	Site	Historic	Refuse scatter of ceramic fragments, amethyst glass, cans, and nails
CA-KER-9784	Site	Historic	Foundation remains of oil derrick and dry sump.
CA-KER-9784	Site	Historic	Foundation remains of historic oil derrick
CA-KER-9785	Site	Historic	Foundation remains of oil derrick and associated intact bull wheel
CA-KER-9786	Site	Historic	Trash scatter of bottles, cans, and ceramics.
Unknown	Site	Historic	Unknown
Unknown	Site	Historic	2 oil derrick foundations, burnt and unburnt brick, open well, metal fragments, and can scatter
Unknown	Site	Historic	trough-like feature
Unknown	Site	Historic	sparse artifact scatter
Unknown	Site	Historic	historic period artifact scatter
Unknown	Site	Historic	segment of Sunset Railroad
Unknown	Site	Historic	two large and one small brick concentrations with some associated oil-related refuse
Unknown	Site	Historic	Brick Scatter
Unknown	Site	Historic	a capped well head (#3C Boston), several concrete features, a sump, and an artifact scatter
Unknown	Site	Historic	A single large brick concentration with a small amount of associated oil-related refuse. Also in association were 7-in.-diameter metal pipes protruding from the ground and a pair of small concrete support pads.
Unknown	Site	Historic	originally recorded in 2005 as an historic well, comprised of remains of Mays Well #2; site update
Unknown	Site	Historic	Concrete features, L-shaped berm, and associated refuse
Unknown	Site	Historic	historic era refuse scatter
Unknown	Site	Historic	small, discrete brick scatter
Unknown	Site	Historic	Update; pump/sump/furnace complex
Unknown	Site	Historic	moderate concentration of mainly structural debris

Table A-1
Historic and Archaeological Sites

Site Number	Resource		Site Description
	Type	Age	
Unknown	Site	Historic	debris scatter
Unknown	Site	Historic	collapsed wooden culvert and light density refuse scatter
Unknown	Site	Historic	capped wellhead and associated foundations
Unknown	Site	Historic	capped wellhead Wallace and Crail # 13
Unknown	Site	Historic	capped wellhead Wallace and Crail #1
Unknown	Site	Historic	capped wellhead Wallace and Crail # 6
Unknown	Site	Historic	capped wellhead Wallace & Crail #16, wooden shut off box, semi-subterranean metal tank, associated concrete foundations, and a light density debris scatter
Unknown	Site	Historic	capped wellhead Balboa #49. associated concrete foundations and a light density debris scatter
Unknown	Site	Historic	site not relocated during survey; historic light density debris scatter
Unknown	Site	Historic	capped wellhead Balboa #52, associated concrete foundations and a light density debris scatter
Unknown	Site	Historic	moderate density structural debris
Unknown	Site	Historic	foundations of a wooden or steel oil derrick and capped wellhead
Unknown	Site	Historic	foundation for a steel or wooden oil derrick and capped wellhead
Unknown	Site	Historic	capped wellhead Wallace and Crail # 7 and associated foundations
Unknown	Site	Historic	capped wellhead Balboa # 7 associated concrete foundations, and a light density debris scatter
Unknown	Site	Historic	sign post for historic wellhead Balboa # 69
Unknown	Site	Historic	concrete pad, concrete circular tank foundation, two square sunken wood lined pits, pipe and small debris scatter
Unknown	Site	Historic	capped wellhead Balboa #53, associated concrete foundations, and a light density debris scatter
Unknown	Site	Historic	jack line and tank foundation associated with wellhead Balboa #54
Unknown	Site	Historic	light density scatter
Unknown	Site	Historic	capped wellhead Balboa # 6 associated concrete foundations and a light density debris scatter
Unknown	Site	Historic	capped wellhead Balboa #18, associated concrete foundations and a light density debris scatter
Unknown	Site	Historic	capped wellhead Balboa #19, associated collapsed wooden staircase, metal framed water tank foundation, and a historic debris scatter
Unknown	Site	Historic	jack line foundation
Unknown	Site	Historic	capped wellhead Wallace & Crail #12, associated concrete foundations and a light density historic debris scatter
Unknown	Site	Historic	capped wellhead Balboa #42 and associated concrete foundations
Unknown	Site	Historic	historic concrete jack line foundation
Unknown	Site	Historic	concrete foundations for a steel or wooden oil derrick
Unknown	Site	Historic	debris scatter
Unknown	Site	Historic	site not relocated; orig. described as location of historic wellhead Balboa #78
Unknown	Site	Historic	foundation remains of Balboa# 1
Unknown	Site	Historic	capped wellhead Wallace & Crail #14, associated concrete foundations and a light density debris scatter
Unknown	Site	Historic	capped wellhead Wallace & Crail #15, associated concrete foundations and a light density debris scatter

Table A-1
Historic and Archaeological Sites

Site Number	Resource		Site Description
	Type	Age	
Unknown	Site	Historic	site not relocated during survey; orig. described as a concrete pad adjacent to a modern pumpjack and a metal sign "Oakland 58"
Unknown	Site	Historic	historic wellhead Balboa #59; no features or artifacts observed
Unknown	Site	Historic	location of historic wellhead Balboa #63
Unknown	Site	Historic	small concentration of metal barrel hoops
Unknown	Site	Historic	abandoned capped oil wellhead
Unknown	Site	Historic	Concrete jack line foundation. Originally designated P-15-009267 but later separated and recorded as its own site by ASM in 2012 and updated in 2014
Unknown	Site	Historic	2014 Update: benchmark
Unknown	Site	Historic	2014 Update: Benchmark
Unknown	Site	Historic	Earthen berm/sump, refuse scatter of glass and cans.
Unknown	Site	Historic	Unknown
Unknown	Site	Historic	concrete footings well#2-14D
Unknown	Site	Historic	light domestic scatter
Unknown	Site	Historic	four concrete oil derrick foundations
Unknown	Site	Historic	well pad
Unknown	Site	Historic	abandoned well complex, roads, brick scatter
Unknown	Site	Historic	electric distribution line
Unknown	Site	Historic	abandoned well 21-11D
Unknown	Site	Historic	abandoned well 13-11D
Unknown	Site	Historic	abandoned well 11-11D
Unknown	Site	Historic	small, dense brick scatter
Unknown	Site	Historic	inactive well 30-10D
Unknown	Site	Historic	inactive well 28-10D
Unknown	Site	Historic	small refuse deposit
Unknown	Site	Historic	inactive well 531-15D
Unknown	Site	Historic	abandoned well 68-15D, refuse deposit
Unknown	Site	Historic	brick and refuse deposit
Unknown	Site	Historic	abandoned well 35-15D
Unknown	Site	Historic	abandoned well 99-15D
Unknown	Site	Historic	abandoned well 38-15D
Unknown	Site	Historic	inactive well 3-1-15D
Unknown	Site	Historic	abandoned well 72-15D
Unknown	Site	Historic	abandoned well 3-2-15D
Unknown	Site	Historic	abandoned well 501-15D
Unknown	Site	Historic	abandoned well 1-1-15D

Table A-1
Historic and Archaeological Sites

Site Number	Resource		Site Description
	Type	Age	
Unknown	Site	Historic	inactive well 16-10D
Unknown	Site	Historic	inactive well 111-10D
Unknown	Site	Historic	inactive well 506-10D
Unknown	Site	Historic	abandoned well 1-16D
Unknown	Site	Historic	oil exploration complex with four wells
Unknown	Site	Historic	abandoned well 4-16D
Unknown	Site	Historic	wooden valve box
Unknown	Site	Historic	brick scatter, foundations
Unknown	Site	Historic	sparse firebrick scatter and reddened soil
Unknown	Site	Historic	historic trash scatter that includes solarized glass fragments, household ceramic fragments, & a dispersed church key opened & cone-top can scatter
Unknown	Site	Historic	historic trash scatter
Unknown	Site	Historic	California aqueduct
Unknown	Site	Historic	Oil well pump jack
Unknown	Site	Historic	Debris. Site of oil well, pump jack.
Unknown	Site	Historic	Oil well pump jack
Unknown	Site	Historic	tank battery & assoc. features that appear on the 1951 Maricopa CA quad
Unknown	Site	Historic	remains of Midway Northern No. 1 oil well
Unknown	Site	Historic	oil wells and associated infrastructure
Unknown	Site	Historic	oil wells and associated infrastructure
Unknown	Site	Historic	Trash scatter and concrete block with 2 metal plates
Unknown	Site	Historic	Prospect and mining claim marker
Unknown	Site	Historic	3 Oil tanks
Unknown	Site	Historic	Glass scatter and shallow round depression
Unknown	Site	Historic	Abandoned oil well, partially buried lumber pad, 3 exposed lumber beams, sump, and sparse refuse scatter
Unknown	Site	Historic	mound of weathered crude oil and drilling mud
Unknown	Site	Historic	concrete remains of a plugged and abandoned well
Unknown	Site	Historic	oil tanks
Unknown	Site	Historic	brick concentration
Unknown	Site	Historic	small early 20th century scatter of red and tan fire affected bricks
Unknown	Site	Historic	Unknown
Unknown	Site	Historic	Unknown
Unknown	Site	Historic	Unknown
Unknown	Site	Historic	Unknown
Unknown	Site	Historic	Unknown
Unknown	Site	Historic	small historic brick scatter

Table A-1
Historic and Archaeological Sites

Resource			
Site Number	Type	Age	Site Description
Unknown	Site	Historic	Update: small historic brick and milled lumber scatter with capped well #30
Unknown	Site	Historic	historic oil well foundation for a wooden or steel derrick #320
Unknown	Site	Historic	small brick scatter
Unknown	Site	Historic	two capped wellheads and a small brick scatter
Unknown	Site	Prehistoric	site not located during current study. Originally recorded as a prehistoric lithic scatter
Unknown	Site	Prehistoric	low-density, prehistoric lithic scatter includes a core, flakes, and angular shatter made of white/grey Temblor chert, totaling about a half-dozen specimens.
Unknown	Site	Prehistoric	single rainbow-colored secondary chert flake
Unknown	Site	Prehistoric	This is a paleontological site consisting of eroding shell midden located near the bottom of a drainage and its surrounding hillsides.
Unknown	Site	Prehistoric	quarry site with natural deposit of chert
CA-KER-2050	Structure	Historic	AH02 (Foundations/structure pads); AH04 (Privies/dumps/trash scatters); AH07 (Roads/trails/railroad grades); HP39 (Other) - Culvert
CA-KER-9285	Structure	Historic	Jack line foundation and associated debris scatter of wire nails, iron pipe fittings, and headlight glass
CA-KER-9286	Structure	Historic	Jack line foundation
CA-KER-9287	Structure	Historic	Jack line foundation
CA-KER-9293	Structure	Historic	Oil derrick: 2 foundations
CA-KER-9300	Structure	Historic	wooden or steel oil derrick
CA-KER-9318	Structure	Historic	remnants of a wooden or steel derrick
Unknown	Structure	Historic	5 storage tanks
Unknown	Structure	Historic	Cattle trough with float valve and water spigot
Unknown	Structure	Historic	HP11 (Engineering structure) - Transmission line

Table A-2
Isolated Finds

Resource Name	Resource Type	Age	Description
10Z-Iso 1	Isolate	Historic	Prince Albert tobacco can
10Z-Iso 3	Isolate	Prehistoric	one core and one white debitage, chalcedony
10Z-Iso 5	Isolate	Historic	Prince Albert tobacco can
27-AB-ISO1	Isolate	Historic	Unknown
27-AB-ISO2	Isolate	Historic	Unknown
27-AB-ISO3	Isolate	Historic	Unknown
29-AB-ISO1	Isolate	Historic	Unknown
BA-ISO-1	Isolate	Historic	an amethyst glass bottle with a single
BA-ISO-2	Isolate	Prehistoric	mottled gray-beige-white CCS core approx. 5-6 flake removals
Buick-Iso-01	Isolate	Historic	Unknown
CAI-1	Isolate	Prehistoric	Unknown
CAI-2	Isolate	Prehistoric	Unknown
CAI-3	Isolate	Prehistoric	Unknown
CAIH-1	Isolate	Historic	Unknown
CM-ISO-1	Isolate	Historic	Two firebricks with "PCP/EXCELSIOR" and "EMSCO/ROYAL D.P."
CM-ISO-2	Isolate	Prehistoric	Chrysochryalline stage 2 biface
ESA-McNaughton-005H	Isolate	Historic	Mining claim marker with wooden posts
ESA-McNaughton-006H	Isolate	Historic	Refuse scatter of colorless and amber glass bottles.
IF-CM-01	Isolate	Prehistoric	Isolate flake
IF-GFC-01	Isolate	Prehistoric	isolate biface
IF-KER-415	Isolate	Prehistoric	Unknown
ISO-1	Isolate	Historic	10 oz colorless Sun Crest bottle with an Anchor Hocking makers mark
ISO-2	Isolate	Prehistoric	primary chert flake
ISO-FL-1	Isolate	Historic	Prince Albert Pocket tobacco tin
Isolate 1	Isolate	Historic	Unknown
Isolate 1 (Steam Generator)	Isolate	Historic	Steam generator resting on a wooden plank foundation. 3 concrete pads, steel pipes and railings, electrical panel.
Isolate 2	Isolate	Historic	Unknown
Isolate 2 (Historic Marker1)	Isolate	Historic	Historic marker: lumber post near small pile of granite cobbles.
Isolate 3	Isolate	Historic	Unknown

Table A-2
Isolated Finds

Resource Name	Resource Type	Age	Description
Isolate 3 (Historic Marker 2)	Isolate	Historic	Historic marker: lumber post near small pile of granite cobbles
Isolate 4 (Tank Setting)	Isolate	Historic	2 steel tank rings with gravel pad, electrical panel, sump, and concrete pad
Isolate 5 (Granite Mano)	Isolate	Prehistoric	Unifacial granite mano
Isolate 6 (Granite Grinding Slab)	Isolate	Prehistoric	Granite grinding slab
Isolate 7 (Unknown Aerial Marker)	Isolate	Historic	Unknown aerial marker. "X" shaped scar in ground surface
Isolate Find #2	Isolate	Prehistoric	Chert core fragment
I-TC-1	Isolate	Prehistoric	Metate
I-TC-4	Isolate	Historic	wood framework and adjacent timbers.
LH-ISO-02	Isolate	Historic	two fragments of glazed tile
Milk glass and clear glass bottle	Isolate	Historic	Milk glass and clear glass bottle
p-15-009291	Isolate	Prehistoric	Sandstone flake
P-15-010947	Isolate	Unknown	Unknown
P-15-015021	Isolate	Unknown	Unknown
P-15-015498	Isolate	Unknown	Unknown
P-15-015508	Isolate	Unknown	Unknown
P-15-18744	Isolate	Prehistoric	Cryptocrystalline biface thinning flake
P-15-18745	Isolate	Prehistoric	Quartzite core
P-15-18766	Isolate	Prehistoric	Secondary quartzite flake
P-40-38311	Isolate	Prehistoric	Granitic hand stone
P-40-38312	Isolate	Prehistoric	Quartzite core
P-40-38313	Isolate	Prehistoric	Ground stone fragment
P-40-38314	Isolate	Prehistoric	Tabular chert core
P-40-38315	Isolate	Prehistoric	Chert biface fragment
P-40-38316	Isolate	Prehistoric	tertiary grey chert flake
PL-AERA-GWL-ISO-01	Isolate	Historic	Brick scatter
PL-MOC-ISO-002	Isolate	Historic	1930 survey marker
PL-MOC-ISO-003	Isolate	Historic	1930 survey marker
PL-MOC-ISO-004	Isolate	Historic	1928 survey marker
PL-RL-2625-05-01-ISO-003	Isolate	Historic	two Church-key opened, rusted, 12 oz, flat top steel beverage cans
PL-RL-2625-05-01-ISO-004	Isolate	Historic	double-ended wrench

Table A-2
Isolated Finds

Resource Name	Resource Type	Age	Description
PL-RL-2625-05-ISO-005	Isolate	Historic	aluminum pull-tab Schlitz beer can
PL-S-03H	Isolate	Historic	galvanized steel tank
PL-S-06H	Isolate	Historic	Anchor Hocking brown glass bottle
PL-S-07H	Isolate	Historic	steel pipeline
PL-S-08H	Isolate	Historic	7 ft deep pit and surrounding berm
Victory-2	Isolate	Historic	Earthen berm and wooden flume
Victory-7	Isolate	Historic	Benchmark/survey marker
Victory-8	Isolate	Historic	Earthen berm/sump

Appendix B

Public Comment Summary Report

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U.S. Department of the Interior
Bureau of Land Management

Public Comment Summary Report

Hydraulic Fracturing Supplemental Environmental Impact Statement
and Potential Resource Management Plan Amendment

Supplementing the Bakersfield Proposed Resource Management Plan
and Final Environmental Impact Statement

July 2019



PUBLIC COMMENT SUMMARY REPORT

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Public Comment Summary Report

on the **Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement**

*SUPPLEMENTING THE BAKERSFIELD PROPOSED RESOURCE MANAGEMENT PLAN AND
FINAL ENVIRONMENTAL IMPACT STATEMENT, AUGUST 2012*

Prepared by
U.S. Department of Interior, Bureau of Land Management
Bakersfield Field Office
3801 Pegasus Drive
Bakersfield, CA 93308
Phone: (661) 391-6000

July 2019

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ATTACHMENTS

Attachment A – Acronyms

Attachment B – Form Letters and Responses

Attachment C – Unique, Non-substantive and Substantive Comments and Responses

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EXECUTIVE SUMMARY

The U.S. Department of the Interior (DOI), Bureau of Land Management (BLM) Bakersfield Field Office, California, released a Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (SEIS) on April 26, 2019, which supplements the Bakersfield Proposed Resource Management Plan (PRMP) and Final Environmental Impact Statement (FEIS) (BLM 2012). The document was made available for public review and comment for 45 calendar days, with the comment period ending on June 10, 2019. This report addresses the results of public collaboration and outreach following release of the Draft SEIS. All public comments on the Draft SEIS are summarized, and BLM's responses are documented.

BLM received 16,210 submissions by the close of the public comment period at midnight, June 10, 2019. The majority of these submissions were non-substantive opinions (16,092 submissions, or approximately 99.3 percent). 118 submissions (approximately 0.7 percent) were unique, substantive submissions. The remaining submissions consisted of three transcripts from public meetings and two petitions. Comments consisting of non-substantive opinions were mostly grouped into one of 19 different types of form letters, which represent 15,266 non-substantive submissions. The remaining non-substantive comments consisted of 821 unique position statements, three transcripts, and two petitions containing opinions rather than substantive comments on the information, assumptions, or analysis in the Draft SEIS. Non-substantive position statements or opinions tended to express opposition to leasing or hydraulic fracturing for oil or gas within the Planning Area.

The 118 unique, substantive comment submissions were submitted by organizations, individuals, and government agencies. A number of these submissions contained more than a single comment. The topics or resource areas most frequently commented on included climate and air quality (106 comments), water resources (90 comments), the NEPA process (42 comments), alternatives (36 comments), and cumulative impacts (33 comments). All other topics/resource areas were commented on fewer than 30 times.

BLM has reviewed and evaluated the information received through these comment submissions and, as appropriate, will incorporate additional information based on these submissions into the Final SEIS.

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PUBLIC COMMENT SUMMARY REPORT

1 INTRODUCTION

The U.S. Department of the Interior (DOI), Bureau of Land Management (BLM) Bakersfield Field Office, California, prepared a Supplemental Environmental Impact Statement (SEIS). This will supplement the Final EIS (hereafter referred to as the FEIS) on the Bakersfield Field Office Proposed Resource Management Plan (PRMP) (BLM 2012).

On September 6, 2016, the U.S. District Court, Central District of California, issued summary judgment finding BLM failed to take a “hard look” at the environmental impact of hydraulic fracturing in the Resource Management Plan (RMP). The Court upheld the range of alternatives analyzed in the FEIS and found the Reasonably Foreseeable Development Activities were permissible. The court stated that the BLM was obligated to analyze the environmental consequences resulting from the use of hydraulic fracturing.

On May 3, 2017, the Court approved a Settlement Agreement (Case No. 2:15-cv-04378–MWF/JEM0) in which the parties agreed to partial remand without vacatur of (setting aside) the Record of Decision (ROD) for the PRMP. The BLM agreed to prepare appropriate National Environmental Policy Act (NEPA) documentation to address the deficiencies identified by the court and to issue a new decision document that will amend or supersede the existing ROD if appropriate.

This supplemental environmental analysis is intended to provide the required “hard look” at potential environmental impacts of hydraulic fracturing operations that may result from implementation of the Bakersfield Field Office Resource Management Plan (RMP) fluid minerals management decisions.

BLM released the Bakersfield Hydraulic Fracturing Draft SEIS for public review and comment on April 26, 2019. The Draft SEIS was made available for public comment for 45 calendar days, with the comment period ending on June 10, 2019. This report summarizes public collaboration and outreach following release of the Draft SEIS and documents public comments on the Draft SEIS.

Three public meetings were held in communities within the BLM Bakersfield Field Office Planning Area after release of the Draft SEIS. The dates, times, and locations of these meetings were announced on the project website and via press release on April 25, 2019.

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PUBLIC COMMENT SUMMARY REPORT**2 DISTRIBUTION AND AVAILABILITY OF THE DRAFT SEIS**

BLM published the Notice of Availability (NOA) of the Draft SEIS in the Federal Register on April 26, 2019 (BLM 2019). The NOA provided information on the public comment period and instructions for interested members of the public to provide written comments on the Draft SEIS. The Federal Register notice summarized BLM's procedure for announcing public meetings during the comment period and indicated the availability of hard copies of the Draft SEIS at the BLM Bakersfield Field Office. In addition, the NOA provided supplementary information on the planning area, the process of developing the Draft SEIS, and the alternatives and issues evaluated in the Draft SEIS.

In addition to publication in the Federal Register, BLM provided announcements of the NOA for the Draft SEIS and information regarding public review and comment through a variety of other methods, including a press release and an announcement on the BLM project website. These methods are described below.

The press release and announcement of the availability of the Draft SEIS for public review were posted to the BLM project website on April 25, 2019. The press release and announcement summarized the issues analyzed in the Draft SEIS and provided information regarding the public comment period and how comments could be submitted, including a project website address for electronic submission of comments and a physical mailing address for hard-copy submission of comments. The press release and announcement also provided advanced notice of planned public meetings on the Draft SEIS.

Beginning on April 25, 2019 the entire Draft SEIS document, including maps and appendices, was available for download from the BLM project website.

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PUBLIC COMMENT SUMMARY REPORT**3 PUBLIC MEETINGS**

Three public meetings were held in communities within the BLM Bakersfield Field Office Planning Area after release of the Draft SEIS. The dates, times, and locations of these meetings were announced on the project website and via press release on April 25, 2019 and are listed below.

Kern County Administrative Office
Bakersfield, California
Tuesday, May 21, 2019
6 p.m. to 8 p.m.

Embassy Suites by Hilton
San Luis Obispo, California
Wednesday, May 22, 2019
6 p.m. to 8 p.m.

Santa Barbara City College
Santa Barbara, California
Thursday, May 23, 2019
6 p.m. to 8 p.m.

Meetings presented the NEPA process, development of the Draft SEIS, primary topics addressed in the Draft SEIS, and anticipated project timeline. BLM representatives were available to answer questions before and after the meetings and listened to verbal comments from members of the public during the meetings.

Hard copy comment forms, with the BLM website address, were provided at each meeting. Attendees had the opportunity to provide written comments at the meetings or to take copies of the comment forms and mail in written comments at a later date or were referred to the BLM website to submit written comments digitally.

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4 COMMENT COLLECTION AND ANALYSIS

This section describes the comment collection and analysis process. A summary of the numbers and types of comments received and BLM's responses to these comments is provided in Section 5. As announced in the NOA, BLM accepted written comments on the Draft SEIS via electronic submission through a dedicated project website, mail, or during public meetings over the 45-day public review and comment period between April 26, 2019, and June 10, 2019.

Comment Collection. Public comments received during the comment period were stored, organized, and addressed using a comment management database designed to allow consistent comment coding and response. Hard copy comments received at the public meetings or via mail were scanned by the Bakersfield Field Office and converted to electronic format before being entered into the database. While Email was not an official method of comment submission, BLM received some comments via Email. Email comment submissions were converted to pdf format and entered into the database.

Each comment submission entered into the database was auto-assigned a unique identification number. Contact information provided by each unique commenter was entered into the database. Digital form letter comment submissions were received from thousands of commenters. Individual copies of these submissions were uploaded into the database. Hard copy form letter submissions that were submitted as a batch were entered into the database as one entry, and individual contact information was not recorded. Form letters were reviewed for individual submissions that substantially changed the original meaning of the comment or included additional substantive comments. Any form letter meeting either criterion was considered a unique comment and entered into the database as such. While petitions and transcripts contained signatures and comments by thousands of individuals, these types of comment submissions were entered into the database as one submission and processed to account for all major issues presented therein.

Comment Analysis. Individual substantive comments and unique, non-substantive opinion or position statements that addressed particular topics or issues related to the planning process, Planning Area, or Draft SEIS were identified, given a unique identification number, and coded according to a comment category. The methodology by which comments were considered "substantive" or "non-substantive" is detailed below.

A total of 35 comment categories was designated, and these categories are listed below. Individual comments were identified and analyzed based on content. The BLM project team developed draft comment responses, which were provided to BLM subject matter experts for review. Many comments concerned identical or similar issues. In these cases, collective responses were developed that note where information and analysis related to the issues raised in these comments may be found in the Draft SEIS.

Broadly, the comment categories included:

- Resource areas analyzed in the Draft SEIS;
- Broad topics of opinion statements related to the Draft SEIS or resource areas; and
- Opinion statements opposing hydraulic fracturing, generally opposing oil and gas development, and opposing opening public lands to such activities.

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Substantive and Non-substantive Comments

BLM considered every comment, whether it was provided repeatedly by many people with the same message(s) or by a single commenter raising a technical point or making a personal statement. Analysis of public comments emphasized the content of a comment rather than the number of comments received. According to Council on Environmental Quality (CEQ) regulations for implementing NEPA, BLM is required to identify and formally respond to all substantive public comments (Section 1503.4). On the basis of the CEQ regulations, a substantive comment does one or more of the following:

- Questions, with reasonable basis, the accuracy of information in the NEPA document;
- Questions, with reasonable basis, the adequacy of, methodology for, or assumptions used for the environmental analysis;
- Presents new information relevant to the analysis;
- Presents reasonable alternatives other than those analyzed in the NEPA document; and/or
- Causes changes to or revisions of the alternatives (BLM 2008).

In contrast, non-substantive comments simply state a position in favor of, or against, an alternative or proposed management action; agree or disagree with a BLM policy or proposal; provide information not directly related to the issues or impact analyses, or otherwise express a personal preference or opinion unsupported by data (BLM 2008).

BLM has reviewed and considered all non-substantive comments received and has provided a collective response. Although non-substantive comments may be considered by the decision-maker, they generally will not affect the analysis in the Final SEIS.

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Comment Categories
<p> Alternatives Areas of Critical Environmental Concern (ACEC) Biological Resources Climate and Air Quality Cultural Resources Cumulative Impacts Environmental Justice General Lands and Realty Lands with Wilderness Characteristics Mitigation Oil and Gas Leasing and Development Opinion Opinion – Air Quality Opinion – Alternatives Opinion – In favor of oil and gas exploration and development Opinion – NEPA Process Opinion – Oil and Gas Opinion – Opposed to hydraulic fracturing Opinion – Opposed to hydraulic fracturing and fossil fuel industry development Opinion – Opposed to opening public lands to fossil fuel development and hydraulic fracturing Opinion – Other Opinion – Shooting Sports Other Public Health and Safety Purpose and Need Recreation Request for Extended Comment Period Seismic Activity Socioeconomics Special Status Species T&E Species Visual Resources Water Resources Wilderness </p>

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5 COMMENTS RECEIVED AND COMMENT RESPONSES

BLM received 16,210 comment submissions by the close of the public comment period on June 10, 2019. The largest category of comment submissions (approximately 94.18 percent) was multiple copies of 19 different form letters. Each form letter submission with the corresponding number of signatures received is provided in Table 1. Form letters 1 and 5 were the most frequently submitted form letters. Form letters 13 and 18 contained thousands of signatures via one submission, with 51,801 and 10,705 signatures respectively. Attachment B presents the full text of each form letter with BLM's accompanying response.

Table 1. Summary of Form Letter Submissions

Form Letter Type	Number of Signatures
Form Letter 1	3,328
Form Letter 2	1,676
Form Letter 3	112
Form Letter 4	22
Form Letter 5	8,190
Form Letter 6	39
Form Letter 7	40
Form Letter 8	1,811
Form Letter 9	7
Form Letter 10	6
Form Letter 11	4
Form Letter 12	2,894
Form Letter 13	51,801
Form Letter 14	1,173
Form Letter 15	96
Form Letter 16	482
Form Letter 17	4,285
Form Letter 18	10,705
Form Letter 19	4
Total Form Letter Signatures	86,675

The remaining non-substantive (non-form letter) submissions consisted of 821 position statements, three transcripts, and two petitions containing opinions rather than substantive comments on the information, assumptions, or analysis in the Draft SEIS. Non-substantive position statements or opinions tended to express opposition to leasing or hydraulic fracturing for oil or gas within the Planning Area. Non-substantive position statements or opinions tended to fall into one of three general opposition categories. Table 2 lists these types of position statements and/or opinions and provides the number of each type of comment submission received. All other issues presented in non-substantive position statements received fewer than 20 comments each.

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Table 2. Summary of Most Frequently Mentioned Issues in Unique, Non-substantive Comments

Issue	Number of Comments
Opinion – Opposed to hydraulic fracturing	499
Opinion – Opposed to opening public lands to fossil fuel development and hydraulic fracturing	231
Opinion – Opposed to hydraulic fracturing and fossil fuel industry development	41
Total Comments	771

The remaining 118 comment submissions provided substantive comments on several topics including specific resource areas, mitigation, alternatives, cumulative impacts, and the NEPA process. A number of these submissions contained more than a single comment. The issues most frequently commented on included climate and air quality (106 comments), water resources (90 comments), the NEPA process (42 comments), alternatives (36 comments), and cumulative impacts (33 comments). All other topics/resource areas were commented on fewer than 30 times. Most comments were submitted by individuals (75 submissions), followed by organizations (31 submissions), then government agencies (five local agency submissions, three state agency submissions, and four federal agency submissions). Substantive comments are tallied by issue addressed and presented in Table 3.

PUBLIC COMMENT SUMMARY REPORT

Table 3. Summary of Substantive Comments by Issue

Issue	Number of Comments
Alternatives	36
Areas of Critical Environmental Concern (ACEC)	3
Biological Resources	26
Climate and Air Quality	106
Cultural Resources	23
Cumulative Impacts	33
Environmental Justice	9
General	29
Lands and Realty	4
Lands with Wilderness Characteristics	1
Mitigation	21
NEPA Process	42
Oil and Gas Leasing and Development	29
Opinion - Alternatives	1
Opinion - In favor of oil and gas exploration and development	4
Opinion - NEPA process	5
Opinion - opposed to hydraulic fracturing	5
Opinion - opposed to hydraulic fracturing and fossil fuel industry development	10
Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	3
Other	12
Public Health and Safety	17
Recreation	1
Request for Extended Comment Period	5
Seismic Activity	21
Socioeconomics	4
Special Status Species	2
T&E Species	18
Visual Resources	1
Water Resources	90
Wilderness	1
Total Comments	562

A full report of unique, non-substantive and substantive comments submitted during the public comment period on the Draft SEIS are provided in Attachment C with responses from the BLM.

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PUBLIC COMMENT SUMMARY REPORT**6 REFERENCES**

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PUBLIC COMMENT SUMMARY REPORT

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PUBLIC COMMENT SUMMARY REPORT**Attachment A****Acronyms**

BLM	Bureau of Land Management
CEQ	Council on Environmental Quality
DOI	U.S. Department of the Interior
FEIS	Final Environmental Impact Statement
NEPA	National Environmental Policy Act of 1969
NOA	Notice of Availability
PRMP	Bakersfield Field Office Proposed Resource Management Plan
RMP	Resource Management Plan
ROD	Record of Decision
SEIS	Supplemental Environmental Impact Statement

PUBLIC COMMENT SUMMARY REPORT

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PUBLIC COMMENT SUMMARY REPORT

Attachment B
Form Letters and Responses

PUBLIC COMMENT SUMMARY REPORT

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Type Name	Issue	Comment	Response
Form Letter 1 - Los Padres	Opinion - opposed to hydraulic fracturing	I value Los Padres National Forest, Carrizo Plain National Monument, conservation lands, state parks, and national wildlife refuges in central California for the unique plants and animals they harbor, for the watersheds they protect, and for the recreation opportunities they offer. I also care deeply about our children and their schools. Fracking and oil drilling are inappropriate and incompatible with how local residents use, enjoy, and protect these special and sensitive places. It causes noise and air pollution. Chemicals used in fracking, including several known carcinogens, are toxic to humans and animals. Fracking has polluted surface water and caused irreparable harm to aquifers. Fracking has caused increased seismic activity. All of these impacts threaten the health of our children, can harm sensitive ecosystems and endangered plants and animals, and can hinder recreation on public lands. The public was not provided with an accurate map of the parcels proposed for auction, and surface rights owners have not been properly notified. For these reasons, the public comment period must be extended. As part of the Supplemental Environmental Impact Statement, I urge you to use the best available peer-reviewed science to conduct a thorough and transparent evaluation of all known impacts that new fracking and oil development may have on wildlife, water, and public recreation on federal public lands in central California. At the conclusion of the analysis, I hope you will amend your management plan to impose additional restrictions on fracking and oil development that would apply to some or all of the 1.6 million acres of land currently open for new oil leasing, appropriate to the threat posed to water, wildlife, and humans. In addition, I hope that you will apply special lease stipulations for lands on or adjacent to schools, national forests, monuments, and refuges to better protect children, and the resources that make these places so treasured by the public. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
Form Letter 2 - Resident	Opinion - opposed to hydraulic fracturing	Hello, I am a resident of Thousand Oaks, and I care about Point Mugu State Park for the recreation opportunities it offers me and my community, because of its beauty, because children spend a lot of their time there, because in its natural state it is an asset to our local economy because it contributes to real estate value, tourism and other industries and because of the unique plants and animals it harbors. I am deeply concerned about fracking and oil exploration on or near this place because it would inhibit hiking and other recreation and jeopardize the our environment. Please do not sell our public lands to profit on the decimation of nature and jeopardize the future of this beautiful area to my children and future generations. The draft Environmental Impact Statement you prepared does not sufficiently assess those risks. Additionally, the draft EIS is inadequate because it fails to adequately evaluate the impact of fracking on climate change. At the conclusion of the analysis, I hope you will amend your management plan to exclude, or place restrictions on, parcels offered for oil leasing and fracking, reflective of the risks and impacts they pose to public health and the environment. In addition, I hope that you will close lands to leasing and fracking that are on or adjacent to schools, national forests, monuments, and refuges to better protect children and the resources that make these places so treasured by the public. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Type Name	Issue	Comment	Response
Form Letter 3 - HF Wells	Opinion - opposed to hydraulic fracturing	<p>Dear Acting State Director Joe Stout, I am concerned that the SEIS does not adequately address the negative impacts of hydraulically fractured wells on our changing climate. This SEIS appears to drastically under-report end use greenhouse gas emissions on pages 57 and 58. Table 4.1.5 lists the End Use GHG Emissions of 40 wells as 148,862 MTCO₂e per year, estimated using USEPA guidelines from 2016. Since this estimate was described as being a total estimate for 40 wells, each well would have end use oil combustion emissions of 3,825 MTCO₂e annually. However, when end use emissions are calculated from BLM's provided estimate of 318,718 barrels of crude oil produced per well per year (page 57) and the USEPA reference listed in Table 4.1.5 ("USEPA, 2019. Mandatory Greenhouse Gas Reporting Regulation. 40 CFR Part 98, Subpart C, Table C-1. (Default HHV, CO₂ factors)"), one arrives at 137,697 MMTCO₂e end use emissions from oil combustion per well, per year — 3,700% larger than the annual per-well estimate listed in Table 4.1.5, almost the same as the BLM estimate for 40 wells. This error, intentional or not, gives the impression that total life cycle carbon emissions from the proposed development will be orders of magnitude lower than estimates suggest and could be seriously misleading to the public and policymakers. Estimates also do not fully take into account fugitive methane emissions from oil and gas extraction and transportation, which a 2015 Environmental Defense Fund study found were being systematically underreported throughout the country by nearly half. How will BLM ensure that fugitive methane emissions are minimized or eliminated, or at the very least accurately reported? In addition, the SEIS does not provide any discussion on how alternative low- or zero-carbon fuels could meet the energy needs for which the proposed oil and gas development is presumably intended. In particular, the oil and gas deposits proposed for development predominantly lie in the Monterey Shale, which the California Air Resources Board reports as containing the planet's dirtiest, most carbon-intensive crude oil. Because this SEIS fails to consider the broader environmental, social, economic, and national security impacts of the proposed development, the public cannot provide meaningful comments to BLM unless this project is analyzed in relation to alternative energy sources that do not cause catastrophic harm. Will BLM include consideration of non-fossil fuel-based alternatives, such as electrification of homes and businesses, adoption of electric vehicles, or biofuels, that could provide our needed energy resources without exacerbating the climate crisis? Additionally, please justify the BLM's estimated end use greenhouse gas emissions in light of the apparent undercounting. I ask that no new drilling be undertaken without further research into how these concerns can be fully addressed. Sincerely, Ms. Erica Stanojevic 50 Quail Xing Santa Cruz, CA 95060-1766</p>	<p>Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). An incorrect assumption regarding estimated production per potential well was stated in the greenhouse gas calculation provided in Section 4.1.4 of the Draft SEIS. This has been corrected in the Final SEIS. Possible indirect emissions were estimated by integrating an annual production estimate of 8,614 barrels of crude oil per well. This is now reflected in the revised Section 4.1.4 text in the Final SEIS.</p>

Type Name	Issue	Comment	Response
Form Letter 4 - Numerous Studies	Opinion - opposed to hydraulic fracturing	Dear Acting State Director Joe Stout, First, California says "NO!" to more fracking...and Republicans typically favor states' rights. So, it is and will always be a "no-go" here in California. Numerous studies have demonstrated multiple harmful impacts of fracked and conventional oil and gas extraction on nearby wildlife—including habitat fragmentation, water pollution, groundwater depletion, and noise pollution. Multiple studies have also demonstrated health dangers to humans based on air pollution from fracking—but very few studies, including this SEIS, have looked at the deleterious impacts from reduced air quality on sensitive and endangered wildlife populations. That the SEIS does not adequately address potential impacts on unique ecosystems and wildlife habitat is a serious concern. Much of the newly planned fracking is proposed in close proximity to the Carrizo Plain, which is home to 13 species listed as endangered by state or federal bodies. In addition, new fracking is also scheduled in close proximity to Sequoia, Yosemite, and Kings Canyon National Parks. Given the increased frequency and scale of natural disasters in California, including fires that rage out of control in forested areas like those bordering sites for many of the proposed wells, I am also concerned that the infrastructure will not be sufficiently resilient, which could create additional impacts for wildlife and the habitats they rely upon for survival. As one who cares to preserve our natural environment, I ask you to expand the analysis of the SEIS to carefully consider the impacts on one-of-a-kind ecosystems and the unique plants and animals that live there—particularly endangered species—before allowing renewed drilling. Sincerely, Ms. Eleanor Anderson Miles 3141 Hodler Dr Topanga, CA 90290-4435	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Water Resources; Areas of Critical Environmental Concern; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
Form Letter 5 - Opposition	Opinion - opposed to hydraulic fracturing	I am writing to strongly oppose the investigation into leasing or actually leasing of public lands in California for hydraulic fracturing for natural gas extraction. The method of extraction is extremely harmful to the environment and has been known to poison the water supply and surrounding land with extraction waste. Hydraulic fracturing in California risks California's water supply and agriculture, the latter of which supplies 25% of the food for the United States. The chemicals used in hydraulic fracturing are poisonous and not fully understood. California residents near and far the hydraulic fracturing sites will suffer the same harmful consequences as Utah residents - stillborn births and high cancer rates. Additionally, geologic conditions and hydraulic fracturing practices in California makes fracking particularly hazardous – fracking in this state occurs at unusually shallow depths, which heightens concerns about groundwater contamination and other environmental impacts. Not to mention that hydraulic fracturing adds to processes which produce carbon emissions and cause climate change. Everything about this proposal is backwards, not forwards. If this administration wants an American-first energy policy, lead with policies that help American citizens, not poison their drinking water and prevent healthy births. I encourage the federal government to pursue a science-based, environmentally and economically sound national energy strategy that fosters the development of renewable energy sources, rather than opening up new areas for oil and gas extraction. Moving forward with "Fracking" is harmful to American citizens.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Visual Resources; Water Resources; and Areas of Critical Environmental Concern. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Type Name	Issue	Comment	Response
Form Letter 6 - Illegal Wastewater	Opinion - opposed to hydraulic fracturing	<p>Dear Acting State Director Joe Stout, I am concerned that the SEIS does not adequately address the negative impacts of hydraulic fracturing on California water. This SEIS concludes that the impact of new fracked wells on aquifer water quality will be negligible, but it fails to consider the extent of existing illegal wastewater injection already taking place in the state. This has most notably occurred in the San Ardo field in Monterey County, although the Department of Conservation and the Division of Oil, Gas & Geothermal Resources (DOGGR) admitted in 2015 to allowing thousands of illegal wastewater injection wells to contaminate protected public aquifers throughout California. Once contaminated with the toxic hydrocarbons, heavy metals, and salts produced during oil and gas extraction, these key aquifers are worse than useless for agriculture, drinking, bathing, or critically important ecosystem services. In addition, not only do these wastewater injection wells irreversibly pollute our limited water supplies, but they increase the risk of catastrophic earthquakes in one of the most earthquake-prone states in the country. Therefore, the following questions must be addressed further before moving forward. 1. Given that illegal wastewater injection wells already contaminate protected aquifers with toxic wastewater produced from fracked and conventional oil and gas operations throughout the state, how much will the 400 new fracked and conventional wells further degrade groundwater resources and increase the risk of earthquakes, assuming a similar proportion of illegal wastewater injection to existing wells? 2. How can the public be confident in the regulatory decisions of agencies like DOGGR when they consistently and unabashedly choose the private interests of oil corporations over the best interests of the public (such as when DOGGR wrongfully enacted emergency rules in order to allow illegal wastewater injection to continue with a stated motivation of reducing the financial impact on the oil industry)? California has suffered billions of dollars' worth of damage and dozens of deaths because of climate change-exacerbated drought, earthquakes, and wildfires. I believe it is essential that our state be protected from dangers to our water and sensitive ecosystems. I ask that no new drilling be done without fully addressing these concerns. Moreover, California has a huge problem with water scarcity. Though we have had abundant rain this year, we are coming of a five year drought that had a devastating impact on our ecosystems. We need every possible source of water in this state to be clean and suitable for drinking and agricultural use. Fracking uses excessive amounts of water and also poisons it. Sincerely, Ms. Nora Privitera 3242 Kansas St Oakland, CA 94602-3917</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Soil Resources; Water Resources; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>

Type Name	Issue	Comment	Response
Form Letter 7 - Health Impacts	Opinion - opposed to hydraulic fracturing	<p>Dear Acting State Director Joe Stout, I am incredibly worried that the SEIS does not adequately address the negative impacts of hydraulic fracturing on California air quality and the adverse effects poor air quality has on the health of Californian's. This report fails to analyze the harmful health impacts imposed by fracking operations onto local communities who are typically poor and marginalized folks. There is a multitude of studies which exemplify that fracked wells, as well as oil and gas wells, emit a chemical compound into the atmosphere that is toxic to humans. The results of harmful air pollution from fracking consist of: birth defects, blood disorders, cancer, low birth rate, nervous system disorders, and respiratory illnesses (such as asthma). How will the health impacts by fracking operations impact nearby communities? Incredibly badly. I grew up in Los Angeles, CA which has a multitude of oil and gas production sites as well as fracking. As a result of the already harmful emissions from those productions, I and my sister suffer from severe asthma. When living in LA, I could barely go one day without my inhaler due to the pollutants in the air caused by oil, gas production (and fracking). California and the country as a whole must dedicate themselves to sustainable energy resources and production that does not contribute to an increase in policies (such as SEIS) that negatively impact ecosystems and subaltern communities. Breathing is the most essential aspect to life other than water and therefore our air quality must be our top priority. We must be protected from harmful implementations of fracking wells that will only contribute to a increase in the destruction of our ecosystems and our health as citizens of the U.S. We cannot afford to increase oil and gas production as the IPCC report has announced that planet Earth is in dire danger, as depicted in climate change. I demand that no new drilling be undertaken in California (or anywhere) without more in depth research in regards to how concerns such as mine can be addressed. Thank you Kara Blum Sincerely, Ms. Kara Blum 411 Porter-Kresge Rd # 118 Santa Cruz, CA 95064-1104</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Soil Resources; and Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>
Form Letter 8 - Alternative	Opinion - opposed to hydraulic fracturing	<p>I am writing to ask that the BLM Bakersfield Field Office fully evaluate and address potential impacts of hydraulic fracturing in the Central Valley, including considering the need to refrain from moving forward with new leasing entirely and to put in place meaningful protections. BLMs initial analysis of impacts from hydraulic fracturing in the Bakersfield Field Office was not sufficient. It underestimated impacts on air quality, drinking water, protected public lands and local communities and did not consider making any meaningful changes to current management. Specifically, BLM should consider an alternative for no new leasing and an alternative that includes: Setbacks from schools and other high-occupancy community facilities, developed with public and local input and based on the study of the health effects of oil and gas development; Setbacks from irrigation facilities and other water sources; An air quality monitoring regime and measures to mitigate particulate matter, nitrogen oxides, volatile organic compounds and other pollutants; Comprehensive disclosure and evaluation of impacts from toxic materials used in hydraulic fracturing; Identifying parks, recreation areas, wildlife habitat and other areas that must be shielded from development impacts; Full and proactive range of opportunities for public participation, including public comment opportunities for all lease sales, public meetings, providing bilingual information when necessary and performing NEPA analysis for all lease sales. Please amend the Bakersfield RMP to include alternatives that fully and legitimately consider the tremendous risks involved in hydraulic fracturing and the consequences that could befall communities in the Central Valley.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>

Type Name	Issue	Comment	Response
Form Letter 9 - Object for Reasons	Opinion - opposed to hydraulic fracturing	<p>Dear BLM Bakersfield Field Office, I object to the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental EIS for some of the following reasons among many:</p> <ul style="list-style-type: none"> · Our climate is at a tipping point. If we don't quit fossil fuels by midcentury, scientists predict, we'll be locked into a dangerous world of extreme weather, flooded coasts, human health catastrophes and sweeping extinctions of wildlife. Climate change is not a problem for another generation — it's a problem now. Given the climate change crisis, any new production of oil is inherently and massively irresponsible. · Every step of the fracking process, from drilling to transportation to storage, releases methane, a greenhouse gas that is 86 times more potent than carbon dioxide over a 20 year period. · The chemicals in fracking fluids have been linked to cancer, endocrine disruption, and neurological and immune problems. · Volatile organic compounds (VOCs) are released by fracking practices which have been linked to eye irritation, headaches, asthma, and cancer. · Fracking workers especially suffer from air pollution as they are exposed to airborne benzene which can cause damage to the nervous system, kidneys, liver, and blood and immune systems, as well as silica dust which can increase the risk of lung disease. · In 2017 600+ Health Professionals from 47 states called on President Trump to protect communities from fracking. · the U.S. EPA has concluded that fracking operations can impact and threaten drinking water “at each stage in the hydraulic fracturing water cycle.” · The wastewater deposited from the fracking process has been shown to lubricate faults and release earthquakes. In 2014, residents in the central and eastern U.S. felt 659 earthquakes, compared to an average of just 21 per year from 1973 to 2008, according to the U.S. Geological Survey. · Increased oil and gas production is directly in opposition to California's stated 100% clean energy goals. · Governor Gavin Newsom says with respect to the BLM environmental impact statement: "Reckless and irresponsible don't even begin to describe this move" · The experts at Los Padres ForestWatch and Center for Biological Diversity have deemed this report as insufficient and lacking detail. · California's recent devastating drought, (whereby thousands of water supply shortages occurred from dry or failing groundwater wells or surface water supplies) could happen again, and fracking presents dangerous risk to our groundwater sources. · The land proposed for fracking was formerly owned by Chumash people for thousands of years and passed through generations matriarchally. This land was seized by eminent domain, and as stated in the public meeting, the Chumash tribe strongly dissents to the proposed fracking. In summary, the proposed plan to lease the lands discussed in the report to fracking is a threat to all people and wildlife with respect to the climate warming consequences of fracking. The chemicals used, air and water pollution caused by fracking present unacceptable risk to the health of Californians. And SLO tourism, recreation, agriculture, scenic and biological value are all threatened by the plan. On behalf of myself and all of these groups, I strongly object to the the drilling deemed acceptable by this report. <p>References</p> <ul style="list-style-type: none"> i Gayathri Vaidyanathan, “How Bad of a Greenhouse Gas is Methane?,” Scientific American, December 22, 2015, https://www.scientificamerican.com/article/how-bad-of-a-greenhouse-gasis-methane/ ii Theo Colborn et al., “Natural Gas Operations from a Public Health Perspective,” Human and Ecological Risk Assessment: An International Journal, 17(5): 1039- 1056, doi: 10.1080/10807039.2011.605662, 2011. iii Lisa McKenzie et al., “Human Health Risk Assessment of Air Emissions from Development of Unconventional Natural Gas Resources,” Science of the Total Environment, 424: 79- 87, doi: 10.1016/j.scitotenv.2012.02.018, 1 May 2012. iv Eric J. Esswein et al., “Evaluation of Some Potential Chemical Exposure Risks During Flowback Operations in Unconventional Oil and Gas Extraction: Preliminary Results,” Journal of Occupational and Environmental Hygiene, 11(10), doi: 10.1080/15459624.2014.933960, 1 August 2014. v https://environmentamerica.org/resources/ame/600-health-professionals-47-states-call-president-trump-protect-communities-frackingvi vi https://www.epa.gov/sites/production/files/2016-12/documents/hf_final_assessment_fact_sheet.pdf vii https://earthquake.usgs.gov/learn/topics/megaqk_facts_fantasy.php viii https://www.npr.org/2018/09/10/646373423/california-sets-goal-of-100-percent-renewable-electric-power-by-2045ix ix https://www.newtimeslo.com/sanluisobispo/departments-of-interior-to-hold-meeting-in-slo-on-fracking-plan/Content?oid=8326040x x https://www.newtimeslo.com/sanluisobispo/departments-of-interior-to-hold-meeting-in-slo-on-fracking-plan/Content?oid=8326040xi xi https://mydrywatersupply.water.ca.gov/report/publicpage 	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>

Type Name	Issue	Comment	Response
Form Letter 10 - Proposal is Concerning	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	The proposal is concerning because it includes so much territory, some of which borders pristine forestland like Yosemite and Sequoia National Parks. Some of the parcels in the plan are also adjacent to Los Padres National Forest, Carrizo Plain National Monument and the Wind Wolves Preserve.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
Form Letter 11 - Fervent Opp	Opinion - opposed to hydraulic fracturing	I am writing to express my fervent opposition to the Bureau of Land Management (BLM)'s move to open California public land and mineral estate to fracking and oil drilling.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
Form Letter 12 - Opposition(2)	Opinion - opposed to hydraulic fracturing	I am writing to express my opposition to the Bureau of Land Management (BLM)'s move to open California public land and mineral estate to fracking and oil drilling.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Type Name	Issue	Comment	Response
Form Letter 13 - Friends of the Earth	Opinion - opposed to hydraulic fracturing	I am alarmed that the BLM is considering a plan to expand fracking in California. This plan would threaten some of our nation's most iconic wild places, like Sequoia National Park and Yosemite. It would pollute the air and water of communities, and worsen climate change, which has already led to devastating fires across the state. The science is clear: We have less than 12 years to act in order to avert the worst impacts of climate change. The only way we can meet that goal is if we keep fossil fuels in the ground and rapidly transition away from drilling and fracking. The State of California has already taken steps in this direction by passing localized fracking bans. But the BLM's current plan would undo that progress. I strongly urge you to oppose this plan and keep fossil fuels in the ground on our public lands in California and across the country.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
Form Letter 14 - English Postcard	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I oppose the Bureau of Land Management's move to open California public land and mineral estate to new oil and gas drilling and fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
Form Letter 15 - Spanish Postcard	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I oppose the Bureau of Land Management's move to open California public land and mineral estate to new oil and gas drilling and fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Type Name	Issue	Comment	Response
Form Letter 16 - Clean Water Action	Opinion - opposed to hydraulic fracturing	BLM's plan to reopen more than a million acres of public land and mineral estate to fracking and drilling is an unacceptable threat to public health and the climate. This plan would further harm public health in the Central Coast and the Central Valley, where frontline communities are already suffering from toxic pollution. As if that weren't enough, the urgency of climate change demands that we wean off of fossil fuels and transition to renewables. This plan is not in the best interest of Californians or the planet.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
Form Letter 17 - Center for Biodiversity	Opinion - opposed to hydraulic fracturing	I am writing to urge you and the BLM to withdraw your plan to open up more than a million acres in California to new oil drilling and fracking. Specifically I ask that you drop this plan for the following reasons: 1) Fracking presents unacceptable risks to our health and safety. A 2015 report from the California Council on Science and Technology concluded that fracking within the state happens at unusually shallow depths and dangerously close to drinking-water supplies, with unusually high concentrations of toxic chemicals that are harmful to human health and the environment. 2) New drilling and fracking would do even further damage to air quality in central California, particularly in the San Joaquin basin where communities of color and low-income neighborhoods are already harmed by toxic pollution on a daily basis. 3) This plan would destroy habitat for a wide of range of federally protected wildlife, from California condors to San Joaquin kit foxes. 4) To prevent the worst effects of climate change, we can't afford to sell off any more public lands to oil companies. Like a household budget, the planet has a carbon budget and it's entirely spent. Now more than ever, we must keep fossil fuels in the ground. Please — do the right thing and protect California's beautiful public lands by withdrawing this plan to open up new drilling and fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
Form Letter 18 - Natural Resources Defense Council	Opinion - opposed to hydraulic fracturing	Dear Bureau of Land Management:I'm a Californian who cares about clean air and water, safe communities, and healthy wildlands. I strongly urge you to immediately stop plans to open public and private land in California to oil and gas development.The lands in question stretch from the Central Valley to the coast, including areas neighboring national parks, national monuments, national wildlife refuges, and state parks.Fracking anywhere near those lands would endanger pristine wildlands and vulnerable wildlife, as well as our drinking water sources and the health of communities in the state. It appears to me that you are trying to deliberately endanger California communities, wildlands, and public health with your plan.Please, protect California's communities and put an end to this dangerous plan.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Type Name	Issue	Comment	Response
Form Letter 19 - South Fork Road	General	<p>However, of substantial concern to me is that only Map 1.1 includes all lands in the Planning Area. For reasons that are not explained in the Supplement, all other maps, together with the narrative analysis accompanying them, confine themselves to review and analysis of the areas depicted on the maps and do not consider many specific concerns for the broader Planning Area, including many of the Supplement's assessments of particular relevance to land adjacent to Sequoia National Park that concern me and lead to my providing comment here. See, e.g., Figure ES.1, V; Figure 3.10, 42 (historical seismicity of portion of planning area); Figure 4.1, 50 (Supplement Hydraulic Fracturing Analysis Area); Figure 4.6.1, 79 (Soils Susceptibility to Erosion); and Figure 4.11, 96 (ACECs and RMZs in the SHF Analysis Areas).</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis. Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource. This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. It is important to note that this Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA,</p> <p>BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

Type Name	Issue	Comment	Response
Form Letter 19 - South Fork Road	General	None of the areas of Fresno, Madera or Tulare Counties are included in the Supplement's seismicity analysis. Perhaps because they have a lower potential for oil and gas as suggested above? It is not explained. The concern raised by this inexplicable decision to limit analysis to only a portion of the Planning Area is that, by limiting the scope, incorrect or partial conclusions are drawn.	Please see above for full response to Form Letter 19.
Form Letter 19 - South Fork Road	General	Of course, the most concerning result of this partial analysis in the Supplement comes with its central inquiry into the impacts of hydraulic fracturing, an analysis which inexplicably excludes several counties from its analysis, despite purporting to include all BLM in the Planning Area. In Map 4.1 at page 50, only a partial Planning Area map is provided. The accompanying analysis describing impacts in the Supplement is equally partial: "The supplemental hydraulic fracturing analysis areas are illustrated in Figure 4.1." No mention is made of areas outside of the portion of Planning Area included in the map, including Madera, Fresno and Tulare Counties and, more specifically, the areas adjacent to Sequoia National Park which impact my family and which provide us standing in this matter. Before being finalized, I request that the draft Supplement first consider and analyze the full Planning Area and all BLM lands within the planning area for the potential impacts of this decision. Focusing only on some areas within provides a hopelessly partial analysis that fails to account for many of the potential impacts supposedly being examined in the Supplement and, I believe, violate NEPA and other federal laws requiring this environmental impact report.	Please see above for full response to Form Letter 19.
Form Letter 19 - South Fork Road	NEPA Process	However, given that the purpose of this Supplement was to review and provide analysis on environmental impacts caused by fracking within the Planning Area, and that the analysis was hopeless partial and, in particular, completely ignores many of the specific concerns I raise here, I express our concern and recommend the Supplement recommit itself to a more comprehensive analysis consistent with the earlier court order, and come back when it is able to articulate an understanding of the impacts for the entire region.	Please see above for full response to Form Letter 19.
Form Letter 19 - South Fork Road	Seismic Activity	A seismicity analysis is performed to understand the full scope of seismic risk. It is from this analysis that assessments will be made on environmental impacts. By limiting the scope to the southern portion of the San Joaquin Valley, in this case it fails to include information – much of it new since the 2012 EIR -- from seismologists concerning fault lines and potential risk. One of the most significant discoveries in the last 6 years has been concerning the Eastern California Shear Zone going from Indio up through the Mojave Desert along the eastern edge of the Sierras and within 35 miles of Sequoia National Park. This region is described as "high risk" for earthquakes by the California Earthquake Authority—so substantial, in fact, that it is now believed to carry as much as 10 to 20 percent of the relative motion between the North American and Pacific plates. See https://www.earthquakeauthority.com/California-EarthquakeRisk/Faults-By-County . By entirely excluding this portion of the Planning Area from the Supplement's scope, its authors have excluded any need to include provide analysis from fracking to portions of the Planning Area at high risk of earthquake activity.	Please see above for full response to Form Letter 19.
Form Letter 19 - South Fork Road	Water Resources	After these acknowledgements, it provides no analysis of the impacts in Tulare County, and limits its analysis to portions of the Planning Area is assesses to be at less risk. It provides no data to support the contention that chemical cocktail migration to aquifers is unlikely; further, it doesn't even mention and provide analysis concerning water supplies within the highercontamination risk areas of karst geologies. Yet, despite the lack of data, the Supplement makes a strong conclusion that "[i]mpacts to groundwater from loss of well integrity or out-of-zone migration of fracturing fluids from an average of zero to four wells would be negligible." There is little evidence to support such a strong conclusion, and a lot of reasons to worry about its accuracy given that the data and analysis are with a different part of Planning Area with an entirely different geology. The Supplement ignores the porous nature of the Sierra substrate. Unless this is analyzed and resolved that there is in fact little to know risk, it is not appropriate at this time to move forward and permit fracking.	Please see above for full response to Form Letter 19.

Type Name	Issue	Comment	Response
Form Letter 19 - South Fork Road	Water Resources	Further, the protections to the aquifers would seem to apply only to “public” water supplies. In pertinent part, the Supplement explains: Protected or useable aquifers (USDWs) are defined by the USEPA (2016) as “an aquifer or portion of an aquifer that: • Supplies any public water system or that contains a sufficient quantity of groundwater to supply a public water system; and • Currently supplies drinking water for human consumption; or • Contains fewer than 10,000 mg/L total dissolved solids and is not an exempted aquifer.” It is not clear whether the private wells we all use on South Fork were even considered by this Supplement as they do not seem to fall within the scope of the “public water aquifer” analyzed in the Supplement.	Please see above for full response to Form Letter 19.
Form Letter 19 - South Fork Road	Water Resources	I also write my comments with specific concern for the lack of analysis in the Supplement for the potential for surface and groundwater contamination resulting from hydraulic fracturing (“fracking”). Like many other residents along South Fork Road in Three Rivers, my land is adjacent to BLM land which is one of the parcels of land subject to this review. All of us draw both surface water and groundwater from the same watershed as the BLM land proposed for fracking. For this reason, we are extremely concerned by any contamination to the water supplies that may result from such fracking.	Please see above for full response to Form Letter 19.
Form Letter 19 - South Fork Road	Water Resources	In the Supplement, it is stated that: Surface water quality could be directly impacted by leaks or spills into water bodies or wetland areas due to transportation, storage, and use of hazardous materials, including fuels, fracturing chemicals, and produced water. Indirect effects could occur by leaks or spills onto upland surfaces where contaminants could migrate to surface waters. However, protective measures to minimize the risk of contamination from accidental releases at oil and gas production and processing facilities would be implemented according to Spill Prevention, Control, and Countermeasure and emergency response plans. Lease stipulations could be used to provide setbacks between hydraulic fracturing activities and surface water resources. This is a key reason to my concern. The Supplement raises this concern, then fails to provide any analysis with specific regard to the Sequoia’s karst geology and its increased risks for contamination. The analysis needs to be inclusive of these areas with specific regard to the BLM land in the Sequoias.	Please see above for full response to Form Letter 19.
Form Letter 19 - South Fork Road	Water Resources	One of the most concerning parts of the Supplement is that it acknowledges, then simply dismisses the risk of these chemicals and their ability to be disposed of in an efficient and effective fashion. “Injection of hydraulic fracturing fluids poses risks to groundwater. There are two major pathways through which fracturing fluids may impact groundwater: a breakdown in barriers designed to prevent leakage of fluids from the well, and migration of fractures outside of the target producing formation.” (Supplement, 87) The report goes on to acknowledge risk: “Impacts to groundwater could result from leaks and spills of fluids from storage containers, transportation incidents, flow lines, and leaks from impoundments. The groundwater resources most likely to be affected are those contained within the Tulare formation...”	Please see above for full response to Form Letter 19.

PUBLIC COMMENT SUMMARY REPORT

Attachment C

Unique, Non-substantive and Substantive Comments and Responses

PUBLIC COMMENT SUMMARY REPORT

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Comment Number	Issue	Comment	Response
24448	Opinion - opposed to hydraulic fracturing	Asking to comment on fracking is like asking how to preform wife beating. Fracking is toxic poison and we are past the point of no return warming the climate with fossil fuels.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24464	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I would like to express my strong concerns with the possibility of future hydraulic fracturing (fracking) and oil drilling in the San Luis Obispo County area. I urge you consider the potential harm to our environment if this were allowed to occur and to perform a thorough analysis of the possible environmental and health effects.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
12876	Opinion - opposed to hydraulic fracturing	Hydraulic Fracturing is a dangerous, dirty, unnecessary, bad choice that threatens our health, safety, economy, all other industries, tourism, fishing, agriculture, etc., precious water, air, climate, environment, humans, wildlife, including endangered species, + causes earthquakes + sinkholes.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
10731	Opinion - opposed to hydraulic fracturing	Please do not frack up our cultural landmarks and our health and safety.Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
19739	Opinion - Oil and Gas	Dear Mr Stout,I appreciate your situation as manager and custodian of the public lands you steward. I am a man of deep appreciation of these places, which have provided me and my family with many years of enjoyment. I recognize the need for financial support for the oversight of govt land and recognize that funds from above have been lean at times. It would be natural to consider opening up leasing of mineral rights as a means to offset costs. I want to encourage you to leave any companies that use toxic practices to obtain mineral value off the table in your considerations. The damage to resources that we regularly rely on is too great. Please dont allow financial pressures to bend your resolve to protect and maintain these pristine lands. Thanks for your attention.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9686	Opinion - opposed to hydraulic fracturing	For a number of years, research into hydraulic fracking has a number of side effects that should stop any fracking in the Sierra Nevadas. As this article details (https://www.motherjones.com/environment/2014/08/inquiring-minds-anthony-ingraffea-science-fracking-methane/), researchers have found the fracking is linked to increase earthquake activity (even in places that don't normally have earthquake activity. Thanks to fracking, Oklahoma now sometimes has several quakes a day). Furthermore, the EPA did a large study (https://cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=332990) on the effects that fracking can have on water. Fracking is too much of a risk in terms of polluting the water supply, and given the critical importance of the Sierra Nevadas in providing water to the state of California, we can not allow fracking there.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Comment Number	Issue	Comment	Response
20660	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	We encourage the federal government to pursue a science-based, environmentally and economically sound national energy strategy that protects the air, safeguards California's diverse ecosystems and iconic landscapes, and fosters the development of renewable energy sources, rather than opening up our iconic landscapes to oil and gas extraction. The Bureau should abandon its proposal and not seek to open public lands and mineral estate in California for new oil and gas leases.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
20660	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	We write to oppose the Bureau of Land Management's proposal to open 1,011,470 acres of public land and federal mineral estate in California to fossil fuel production, as described in the Draft Supplemental Environmental Impact Statement (EIS) released by the BLM on April 26; 84 Federal Register 17885 (April 26, 2019). We urge you to leave in place the existing moratorium on leasing federal lands and mineral estate for oil and gas development that has been in place in California since 2013.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12766	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Hydraulic fracturing on public lands in California is fraught with dangerous and toxic consequences for those who depend on potable and carcinogenic free drinking water. Don't let jobs for some and profits for the oil and gas companies take precedence over the health and well-being of the majority of Californians in the affected counties. Thank you for your consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
14413	Opinion - Other	Dear BLM Bakersfield Field Office,	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
13884	Opinion - opposed to hydraulic fracturing	Stop doing this.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
13884	Opinion - opposed to hydraulic fracturing	Stop drilling in any way.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
8483	Opinion - opposed to hydraulic fracturing	Fracking is not a acceptable method of extracting oil. It is too destructive, uses way too much water, and leaves a complete chemical mess behind. The oil companies will not tell us which chemicals they use, so we have to test and find out later what we now have to clean up or monitor. If anything, wait for 10 years, the oil in the ground is patient and other, better, more environmentally friendly methods of extraction will be developed. Thanks, Alex Laine	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Comment Number	Issue	Comment	Response
9167	Opinion - opposed to hydraulic fracturing	As a resident of California I have got to wonder why the government would want to potentially upset/aggravate one of the worlds most active fault lines by fracking away at the rock that holds it together. Looks like a lot of the fracking lines up pretty well with the San Andreas fault it just doesnt make sense to go down there and mess it all up. We are literally just asking for it. Put it to a vote if you really think its good for the state but I think fracking is not the appropriate technology for accessing oil in California particularly along the San Andreas fault line.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
9983	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I fully understand the need for fracking and that there is a safe and responsible way to do it. Still, when I recently learned about opening areas of Montana de Oro park and Irish Hills preserve for fracking, I was really horrified. One of the targeted areas in Montana de Oro encompasses some of the most beautiful areas of the park - the Coon Creek trail, the Jack's Peak area - from all the recreation areas around San Luis Obispo, this is a favorite for a lot of people, myself included. An access road or fracking pads in the area will be an absolute disaster for the park. The natural reaction of everybody toward fracking is probably "Nowhere near me!". I understand this is not reasonable. As I said above, there are ways to do it right and there are ways to do it wrong. I'm really afraid that it might be done in the cheapest possible way, with access roads cutting through Coon Creek for example. Same for the Irish Hills Reserve. What is worrying is that there is no specific proposal _how_ fracking will be done and what would be considered unacceptable. Maps of the proposed fracking areas are totally inadequate. The whole park is just a few pixel wide at the scale at which the map is presented. It feels like gross incompetence at the best, or an intentional attempt to hide information at worst. It may be all a lot of noise for nothing, but there is no way to know. Please, let's make sure this is all done openly and that enough information is available to the general public and to the people and organizations performing the impact assessment.	
12838	Opinion - opposed to hydraulic fracturing	All fracking should be stopped immediately. Science has shown that the entire World is in peril. Stop all fracking now.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
21801	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am opposed to this proposed project to drill in Central California for natural gas. Natural gas is a fossil fuel whose recovery from the ground is very energy and water intensive. There are several human health and environmental impacts tied to the practice of hydraulic fracturing for natural gas, and I am very concerned about imposing this practice in Central California where we already have lots of air pollution and water management issues. California has one of the highest irradiance profiles for solar energy production. Wind energy is also possible in parts of California. I urge you to consider other options than continued use of fossil fuels in California, one of the most progressive renewable energy states in the country.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
10723	Opinion - opposed to hydraulic fracturing	As a resident of SLO County for almost a decade I absolutely oppose any fracking in any of the land in our county or neighboring counties. We are in an earth quake prone region with an already limited water supply. Our natural resources are fragile and precious. There is no reason to increase oil production when we should be moving towards the oil-free energy future. Additionally, these natural areas are vital to our tourism economy.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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9951	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	Our water resources are too precarious and fragile to permit any kind of potential hazard, particularly in the form of depletion or poisoning, both of which are by-products of the energy industry. Please help keep our water safe! We have already had extreme drought events, salt water intrusion in our wells and aquifers tapped deep enough to be poisonous. We cannot sustain more damage to our ecosystem particularly in an area already at risk from earthquakes. One thing we know for certain is that water moves! The aquifers can shift and waste water can move to pollute clean water sources. The industry will go away eventually, we shouldn't send our natural habitat along with it.Thank you for your consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
10735	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am very concerned about the impacts that new fracking and oil development would have on the 1.6 million acres of land currently open for new oil leasing, and all the people that such activities may affect. I understand that our current oil and gas resources are under pressure, but public lands are resources in their own right, and provide real monetary and health benefits to the people of California. The decision to open these lands for their resources cannot be made without taking every associated risk into account, and I strongly urge that deeper consideration be made for this decision. I ask that you take into consideration the latest scientific literature on fracking, and the costs the public will be asked to pay, including further straining our water resources, potentially exacerbating earthquake and fire risks, and increasing air pollution in the state, if these lands are opened for resource extraction. Especially considering the large strides California has been making toward phasing out the use of fossil fuels over the next century, it is not clear or likely that turning these lands over to fracking and gas extraction activities will benefit the state in the long-term. And yet it will certainly cost us, especially given the lack of transparency to the public that has accompanied this management plan from the start. The public was not provided with an accurate map of the parcels proposed for auction, and surface rights owners have not been properly notified. At the very least, the public comment period must be extended.In short, I hope you will amend your management plan to impose additional restrictions on fracking and oil development that would apply to some or all of the 1.6 million acres of land currently open for new oil leasing, appropriate to the threat posed to water, wildlife, and humans. In addition, I hope that you will apply special lease stipulations for lands on or adjacent to schools, national forests, monuments, and refuges to better protect children, and the resources that make these places so treasured by the public.Thank you for your consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
14682	Opinion - opposed to hydraulic fracturing	No fracking. Please don't let this go through, fracking is irresposble and has far reaching consequences to the environment and quality of life for people and wildlife.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12858	Opinion - opposed to hydraulic fracturing	You all know the devastation that has already resulted from global warming. You know we need to eliminate the use of natural gas and petroleum as soon as possible to slow the extinction rate of a million species. I am opposed to any expansion of hydraulic fracking in California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
10118	Opinion - opposed to hydraulic fracturing	No way. No fracking. Fracking triggers earthquakes even in areas that typically dont get earthquakes, like in Oklahoma and in Pennsylvania. We are in an earthquake-prone area and when the fracking triggers an earthquake, the destruction could be far worse because of the many, many fault lines that cross Santa Barbara County. This will, in turn cost the county and the state millions of dollars.Furthermore, fracking injects toxic chemicals into our precious groundwater resources. We have been in a drought for too longwe have no water to waste, and this will spoil what little underground reserves we have left. Our agriculture depends on clean, untainted groundwater supplies in order to grow our food. Finally,	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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12177	Opinion - opposed to hydraulic fracturing	Dear Acting State Director Joe Stout, Although there are abundant scientific studies outlining the deleterious effects of fracking on the environment, air quality, groundwater purity, and wildlife, I am writing today because I am heartbroken by the loss of some of the most stunning natural beauty in this country. We have been given so many precious gifts. I can't bear to see them decimated for the sake of a few more dollars or miles driving on roads which are also putting our precious natural landscapes in peril. Have you been to the Carrizo Plain when it is carpeted in wildflowers after heavy winter rains? Have you seen the rabbits and coyotes running free in this paradise? Would you prefer a world of concrete and oxygen masks? Because that is where I fear we are headed if we don't protect, and rejuvenate, our natural ecosystems now. I beg you to stand against fracking or oil extraction of any kind from what remains of our natural environment. Sincerely, Angelee Dion 833 Front St Apt 340 Santa Cruz, CA 95060-4531	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
10922	Opinion - opposed to hydraulic fracturing	Please do not allow hydraulic fracturing on these public lands. Focus on renewable energies instead.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
8801	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am strongly opposed to the Draft EIS proposing to open new public lands to fracking and other fossil fuel extraction in California. This runs completely against California's statutory commitment to reduce dependence on fossil fuels. It threatens the environment, especially in wild and environmentally sensitive areas. It enriches oil and gas companies at the expense of everyone else, and of our natural heritage - which the California government has pledged time and again to protect. This Draft EIS, and the plan to sell public lands for fracking and other fossil fuel extraction, should be rejected in its entirety.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12608	Opinion - opposed to hydraulic fracturing	Fracking, as it is called is about fracturing the land beneath us, at a cost to the environment we really haven't figured out yet, earthquakes, sink holes, and many disruptions below ground have not been fully understood. But the push for profit has always been understood and still remains one of the biggest motivations for man, man, as in corporations. Their zeal for the profits of what lies beneath knows no limit, but someone must see through the cloud of profits to make the right descisions for mankind, as inall of us. it must not be allowed to move forward	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
10398	Opinion - opposed to hydraulic fracturing	ENOUGH! We will have clean energy on the cntral coast - we will not create more avenues for pulling oil out of the ground and transporting it about. Those days are slipping into the sea. Thank Goodness!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12196	Opinion - opposed to hydraulic fracturing	This proposed fracking plan undermines the public health with toxic emissions, threatens critical water supplies for rural and coastal communities, and increases the potential for more oil spills. In short, it is hazardous to people and the environment.It should not go forward.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12275	Opinion - opposed to hydraulic fracturing	Nothing good comes from opening land up to fracking. Water sources are contaminated, earthquake risk rises, air pollution, noise pollution, wastewater treatment, just to name a few. Please look for opportunities for solar and wind power on the land instead.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12090	Opinion - opposed to hydraulic fracturing	As a geologist I understand the process of fracking and mineral excavation very well. The external costs to Californians are too high, and the benefits are too low. The environmental degradation and contribution to climate change are not worth it.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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20979	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Fracking and off shore oil drilling set California up for oil spills and contamination of our fragile water supply, especially in dangerously shallow fracking sites, which would be common in California. Farmer's supplies of water for crops are already dangerously low in the state and could be put at risk by fracking. Clean, drinkable water is also in short supply in many parts of the state and that supply could be put at risk, too. Fracking is bad for our waterways and water supply (not to mention our wildlife) and off shore oil drilling is bad for fish and sea life in our oceans and the state's economy that depends on tourism, which requires clean oceans and scenic beauty. Clean water and clean oceans are essential in our state. The production of more oil is not worth the risks. Please do not go ahead with this ill-advised plan.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11008	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I wrote a comment last week but continued to review the map of proposed drilling/fracking sites and have been devastated by the thought of opening up these lands to this kind of development. I grew up and my parents still live at the corner of Grand & McAndrew streets in Ojai - a stone's throw from one of the proposed development sites. I attended the Thatcher School which owns part of the land. These lands and their protection mean everything to me. The wildlife, the plants, the water, the rocks. Exploring and learning on that land made me who I am today. I want my daughter to explore and play on that very land that is now proposed for drilling and fracking. Ventura County - it's people, wildlife and plants - have been devastated this year from the Thomas Fire. Our fragile ecosystems need a chance to heal. Please please I beg of you: Do not open this land for drilling or fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12190	Opinion - opposed to hydraulic fracturing	We urgently need to get out of oil extraction. Fracking is especially pernicious and polluting. No new permits. There are ways to produce clean energy and jobs.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12554	Opinion - opposed to hydraulic fracturing	We as citizens of California and the world must act to oppose any action which uses the Earth's resources when we know from scientific reports that we have overused them as it is. Any drilling or manufacturing on US soil of this nature poses a threat to life of all kinds and should be adamantly opposed. I openly and sternly condemn the approval of this action. Please move to oppose it.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
14549	Opinion - opposed to hydraulic fracturing	I am writing in opposition to fracking and its impact on the environment and to our welfare as a society. We do not need more fossil fuel - as a country we are exporting energy. Fracking is dangerous on its face. Look at the impacts in other states like Oklahoma. This does not belong in our county. It is not worth the price in the quest for the almighty dollar. Some things are far more important. Like, say, the health of our planet, and therefore, of ourselves.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
13740	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	It is sheer idiocy for the US Government to promote greater production of fossil fuels to benefit a few of the richest corporations and individuals on earth at the cost of the health of those living and working in proximity to fracked wells AND at the cost of the survival of humanity and most living creatures. The BLM Bakersfield Field Office MUST fully evaluate and address potential impacts of hydraulic fracturing in the Central Valley, including considering the need to refrain from moving forward with new leasing entirely. Please amend the Bakersfield RMP to include alternatives that fully and legitimately consider the tremendous risks involved in hydraulic fracturing and the consequences that could befall communities in the Central Valley.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
21955	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I would like to express my opposition to the proposed hydraulic fracturing in the Central Valley. This would put natural resources and residents at risk for exposure to contaminated water. As a state that experiences frequent droughts, it is unreasonable that such a large amount of water should be used and become waste water that cannot be effectively remediated. California has a strong renewables agenda and should not be making arrangements to increase production of fossil fuels in this state.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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9371	Opinion - opposed to hydraulic fracturing	I am writing in response to the BLMs plans to open land in Santa Ynez Valley and Tepusquet Canyon for oil drilling. The impacts of such a plan to water, traffic, air pollution, environment, and citizen safety would be catastrophic and irreparable not only directly to BLM lands but also to adjacent and surrounding private properties. As such the plan must be immediately abandoned. Beyond the obvious NEPA/CEQA impact issues, the expense, difficulty, and risk of drilling in California when compared to far more cost-effective and less risk-prone reserves alone make this plan at the very least irresponsible. But the reality here in Santa Barbara County of such hazardous activity is that it is impossible to drill on only BLM lands without extreme offsite impacts and interference with existing residential and public land uses, and this proposal unless abandoned will almost certainly result in immediate litigation. If the BLM proposes using these lands for energy development, the real proposal should be to lease the lands for sustainable energy development such as wind and solar.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
20249	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Do NOT auction off these parcels!! The fracking and drilling will forever pollute our land and water. Stop thinking about money and starting thinking smart!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12161	Opinion - opposed to hydraulic fracturing	I am writing to strongly oppose the investigation into leasing or actually leasing of public lands in California for hydraulic fracturing for natural gas extraction. There is evidence of negative public health outcomes for populations living near fracturing site. For example, we know that Utah residents living near fracturing sites have suffered stillborn births and high cancer rates. In California, fracking would occur at unusually shallow depths, which heightens concerns about groundwater contamination and other environmental impacts. ?The method of extraction is extremely harmful to the environment and has been known to poison the water supply and surrounding land with extraction waste. Since California supplies 25% of the food for the United States, possible contamination of our water supply and agriculture is simply not a risk we should be entertaining. Hydraulic fracturing adds to processes which produce carbon emissions and cause climate change. Everything about this proposal is backwards, not forwards. Please do not open California public lands to fracking!	
11920	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	I agree with Senator Harris' comment: Under this administration, California's beautiful public lands and its outdoor economy are under direct threat, and we must stand up against this active effort to chip away at vital environmental protections. Public lands are a trust to our children and our grandchildren. Once they are disturbed, they are forever changed. I oppose all mineral/gas mining on California public lands.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12581	Opinion - opposed to hydraulic fracturing	California is going 100% renewable. To meet our CO2 reduction goals, we cannot have any more fracking in this state. The impacts on water quality remain unstudied and we cannot afford to lose any of our precious groundwater supplies to poisons leaching from fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
15353	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	-Proposed fracking leases come within two miles of the border with Sequoia National Park, and border much of Sequoia and Kings Canyon National Parks and Los Padres National Forest. -Fracking produces air and water pollution, and the Central Valley already struggles with some of the worst air pollution in the country, in part due to oil and gas development. This is already making people sick, and causing hazy skies and damage to national parks. -Fracking is super water intensive, and they want to site it in a state that already struggles with water supply! Especially the Central Valley.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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8852	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am the Headmaster of Cate School in Carpinteria, California, a position that I have held for the last 21 years. Like all of the other students and faculty members in this boarding school community, I live on campus. There are over 450 of us here, nearly 300 of whom are students between the ages of 14 and 18. One of the tenets of this college preparatory schools is responsible environmental stewardship. Our campus is known for our focus on sustainability and energy responsibility, with a host of LEED Platinum certified buildings and the first LEED Gold certified Aquatic Center ever built. So you can imagine our surprise when we learned through Forest Watch - not the BLM - that much of the land surrounding Cate is being potentially opened for fracking. If you live in this part of the world, you know that such a consideration is as ludicrous as it is irresponsible. Having endured the Thomas Fire and the Central Coast mudslides in the last 9 months, the eco-system is as fragile as it could be. But even more important, this is a corner of the world that seeks to care for our natural resources, not exploit them. Whatever motivated this effort and the sham of a process associated with it must be political, for no responsible management of public lands would be conducted in this manner. For my part, I speak for the 450 plus residents of Cate Mesa, the 3,000 living alumni of the school and the 300 parents of current students when I say we are outraged by the consideration of fracking on Central Coast lands. If you like, I will happily contact each of our constituents to tell you the same directly. Abraham Lincoln must be turning over in his grave. He always believed government existed - and its associated agencies - to serve the people. This proposal clearly doesn't serve anyone save a few greedy oilmen. Surely the BLM can do better than that.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11931	Opinion	You are doing a job!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
10715	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I oppose the plan to open up our environment to more destructive policies. I wonder if the administration believe they can assist the rapture or car nothing of chi" drew and franchise" Daren of their descendants . We all know the facts and the science to support them, so reckless policies are just for short term profits and long term devastation. Why would anyone continue to work or or promote such policies. Certainly you are not resting easy to promote such destruction. It's just appalling and corrupt without any benefit to any America first policies past 5 years. Don't be foolish any longer	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12763	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	i don't live in these counties, but it is federal land and I am an American. Our land does not belong to politicians and their friends and benefactors. No one or administration has the right to destroy the land that belongs to us. And there will of course be negative consequences from the fracking, just like everywhere else it's been done. its not like We the People need the gas or oil. Someone just wants more money. What OVERSIGHT does BLM have?!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
10150	Opinion - opposed to hydraulic fracturing	Stop Fracking on these public lands you animals. You should be ashamed of yourself. The ghost of Teddy Roosevelt is going to hunt you in your sleep.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12353	Opinion - opposed to hydraulic fracturing	No Hydraulic Fracturing in southern California! Too much water, too much pollution. Clean energy is the future.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

Comment Number	Issue	Comment	Response
17268	Opinion - opposed to hydraulic fracturing	The EIR should be more fair in the analysis of risks and unfortunated consequences of oil spills. Given our history on the central coast, this is a very sensitive issue. More consdierations should be given to the project's impact on climate change.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Soil Resources; Water Resources; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
15268	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I oppose the fracking leases, expecially those that come within two miles of the border with Sequoia National Park, and border much of Sequoia and Kings Canyon National Parks and Los Padres National Forest. Water and power are critical to American wellbeing. We can get all the power we need from rewnable sources --fracking produces air and water pollution, and the Central Valley already struggles with some of the worst air pollution in the country, in part due to oil and gas development. This is already making people sick, and causing hazy skies and damage to national parks. We also need WATER! Fracking is super water intensive, and you want to site it in a state that already struggles with water supply! Especially the Central Valley, where the agricultural economy is worth billions of dollars. American soil should be respected, not destroyed. With liberty and justice for all.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
10709	Opinion - opposed to hydraulic fracturing	As a college student in the Ventura County area I personally didnt grow up amongst giant national parks or monuments. There are a couple of green spaces where I live. As I grew older I realized how important they are not just for me but people as well. They are places where we can gather around a grill, fire, or even a tree and create memorable memories. Although these oil fracking machines wont be built directly inside of the protected areas. They will still affect the environment in some way even if its miniscule. Overall people and the environment will be harmed, just look at Oklahoma they have earthquakes too!Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12728	Opinion - opposed to hydraulic fracturing	Dear BLM- you are absolutely wreckless if you allow even exploratory oil exploration and especially fracking to occur. please do what you can to protect our environment, and our natural resources, and don't destroy so much habitat and potentially waste or pollute our other prescious resources all in hopes of somebody making money from extracting oil & petroleum products. dont frack. Don't do oil exploration & extraction on lands that should be protected.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12319	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	It's seems like a poor decision both economically and environmentally to open this public land to be used in such a horrible way. Fracking can have devastating and lasting effects on the environment in the area that fracking occurs ranging from ground and water pollution to destruction of the environment due to human activity. These lands are public lands and should not be exploited for private gain, destroyed in the process, and then become unusable as public lands when all the resources have been stripped from the ground. At a time when California and the country are seeing serious side effects of climate change resources should not be used on potentially stranded assets like fossil fuels. Resources should be used for prospering industries of the future including renewable energies. With the rapid increase of renewables and the drastic reductions in prices of these renewable it is not even clear how long these public lands would be able to provide natural gas at a profit. Will these gas companies restore these lands to their current conditions when they are done extracting? It is time to stop pouring time and money into fossil fuels when the world knows we have to move past them. Keep these public lands public and closed to fossil fuel extraction. Short term economic gain is not worth the long term economic and environmental devastation that opening these lands would result in.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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12495	Opinion - opposed to hydraulic fracturing	It is extremely important to discontinue fracking, and certainly not start any more, or we will be wiped out be climate change. No more fracking. We understand that DJT is doing this merely to hurt California. His resentments should not precipitate a bad environmental decision.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12850	Opinion - opposed to hydraulic fracturing	Please protect our children, our communities and our state- no more destructive, dangerous fracking. Please end fracking in CA now!! Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11078	Opinion - opposed to hydraulic fracturing	I am a resident of Ojai, please do not open our community to the perils and pollution of fracking and oil drilling.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
17018	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Proposed fracking leases come within two miles of the border with Sequoia National Park, and border much of Sequoia and Kings Canyon National Parks and Los Padres National Forest. Fracking produces air and water pollution, and the Central Valley already struggles with some of the worst air pollution in the country, in part due to oil and gas development. This is already making people sick, and causing hazy skies and damage to national parks. Fracking is super water intensive, and they want to site it in a state that already struggles with water supply! Especially the Central Valley.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
8670	Opinion - opposed to hydraulic fracturing	As a resident of the Ojai Valley, I am deeply concerned by the potential opening of land that I regularly hike and that my friends and colleagues live and work near. As a lifelong resident of Ventura County, I deeply value the unique and expansive wildness of the Los Padres National Forest. While I understand that our pursuit of energy is a matter of national importance, so to is the health of our communities, the safety of our citizens, and the right for our children to live and learn without the threat of polluted air and water, industrial activities near their schools, and threat of increased seismic activity. In a region that faces ongoing drought and limited water resources, opening these lands to fracking will place severe strain on the life and livelihood of those who live here. Fracking and oil drilling are inappropriate and incompatible with how local residents use, enjoy, and protect these special and sensitive places. It causes noise and air pollution. Chemicals used in fracking, including several known carcinogens, are toxic to humans and animals. Fracking has polluted surface water and caused irreparable harm to aquifers. Fracking has caused increased seismic activity. All of these impacts threaten the health of our children, can harm sensitive ecosystems and endangered plants and animals, and can hinder recreation on public lands. The public was not provided with an accurate map of the parcels proposed for auction, and surface rights owners have not been properly notified. For these reasons, the public comment period must be extended. As part of the Supplemental Environmental Impact Statement, I urge you to use the best available peer-reviewed science to conduct a thorough and transparent evaluation of all known impacts that new fracking and oil development may have on wildlife, water, and public recreation on federal public lands in central California. At the conclusion of the analysis, I hope you will amend your management plan to impose additional restrictions on fracking and oil development that would apply to some or all of the 1.6 million acres of land currently open for new oil leasing, appropriate to the threat posed to water, wildlife, and humans. In addition, I hope that you will apply special lease stipulations for lands on or adjacent to schools, national forests, monuments, and refuges to better protect children, and the resources that make these places so treasured by the public. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12744	Opinion - opposed to hydraulic fracturing	As we are mostly aware (the public), the chemicals used in the fracturing process are not healthy - not to the engineers working with them, or particularly, in our water-table, where they will reside long-term. We have alternate sources of energy and should not mess with the quality of our water just to coax more oil-based energy out of the ground. thank you	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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12308	Opinion - opposed to hydraulic fracturing	Big Oil and proponents of fracking have caused irreversible damage that have destroyed precious habitats, killed wildlife, and devastated rural communities in our state.The proposed fracking plan:undermines our health with toxic chemical emissions, like methane, into our clean air threatens critical water supplies for rural and coastal communities increases the potential of more oil spills endangers wildlife and their habitatsTime and time again, Secretary Bernhardt proves he simply wants to roll back our progress -- instead of moving forward towards greater protection of our open lands and nature.I care about the environment, clean air and precious water resources, climate change, and community health and safety. It's time for governmental agencies to put a stop to such madness.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
15393	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	My name is Camille Herrera and I am a supporter of protecting our national parks because they help to preserve our historical ecosystems and are amazing places for Americans to connect with nature. That is why I oppose the expansion of fracking on federal lands in the Central Valley. It poses a threat to treasured national parks and forests throughout California, and puts our environment and public health at risk. Central Valley already struggles with some of the worst air pollution in the country, in part due to existing oil and gas development. Such air pollution is already making people sick, and causes hazy skies and damage to national parks. Fracking is super water intensive, and should not be sited in a state that already struggles with water supply, especially the Central Valley. These are costs that people, neighboring communities, and public lands cannot afford.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
9814	Opinion - opposed to hydraulic fracturing	I am against any further fracking in California. It ruins the water, the environment as a whole, and only enriches oil and gas executives and investors. With climate change already on top of us, I find it criminal that this is even being discussed.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12777	Opinion - opposed to hydraulic fracturing	The proposed fracking plan:undermines our health with toxic chemical emissions, like methane, into our clean air threatens critical water supplies for rural and coastal communities increases the potential of more oil spills endangers wildlife and their habitats	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12999	Opinion - opposed to hydraulic fracturing	I oppose fracking in California because the proposed fracking plan:undermines our health with toxic chemical emissions, like methane, into our clean air. We already have too much air pollution in California and the situation is getting worse. threatens critical water supplies for rural and coastal communities. After so many years of drought we can't rely on heavy rainfall every year and the evidence of the depletion of our aquifers is sound. increases the potential of more oil spills, especially to areas where it will affect birds. endangers wildlife and their habitats, especially threatened and endangered species. Big Oil and proponents of fracking have caused irreversible damage that have destroyed precious habitats, killed wildlife, and devastated rural communities in our state.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12160	Opinion - opposed to hydraulic fracturing	Fracking is a destructive process that turns potable water into sewage. It also degrades both the soil and air with hydrocarbons. It is past time that California move forward with renewable sources of energy. Do not approve this fracking permit. Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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12064	Opinion - opposed to hydraulic fracturing	Pls stop Trump and the BLM from selling land to Frack oil from the ground. It would destroy beautiful lands, including some of the wildest and most pristine areas along the Central Coast and Central Valley. Many are in areas of critical environmental concern. Neighboring cities, schools, and farms will also be impacted. I am concerned not only about the environmental issues, but also connection to earthquakes that many areas in the midWest are experiencing. California does not need to invite more earthquakes. The entire state already is high risk re earthquakes! Why add more potential risk! More studies are needed re impact of Fracking in our earth core. Since Trump has exempted impact to his Florida property, then he needs to do the same for all states. It's all about making profits for his wealth supporters and punishing blue states. Stop all fracking in California now!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
15669	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	You must be aware of the irreversible outcomes of fracking. Why are you even contemplating introducing it into public lands? Toxic effluent from the fracking process will seep into our park lands, threatening every species. The Bureau of Land Management has a sacred responsibility to honor the places within its purview. I hope that the agency, composed as it is of mothers and fathers, is unimpeachably beholden only to the force of integrity.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
16086	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	The Central Valley cannot stand more air pollution. Bakersfield and Fresno already rank in the top two cities for particle pollution, and we should be finding a way to improve this terrible air quality rather than worsening it. This proposal would be disastrous for people who already suffer from pollution-related respiratory issues, such as asthma. Not only are local communities impacted, but so are our national parks and public lands. Residents of these development-heavy cities love to escape the horrible air quality and unsightly oil fields and visit our natural landscapes. But this proposal threatens the beauty and enjoyment of parks, so important to the identity of the nation. Lastly, fracking has numerous environmental impacts, such as water contamination, which then impact local communities. For the sake of human and environmental health, this proposal cannot go forward.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
12462	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Just to make it simple: No to fracking. Two reasons spring immediately to mind: Earthquakes Climate change Sure, the already wealthy fossil fuel companies may feel they desperately need more money, and don't care if they destroy entire cities, or the entire planet for that matter, to get it. But the rest of us do care. No to fracking in California. (Hope that's easy enough for even the venal idiots in the Trump administration to understand. Probably not, though.)	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
22414	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Do not expand hydraulic fracturing in eastern Fresno, western Kern, Kings, Madera, San Luis Obispo, Santa Barbara, Tulare, and Ventura Counties, California! Leave CA alone - already too much of our land is drilled, fractured and exploited causing pollution, contamination and environmental destabilization.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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21086	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am adamantly apposed to to Fracking in San Luis obispo county.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11094	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	As a student studying Environmental Management and Protection, protecting these ecosystems in today's world is absolutely imperative. Once you introduce fracking into a preserved area, the impacts are impossible to retroact. I am enraged and appalled to see our public lands being stolen from us by corporations who give nothing back and only harm our earth. Fracking should not be allowed in SLO county, Santa Barbara, Ventura, Kern, or any other county for that matter.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11549	Opinion - opposed to hydraulic fracturing	I live on the campus of Cate School, in Carpinteria, CA, less than 2000 feet from one of the proposed fracking sites. We regularly take our students hiking and camping, traveling directly over this potential fracking location. This action by the BLM is deeply irresponsible and troubling, and certainly puts both our lands and our children at risk. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
10215	Opinion - opposed to hydraulic fracturing	My children attend The Thatcher School in Ojai. This directly effects their well being and Im outraged this is even being considered. Earthquake-level tremors, drinking water pollution and seriously tainted air are real side effects. As you must know, the significant wastewater that flows back to the surface contains fracking fluid chemicals, along with toxic chemicals and radioactive materials from the bedrock it shatters. PLEASE do not allow this to happen.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11980	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Opening up new public lands to fracking and other fossil fuel extraction methods is contrary to California's commitment to building a sustainable future without reliance on fossil fuels.-California has a statutory target of reducing greenhouse gas emissions to 40 percent below 1990 levels by 2030, and a plan to reduce petroleum consumption by 45 percent by 2030 to meet this target. -We need environmentally and economically sound energy strategies focused on the development of renewable energy sources. Why despoil our environment to extract a resource we have decided to move away from? SAY GOODBYE TO BIG SUR, SEQUOIAS, SANTA BARBARA, AND LOS PADRES WILDLIFE IF THIS HAPPENS. Fracking involves the use of toxic and poorly understood chemicals. These toxic chemicals get into the groundwater, especially in California, where fracking operations are dangerously shallow. Our communities, waterways, wildlife, and outdoor economy will all be put at risk. Let's not open our beautiful public lands to fracking and drilling. Let's not sacrifice our health, wildlife AND climate to profit the oil and gas industry. In a state where water is so precious — to agriculture, human populations, and wildlife — clean water is worth more than oil.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.

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12302	Opinion - opposed to hydraulic fracturing	I would like to register disbelief that fracking is being considered, given the impacts on water that have happened elsewhere in the US. This is one of the driest areas in the country, yet a place where ag needs water. If economic development is needed, this is a high sun exposure area that would be much better served by a solar farm, which would provide the same or more jobs, with much less environmental impact. The BLM mission statement says, "The agency's mission is to sustain the health, diversity, and productivity of America's public lands for the use and enjoyment of present and future generations." I don't see how this project is in line with that mission--by using and poisoning water, it will sacrifice the health of the land, the wildlife, the plants, the surrounding agriculture, and the people themselves; it will end biological diversity, and it's not even a good productive use--fracking should be replaced by solar wherever possible, especially in a location like this that is surrounded by national parts, national monuments, national forests, and agriculture.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
8662	Opinion - opposed to hydraulic fracturing	I understand that there is under consideration a strong possibility of oil and gas extraction using fracking in the Ojai Valley. While I can understand the desire to make the most of existing resources in this region, this choice seems very ill advised. In a region that sits on the edge of a seismic zone, it seems pure insanity to use a process that has a known record of creating seismic activity. In addition, our lands are often deceptively fragile and can become unstable with devastating circumstances. Because this region has been the site of so much oil extraction activity does not mean that any and all extraction practices should be accepted with equanimity. Even if there has been effective use of this technique elsewhere, or even in the region, for that matter, does not mean we should complacently open the door to fracking. Our valley occupies a fragile ecosystem and every effort must be made to increase its natural capability to retain plants and moisture that will enter our aquifer. Others may work here and seek to make a profit here, but we live here and are custodians of the future of this beautiful valley. Please help us preserve the features that make it our home and draw others to visit its wonders.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24313	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	Sunday, June 9, 2019 BLM Bakersfield Field Office Attn: Bakersfield RMP Hydraulic Fracturing Analysis 3801 Pegasus Drive Bakersfield, California 93308 Subject: Reject proposed expanded hydraulic fracturing in the Bakersfield Field Office planning area -- Bakersfield Field Office Supplemental EIS analyzing Hydraulic Fracturing (DOI-BLM-CA-C060-2018-0082-EIS) Dear California BLM Acting State Director Joe Stout, As a Californian who cares about clean air and water, safe communities, and healthy wildlands, I strongly urge you to immediately withdraw the Bureau of Land Management's (BLM) plans to open more than one million acres of public and private land and federal mineral estate in California to fossil fuel extraction. I strongly oppose a proposed expansion of hydraulic fracturing associated with oil and gas development on public lands within the Bakersfield Field Office planning area, which includes Fresno, Kern, Kings, Madera, San Luis Obispo, Santa Barbara, Tulare and Ventura counties. We need to be reducing--not expanding--our use of oil and gas in the face of our current climate crisis. "Our duty to the whole, including to the unborn generations, bids us to restrain an unprincipled present-day minority from wasting the heritage of these unborn generations. The movement for the conservation of wildlife and the larger movement for the conservation of all our natural resources are essentially democratic in spirit, purpose and method." -- Theodore Roosevelt According to the BLM, about ninety percent of new oil and gas wells on public lands use hydraulic fracturing, which is an extreme oil-extraction process that blasts toxic chemicals mixed with water underground to crack rocks. Expanding extraction of dirty fossil fuels on our public lands threatens the health of our communities and the future of our climate. The lands in question stretch from the Central Valley to the coast and include areas neighboring national parks, national monuments, national wildlife refuges, and state parks. Hydraulic fracturing there would not only endanger pristine wildlands and vulnerable wildlife, but also our drinking water sources and the health of communities across the state. "It is horrifying that we have to fight our own government to save the environment." -- Ansel Adams Hydraulic fracturing introduces pollutants into our air, water and land, threatening the health of wildlife and humans, and increases greenhouse gas emissions. Toxic chemicals used in this process, and the associated impacts of increased fossil fuel use, cannot be allowed to threaten California's people and animals. In the name of our health, wildlife, parks, and climate, I urge you to prevent oil companies from threatening California lands with new leases, drilling, and using hydraulic fracturing and other extreme extraction methods for the following reasons: 1) Hydraulic fracturing presents unacceptable risks to our health and safety. A 2015 report from the California Council on Science and Technology concluded that hydraulic fracturing within the state happens at unusually shallow depths and dangerously close to drinking-water supplies, with unusually high concentrations of toxic chemicals that are harmful to human health and the environment. "I think America will have come to maturity when it will be possible to erect somewhere in the United States a great bronze marker which will read: "'Beneath	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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		<p>these lands which surround you there lies enormous mineral wealth. However, it is the judgment of the American people, who locked up this area, that these lands shall not be disturbed, because we wish posterity to know that somewhere in our country, in gratitude to nature, there was at least one material resource that we could let alone." -- Freeman Tilden 2) New drilling and hydraulic fracturing would do even further damage to air quality in central California, particularly in the San Joaquin basin where communities of color and low-income neighborhoods are already harmed by toxic pollution on a daily basis. 3) Hydraulic fracturing causes direct damage to habitats critical for endangered species such as California condors, San Joaquin kit foxes, blunt-nosed leopard lizards, and more. These species cannot afford the loss of more habitat or the threats posed by hydraulic fracturing pollutants. "One hundred years from now, as people look back on our use of this continent, we shall not be praised for our reckless use of its oil, nor the loss of our forests; we shall be heartily damned for all these things. But we may take comfort in the knowledge that we shall certainly be thanked for the National Parks." -- Secretary of the Interior Ray Lyman Wilbur, 1931 4) California's public lands and local communities are already significantly overburdened by air, climate, and water pollution and cannot afford any additional sources of pollution from hydraulic fracturing. Moreover, this proposal fails to adequately evaluate the numerous impacts expanding oil extraction could have on treasured landscapes, such as Sequoia and Kings Canyon National Parks, Carrizo Plain and César E. Chávez National Monuments, and Los Padres National Forest. 5) To prevent the worst effects of climate change, we can't afford to sell off any more public lands to oil companies. Like a household budget, the planet has a carbon budget and it is entirely spent. Now more than ever, we must keep fossil fuels in the ground. At a time when clean and inexhaustible alternatives such as wind and solar power are rapidly rising, and electric vehicle sales are quickly ramping up, it makes no sense to risk the surrounding national parks and wildlife refuges simply to extract the last few drops of oil from the ground. "Every man who appreciates the majesty and beauty of the wilderness and of wild life, should strike hands with the farsighted men who wish to preserve our material resources, in the effort to keep our forests and our game beasts, game-birds, and game-fish--indeed, all the living creatures of prairie and woodland and seashore--from wanton destruction. Above all, we should realize that the effort toward this end is essentially a democratic movement." -- Theodore Roosevelt It's easy to see that this plan could spell disaster for California's communities, wildlands, public health, and will contribute to climate change. For these reasons, I urge you not to open federal lands for oil and gas drilling and hydraulic fracturing. Our health, wildlife, and climate cannot afford the grave threat of new fossil fuel development on California's beautiful public lands. Please, do the right thing and protect California's communities, wildlife, and beautiful public lands by withdrawing this ill-advised, dangerous plan to open up new drilling and hydraulic fracturing. "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise." -- Aldo Leopold Thank you for your consideration of my comments. Please do NOT add my name to your mailing list. I will learn about future developments on this issue from other sources. Sincerely, Christopher Lish San Rafael, CA</p>	
12679	Opinion - opposed to hydraulic fracturing	<p>The proposed fracking plan:undermines our health with toxic chemical emissions, like methane, into our clean air threatens critical water supplies for rural and coastal communities increases the potential of more oil spills endangers wildlife and their habitatsBig Oil and proponents of fracking have caused irreversible damage that have destroyed precious habitats, killed wildlife, and devastated rural communities. I care about our environment, clean air and precious water resources, climate change, and community health and safety and wanted to submit a comment against this plan.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.</p>
15816	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	<p>DO NOT open new oil and gas leasing in the Central Coast and Central Valley of California, and most DEFINITELY NOT for fracking! It will affect our water, health, wildlife and climate. I against adding to the use of fossil fuels and support and more ecologically friendly approach to energy. California must take the lead, not follow a regressive, dangerous and stupid path to filth, wasting of resources and health-related issues. We are smarter than that.... or at least we should be. Protect us.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>

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11942	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Dear BLM planners and officials, I respectfully request, as a mother and a community member, to please not open BLM lands to degradation. Fracking is unnecessary and will ruin our lakes, streams and groundwater. California's greatest resource is its unspoiled natural areas, which it is your job to maintain and protect for all future Californians. Please don't accept short-sighted deals to the detriment of future generations of residents, both human and other species which deserve our protection. Yours truly, Claudia Stillwell 1659 Funston Ave. San Francisco, CA 94122	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
13588	Opinion - opposed to hydraulic fracturing	We donot want any fracking in our county of San Luis Obispo. We live near and active earthquake fault. Additional environmental issues should always be considered where the safety of its citizens and our environment are at risk.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
16832	Opinion - Alternatives	Carbon emissions from burning the oil, gas, and coal in the world's currently operating fields and mines would take us far beyond 1.5°C of warming. Each new oil or gas lease locks us into decades of carbon pollution that our climate can't afford. Scientists agree that we must stop fossil fuel expansion immediately and phase out both the use and production of fossil fuels. Keep the moratorium on leasing in place. Make it permanent by amending the DEIS to include and adopt a "no leasing" alternative as the preferred alternative.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement. Neither a state-wide leasing moratorium, nor the choice of a "no leasing" alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.
11426	Opinion - opposed to hydraulic fracturing	I think it is a really bad idea to allow oil drilling anywhere near Cachuma Lake in the Los Padres National Forest. The lake is the source of our meager drinking water, and in this continuous drought, putting the lake in jeopardy is not in the best interests of anyone. We are highly prone to wild fires in our area, and I can just see the nightmare headlines if something happened.No! NO! NO!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
8909	Opinion - opposed to hydraulic fracturing	Mr. Perez,The proximity of a potential fracking site near my high school in Carpinteria, California is frightening. As a recent graduate I have already heard the anxiety this project is causing to students and school administration as it may well contaminate the schools water. I urge you to act in the best interest of average people in this situation and not in the interest of an energy policy that is unnecessary and unwanted by the people of Santa Barbara.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
17090	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am writing to ask for an honest appraisal of whose best interests are being served by opening more of Californias public lands to more oil and gas development. Our public lands are under attack from an administration that is denying science and good environmental policy over and over again. Is this one more case of putting the energy industrys profits over the long term benefits of preserving an endangered public landscape? If BLM leadership doesnt stand strong against the assault on our public lands, all is lost. Please reconsider your approval of opening these lands judging your decision the way it will be evaluated by generations to come far removed from what appear to be gains for special interests in the short term of today.Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12518	Opinion - opposed to hydraulic fracturing	Fracking does not fit with the needs and aims of California	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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21095	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am adamantly opposed to fracking on public lands. Fracking's negative impact on the environment is well-known. I'm a taxpayer and a voter, and I will remember the result of whatever decision is made in this case.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
20939	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	Fracking and oil drilling have consistently and continually been proven to be invasive and destructive to our people, our land and our legacy.As taxpayers, we the people are your employers. Corporate lobbyists are not.Amend your management plan to impose any and all restrictions necessary on fracking and oil development appropriate to the threat posed to water, wildlife, and humans. You must apply special lease stipulations for lands on or adjacent to schools, national forests, monuments, and refuges to better protect children, and the resources that make these places so treasured by the public. In doing so you will be protecting our legacy and our children's and grandchildren's future.Thank you for doing your utmost to care for your family and our beautiful country.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
8723	Opinion - opposed to hydraulic fracturing	This is not a good idea, not good for the American people, and not worth the money or effort. As part of the Supplemental Environmental Impact Statement, I urge you to use the best available peer-reviewed science to conduct a thorough and transparent evaluation of all known impacts that new fracking and oil development may have on wildlife, water, and public recreation on federal public lands in central California. At the conclusion of the analysis, I hope you will amend your management plan to impose additional restrictions on fracking and oil development that would apply to some or all of the 1.6 million acres of land currently open for new oil leasing, appropriate to the threat posed to water, wildlife, and humans. In addition, I hope that you will apply special lease stipulations for lands on or adjacent to schools, national forests, monuments, and refuges to better protect children, and the resources that make these places so treasured by the public.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
13886	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	No fracking, no expansion of fossil fuel production, no potential for contamination of our groundwater in SLO County.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12080	Opinion - opposed to hydraulic fracturing	Please do not allow ANY fracking ANY where in California! Other countries in the world are refusing this dangerous, environmentally harmful process and so must we! It damages, depletes, and degrades our aquifers and we must move away from fossil fuels. NO FRACKING!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
16664	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Please stop and don't allow fracking in California or any other state. We can live without gas.Clean water we all need! As a native Californian I've lived through multiple earthquakes and pumping high pressure water and chemicals into our earth is appalling to even consider. Please stop this. Cindy Wilson	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
21600	Opinion - opposed to hydraulic fracturing	Please stop contaminating our water supplies with the fracking chemicals and/or using our limited water supply for this unnecessary waste to get more money for the oil companies. It is not serving the greater good of California people. Thank you	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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12097	Opinion - opposed to hydraulic fracturing	As a citizen of California, I believe it is deeply disheartening that over 1 million acres are under consideration of leases that end up allowing fracking. Fracking will pose mulitple health risks as it is known that chemicals used in the process are known carcinogens. Additionally, fracking, especially in Californian cities such as San Luis Obispo and Santa Barbara, where active faults are less than 15 miles away, will increase susceptibility to sesimic activity.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11066	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I'm writing to express my deep concern about the possibility that public lands will be opened by the Trump Administration to oil extraction and fracking. Public lands are irreplaceable and must be protected. In particular, fracking has been shown to poison groundwater and make surrounding lands more susceptible to earthquakes. The consequences of any oil extraction activity, but especially the consequences of fracking, would be devastating and tragic. Please continue to defend our natural spaces.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12693	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	We don't want the land to be leased to oil companies, we need the oil in the ground and we don't want fracking in the area because it will cause harm to the environment and will cause public health issues, it's not worth it! Think about the long run instead of your pockets people please	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
23182	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I'm am writting to oppose oil and gas drilling and fracking on Federal public lands in California. Among the many reasons I oppose expanding fracking in our state, is the very real risk to the groundwater in our communities. For example, there is a site in the mountains of Carpinteria that would be open to fracking under the current proposed expansion. This site poses a significant risk to the groundwater and drinking water of the nearby Cate School, a residential school of over 300 adults and students, that has been on this site for over 100 years. This fracking site also threatens the water of the town of Carpinteria, just down the mountain. Fracking should not be allowed within at least 2 miles of an existing school. I urge you to keep the moratorium on leasing on Federal lands for fracking and drilling in place. Daniele Schechter Huerta Santa Barbara, California	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11552	Opinion - opposed to hydraulic fracturing	This is not a form letter, simply a request to please stop and consider what you are doing to our eco system with this fracking. There must be a better way to deliver energy to the residents of California... Wind... solar, thermal to name just a few. Don't destroy the environment for short term gains and long term destruction. Think of our children, and their children.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12456	Opinion - In favor of oil and gas exploration and development	We need to produce our oil & gas right here in California and right now we consume 4X as much as we produce. That means we just tanker in more and more from abroad. We just can't afford to turn our back on California's oil reserves. So I encourage BLM to move on its favorable findings. There are limited places where proven oil & gas production coincides with federal property. It's misleading to suggest that federal parks such as Yosemite would be open for fracking. The BLM report makes favorable conclusions about this practice on acreage that is now in production. I encourage the federal government to produce oil & gas on our lands. It's the right thing to do for our revenue and to support our communities.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
10816	Opinion - opposed to hydraulic fracturing	We are adamantly opposed to fracking. We believe that there is sufficient evidence to suppot a ban on fracking everywhere in our counry!!!! As our population grows the need for clean potable water is essential. David & Betty Scatena 2226 Segarini Way Stockton, Ca. 95209-333	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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13484	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Please do not do this; California does not want this. Keep the greedy Trump sycophants out of this! The rest of the world is going green and MAGA is going black. Nice. Hide the John McCain!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11918	Opinion - opposed to hydraulic fracturing	Please do not expand fracking in our earthquake prone state. Especially near our National Parks, which provide sustainable jobs for our future.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12537	Opinion - opposed to hydraulic fracturing	The proposed fracking plan:1. undermines our health with toxic chemical emissions, like methane, into our clean air 2. threatens critical water supplies for rural and coastal communities 3. increases the potential of more oil spills 4. endangers wildlife and their habitats No fracking in CA!!!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
18118	Opinion - opposed to hydraulic fracturing	As a California resident I am deeply opposed to any future expansion of hydraulic fracking in Fresno, Kings, Kern, San Luis Obispo, Santa Barbara, Ventura, Tulare, or Madera Counties. Fracking dumps chemical pollutants such as methane into the atmosphere threatening clean air as well as our drinking water supplies. With the depletion of natural reserves, further oil and gas development becomes environmentally unsustainable. Using fracking to extract oil and gas that is harder and harder to come by is intrusive in itself and harmful to human environments, species, and their habitats. Fracking magnifies global warming due to the utilization of enormous amounts of energy in the extraction process and the release of methane gas, and therefore magnifies our current climate crisis that threatens habitats, species, and human life with extinction. There are ways of creating safe, clean power while creating jobs for people with sustainable wages that do not further add to the climate crisis that threatens species and human life with extinction. The emphasis should be on developing these alternative forms of energy and creating green jobs rather than creating a de-regulated field that allows the oil and gas industry to wreak havoc on our environment and our public safety in order to create enormous profits. We cannot allow the Trump administration to surrender our public lands and our water to the fossil fuel industry and to corporate polluters. Such actions are irreversible and will affect future generations.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12578	Opinion - opposed to hydraulic fracturing	I am writing to voice my opposition to this dangerous fracking plan that threatens our health, our environment, and our safety. The proposed fracking plan: * undermines our health with toxic chemical emissions, like methane, into our clean air * threatens critical water supplies for rural and coastal communities * increases the potential of more oil spills * endangers wildlife and their habitats In addition to these risks this plan will exacerbate the effects of climate change. Instead of expanding fracking we should be expanding clean renewable energy. David Salahi	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
20511	Opinion - opposed to hydraulic fracturing	This is not a form letter. I am an actual CA resident with an actual concern about the adverse effects of fracking on the environment. Please keep fracking OUT of Carrizo, Los Padres, and other sensitive areas. Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
22067	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Proposed fracking leases come within two miles of the border with Sequoia National Park, and border much of Sequoia and Kings Canyon National Parks and Los Padres National Forest. Fracking produces air and water pollution, and the Central Valley already struggles with some of the worst air pollution in the country, in part due to oil and gas development. This is already making people sick, and causing hazy skies and damage to national parks. Fracking is super water intensive, and they want to site it in a state that already struggles with water supply! Especially the Central Valley.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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11703	Opinion - opposed to hydraulic fracturing	To Whom It May Concern; I think this idea/plan is badly thought out. I was born and raised in Riverside Ca. I can always remember a shortage of water in California. Fracking uses millions of gallon of water. Where is this water going to come from? Are you ready to give up your drinking water? This is the first of many problems with fracking. These companies use a secret list of chemicals in the process. This can cause poison if drinking water, polluate the air, mysterious animal deaths. There is a possible of industrial disaters and explosions. Is the community thinking of turning to the companies if any of these things happen in your neighborhoods. NO! They will be long gone with their money. Please, I ask you to vote NO on these plans. Thank-you for your time Deanna Doull	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12618	Opinion - opposed to hydraulic fracturing	This dangerous fracking plan threatens our health, our environment, and our safety. The proposed plan undermines our health with toxic chemical emissions, like methane, into our clean air, It threatens critical water supplies for rural and coastal communities, increases the potential of more oil spills, and endangers wildlife and their habitats.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12551	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Oil drilling and fracking harm wildlife through habitat loss, water, noise and light pollution and vehicle traffic. Opening up federal land and mineral estate for new oil and gas leases puts endangered and threatened species like the CA condor, San Joaquin kit fox, CA tiger salamander and CA red-legged frog at risk. Stop the proposal and make the moritorium permanent.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11296	Opinion - Other	Please extend the deadline for Scoping comments. Los Padres ForestWatch just recently received a map with sufficient definition to identify the properties and subsurface estates in question. More time is needed to determine what lands are involved, and provide surface land owners and others the opportunity to comment intelligently and knowledgeably.Please extend the Scoping comment deadline by a minimum of 15 days.Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
10744	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	BLM lands belong to everyone, not just the oil and gas companies for their profits. The mission of the BLM is to “sustain the health of America’s public lands.” Hydraulic fracturing by the oil and gas companies is the opposite of this mission. It pollutes the air and water, and poisons the soil. The BLM’s mission is to manage “public lands for the use and enjoyment of present and future generations.” If hydraulic fracturing is allowed on BLM lands, then they are failing in their mission to these generations. I believe there should be NO hydraulic fracturing allowed on BLM lands!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12548	Opinion - opposed to hydraulic fracturing	We should not be injecting water or chemicals into the ground of California in an effort to extract oil, particularly high carbon oil. This is a poor use of water, threatens groundwater contamination, does not provide California with resources because there is no oil severance tax, and ensures we will be putting more carbon dioxide into the atmosphere at a time when we need to be removing CO2 fro the atmosphere. This is a shortsighted, reckless proposal that future generations will despise current American leadership for if it goes forward.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12819	Opinion - opposed to hydraulic fracturing	This fracking plan is dangerous because it threatens our health, our environment, and our safety. More specifically, it will undermine our health with toxic chemical emissions (like methane) into our clean air. It will threaten critical water supplies for rural and coastal communities. It will increase the potential for more oil spills. And, it will endanger wildlife and their habitats. Irreversible damage to our state which destroyed precious habitats, killed wildlife, and devastated rural communities has already been caused by the corporate polluters, proponents of fracking and big oil. We must not allow them to do further damage. It is necessary that we protect our community	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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8503	Opinion - opposed to hydraulic fracturing	Hydraulic fracturing requires enormous amounts of water and California has extremely limited amounts of water. Hydraulic fracturing has extremely high risks of contaminating ground water. California needs every drop of clean water it has. The waste water from hydraulic fracturing is not safe for reuse. Hydraulic fracturing increases risks of earthquakes and California has numerous earthquake faults. No hydraulic fracturing should be done in California for these reasons.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
10693	Opinion - opposed to hydraulic fracturing	Sirs, Fracking and oil drilling are dangerous to public health. Studies show increased perinatal morbidity and mortality adjacent to fracking areas. The companies must conduct ongoing assessment of morbidity and mortality. They must also monitor water quality of all aquifers in the area. Finally each well must have at least a \$1 million bond to cover abandonment of the well. Please take my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12505	Opinion - opposed to hydraulic fracturing	I oppose any type of fracking in the San Luis Obispo and Santa Barbara counties. It's harmful to the health of our environment and can lead to earthquakes. Please do not pass this proposal.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
21221	Opinion - opposed to hydraulic fracturing	Fracturing hurts the environment and families. This plan doesn't take into account the effect of contamination of waterways. Fracking also increases the incidence of earthquakes. It increases noise and air pollution which are harmful to communities and wildlife. This plan is a poor choice for our state.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Water Resources; and Seismicity. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.

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10936	Opinion - opposed to hydraulic fracturing	Public Comment on Proposed Leases for Fracking/Exploration/Mineral Rights in Santa Barbara Country and Adjacent Lands With only modest public notice, the BLM is proposing to open lands in Santa Barbara and adjacent counties for bidding on rights to extract mineral/oil/gas resources from the subsurface. This largely "under-the-radar" effort has failed to adequately notify stakeholders, including the citizens and landowners that might be affected by these proposed leases. Many of the areas designated for potential lease have special scenic, ecological, or wildlands value that could be severely impacted by exploration and extraction efforts. Even small parcels that were exploited for subsurface resources could be very disruptive to the local habitat, ecology, and scenic value for surrounding land, not to mention the leased land itself. Several of the proposed lease sites sit within watersheds a short distance upstream of towns (like Santa Ynez) that would be impacted by unforeseen spills of fracking- or drilling-related chemicals as well as by extracted oil, methane, and natural gas. Some of the proposed lease sites sit upstream of key reservoirs (such as Lake Cachuma) and important trunk rivers. In the arid areas, such as on the flanks of the San Rafael Mountains bordering the Cachuma Valley, the landscape is particularly vulnerable to pollution and degradation from chemical spills, as well as by accelerated erosion from road building and heavy equipment usage. Given the relatively short-term production from fracking (rapid declines in production over a few years), it is difficult to justify the long-term degradation and contamination that will likely result from natural gas or oil production or mining in many of these areas proposed for leasing. The recent relatively minor oil pipeline spill along the Gaviota Coast 2 years ago and its \$150M clean-up cost are indicators of both the environmental vulnerability and the high ecological and scenic costs of resource extraction without sufficient regard for potential hazards or for the implementation of redundant safety mechanism within these scenic regions. Thank you for taking my concerns into consideration. Douglas W. Burbank - burbank@ucsb.edu, 805-895-4708 1026 Sandpiper Lane Santa Barbara, CA 93110	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12633	Opinion - opposed to hydraulic fracturing	I want to make it clear that i do not want fracking in my community, potentially harming my family so that the oil industry can make a quick buck. We have plenty of oil, lets not risk peoples healths for money. That's literal insanity.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12733	Opinion - opposed to hydraulic fracturing	The proposed fracking plan: undermines our health with toxic chemical emissions, like methane, into our clean air threatens critical water supplies for rural and coastal communities increases the potential of more oil spills endangers wildlife and their habitats	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
10561	Opinion - opposed to hydraulic fracturing	I am a citizen/resident of northern Santa Barbara County. We strongly object to any fracking in our area, and in neighboring counties/areas. Our ground water supplies are dwindling (yes, this winter helped us a lot) and we Can Not risk any pollution or extreme amounts to be used for fracking or steam injection. Please protect our ground water, our environment and our region from this mistake! Caroline Woods	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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11959	Opinion - opposed to hydraulic fracturing	Please, please don't allow fracking on our public lands. I lived in Pennsylvania and I am very familiar with the effects of fracking on local water supplies and groundwater. In fact, I worked for an agency that did environmental work, and I am all too familiar with the negative impacts. The large hauling trucks destroyed the roads, and the so-called "small footprints" were so numerous the total effect was devastating. I also believe fracking causes earthquakes, and our science is not advanced enough to know when injection is going to cause stresses on fault zones. You are playing with fire by allowing fracking in earthquake country. To add to all that, most Californians love their outdoor recreational spaces and the incredible beauty of California landscapes, forests, unique ecosystems and biodiversity. Don't you dare frack our public lands!!! My heart already breaks for the area along Highway 101 south of Salinas. And so close to the San Andreas Fault, to boot. Fracking is dangerous to people and the earth. We need to move away from gas and oil to sustainable and less destructive energy resources. Stay away from our unique ecosystems - the flyways for migrating birds, the majestic Giant Sequoias, the Sierra Nevadas, and the coastal and wetland areas. I am a fifth generation Californian and I appreciate all this state has to offer, and I know its regions well. There are other ways to benefit the U.S. GDP without using antiquated energy resources that endanger the planet and all of its inhabitants.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
23526	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Just Say>>>NO to changes to allow #InteriorSecretaryDavidBernhard To Cange Fracturing Regulations>>>>HE SPENT HIS PRIOR CAREER IN THE OIL AND GAS INDUSTRY?????and he thinks the administration will act fast to finalize the proposal and start selling leases before the 2020 election to thwart any future attempts to reverse them. NO NO NO Do not allow this further abuse of our environmnet	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
9593	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	The plan to open nearly 122,000 acres to fracking and oil drilling is absolute madness. It's imprudent and unwanted. Please honor the interests of the people over the desires of the petroleum lobby.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
14875	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I live in Morro Bay and am strongly opposed to hydraulic fracking. (1) it is a threat to our groundwater. California is dry and inherently has water problems. Recently fracking in Santa Barbara county has caused leaking into the groundwater, which is proof that it occurs. (2) fracking in California occurs at shallow depths, which increases the risk of contamination. (3) fracking causes noise, water and air pollution and imposes harm to wildlife. (4) California already has a high risk of earthquakes and fracking is known to increase the risk, as has occurred in the southern states. (5) the United States currently has an excessive amount of gas and oil storage, so going to fracking is unwarranted. The only benefit is for profit for oil companies and is not a benefit for citizens and the climate. (6) With President Trump's tariffs, there will be a decrease in goods from China and other countries, therefore requiring less fuel for tankers and distribution trucks. Please do the right thing and ban fracking for the safety of citizens, wildlife and the environment.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
11329	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	BLM please take note when considering fracking in the Ojai Valley: Much of this land is privately owned and currently inaccessible other than by foot. I realize that fracking is better for the environment than is drilling. I also believe the need for extended extraction of fossil fuels should have been laid to rest by now. Creating the infrastructure for fracking displaces wildlands that provide valuable habitat for plants, birds, fish, insects and mammals. Thousands of hikers thrive off the nature of these trails, many coming to the valley as visitors who provide revenue in the towns. Perhaps the worst threat of fracking in the Ojai Valley is the waste of a resource far more valuable than oil. Water is already in short supply here. Wasting it on extraction of fossil fuels is intolerable. When dealing with mineral rights please also consider mineral wrongs.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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10453	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Our land can not afford the pollution and water loss. YOU who are supposed to be protecting us, sits back and sells out our beautiful land and clean water to big companies that pollute! We will fight this- There is a lot of money here!!! Why not put the effort into renewable energy sources that dont use water we dont have!!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12546	Opinion - opposed to hydraulic fracturing	The Central Coast of California contains some of the most pristine and beautiful lands and waters in the world. Scientists tell us that carbon fuels are a significant contributor to climate change resulting in drought, storms, fires and devastation. Renewable energy resources are necessary to the survival of our planet. No to oil and gas development, including fracking. Come into the 21st century or we will have no future on planet earth. Please. Elizabeth Haslam, Salt Lake City Utah	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12437	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Since 1989 I have been a resident of Morro Bay. I have enjoyed the clean air and slow and quiet environment where I currently for the past 30 years. I have asthma, allergies and noise sensivity. Based on what I read there are plans to frack Morro Rock. I live very close to the rock. These activities would effect my physical and mental health. I would like to see more energy and focus of entrepreneurs, politicians and those who sell oil directed to cleaner sources like solar and wind power. I'm sure many residents would agree with me since this town has been such a refuge for so many residents and tourists alike. With fracking this quaint fishing town could turn into an situation where tourists would be less likely to visit. Please reconsider the project and rethink the ecologically dangerous process in this community. And find other energy resources. Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
9435	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	Please stop all fossil fuel extraction ASAP. Fossil fuel use and extraction is rapidly leading to a world that will not support human life. What is that horrid stench? What is that odd taste? That is death and disease. Cater to industries that have known for a long time the consequences of gas and oil extraction, will prove a grave mistake.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9674	Opinion - opposed to hydraulic fracturing	I have just learned of the proposal to explore fracking in thousands of acres in central California, including three popular natural and recreation areas in Ventura County where I live. Fracking would increase the risk of forest fires in these areas, which are still recovering from the Thomas Fire (caused by mechanical sparks!). It would seriously threaten our groundwater, which has already been compromised by consecutive years of emergency drought, And it would harm the natural beauty, ecosystems, and public value of beloved gems (Ilvento Preserve, a trail on the Thatcher campus, and land near Sisar Canyon in upper Ojai). Fracking would be completely incompatible with current uses of those revered properties. Our natural areas are integral to our quality life and our tourist-based economy. I am also concerned that BLM failed to inform the surface landowners where fracking is being studied, so that they could share their most relevant comments in time for your short comment period. In keeping with the goals of an informed democracy, I request that you correct this by informing all relevant property owners and adjacent property owners, and extending the time for public comments. Thank you for taking my concerns into consideration. Elizabeth C. ("Dee") Reid Oja, CA	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12630	Opinion - opposed to hydraulic fracturing	Dear People, There never needs to be another fracked well in any state let alone one with many fault lines and shifting ground. There is never a reason to squeeze out the last bits of oil except to line the pockets of already rich oil executives. There is no guarantee that precious ground water can be protected from the harmful slurry of chemicals that are injected into these concrete pipes that are laid in moving underground terraine. Plus the burn off above of toxic chemicals pollutes the air we breathe. Please don't do this! We have the technology to develop and use other means to grow our energy sources. We don't need to fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12590		We own five homes in Bakersfield, California. We absolutely object to the entire gas and oil fracking plan. We also oject to BLM's description of this activity as "environmentally responsible". We further object to it being conducted in public lands. Science is very clear that we are causing climate change with the amount of carbon and greenhouse gasses we are putting into the air. The number of jobs, homes, and lives already lost due to storms, floods, and fires is staggering and projected to get worse. BLM's fracking plan is reprehensible.	

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12590	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	We are Bakersfield, California homeowners. We absolutely object to the entire gas and oil fracking plan on environmental concerns. We also object to BLM's attempt to describe this as responsible. We further object to it being carried out on public lands. Science is very clear on the activities that cause climate change and fracking for gas and oil is a major contributor. The number of jobs, homes, and lives already lost to severe storms, floods, and fires is staggering. Continuing to frack on public lands is intolerable.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12514	Opinion - opposed to hydraulic fracturing	I am 100% NOT IN FAVOR of any fracking on the Central Coast lands. This is a pristine location that does not merit any interference. I would prefer the development of wind or solar power to further prevent our climate crisis and reduce our carbon footprint.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12463	Opinion - opposed to hydraulic fracturing	Please stop trying to game the science. Science doesn't work that way. Sure, you can lie to people and get them to believe you, you can argue about philosophy and change opinions, but gravity just is, density doesn't care what you think about it, and chemical reactions have nothing to do with your opinions at all. Science is a compendium of information about how the world works based on a multiplicity of reproducible observations -- this is a standard corporate shills and wholly owned politicians don't aspire to and can't browbeat, buy-off, or scream into submission. It doesn't matter how much you hate facts, they still are. And that is why this EIS is entirely inadequate, substandard, anti-science, and evidence of corruption and cupidity at worst and of a level of astounding stupidity at best. Fracking causes earthquakes. Fracking causes massive groundwater pollution and cracks into and pollutes aquifers. Fracking uses toxic chemicals. Fracking emits global climate chaos gases, like methane (which is a 25X more potent greenhouse gas than CO2). Fracking takes water away in a state prone to drought, where freshwater is our most valuable resource. Fracking increases the potential for yet more oil spills. Fracking destroys habitat of endangered species. Want me to go on? I can. The only real question remaining is why is temporary wealth, obscene wealth, worth more to you than the ability of the planet to sustain life?	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
15323	Opinion - opposed to hydraulic fracturing	No fracking	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11951	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Opening up public lands to fracking and other fossil fuel extraction methods goes against California's commitment to building a sustainable future without reliance on fossil fuels. Please don't open land to fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
14442	Opinion - opposed to hydraulic fracturing	We don't need more drilling or oil projects in California. We need to switch to more renewable sources of energy - ones that if something goes wrong it won't harm our environment. Please vote NO!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

Comment Number	Issue	Comment	Response
21834	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Fracking is a irresponsible practice and opening up millions of acres of BLM land in the Central Valley to do so is reckless for several reasons. -Fracking in the Central valley will only contribute to existing air pollution and water contamination in an area that has some of the worst air and water quality in the country. Smog and non-potable water is already making people in the central valley sick and adding further oil and gas development in the region demonstrates a clear disregard for American's wellbeing in the pursuit of resource extraction. -Furthermore, many stimulated wells will be near Sequoia National Park, an area that has been federally protected due to its unique and irreplaceable natural resources. Over a million people visit Sequoia each year, a park already plagued by poor air quality, and if we further pollute the region then we deny people the opportunity to recreate in nature away from the impacts of human development. -Fracking is highly water intensive. There are major concerns about where water for fracking will come from. In the central valley ground water is a resource that is already stressed and unsustainably managed. Adding fracking to the equation would be shockingly thoughtless. Water delivery from the Sierra Nevada is unpredictable as California has wildly fluctuated between drought and higher than average years in the last decade. This erratic trend is expected to only get worse with climate change making it an unreliable source, not to mention that Sierra water is already being distributed for agriculture and municipal needs with barley enough left to support ecosystems which produce millions of dollars' worth of ecosystem services for the state for free. As California pursues AB 32 let's focus on how our state and country really needs to be positioned for a successful future. Contributing capital towards renewable energy while sustainably managing our land and resources to keep the environment and us healthy.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
13027	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I oppose the plan to allow hydraulic fracking in these areas. I believe the environmental impacts that have been documented on other sites across the country have been downplayed in this report and that the risk to our local environments and ground waters are not worth the profits from the excavated oil. The most recent nearby example is the contaminated groundwater in the surrounding area of the fracking site in Orcutt, Ca. I understand the BLM and our public lands need more funding that could be gained from this EIS, but I would rather that the funding came from other sources like tax initiatives or government subsidies. I believe that the continued expansion of excavation sites for oil should not be supported by our federal or state governments and that the profiteers and lobbyists of the oil and gas industry should not have BLM in their pockets. This EIS is a direct conflict of interest between the state of California and the federal government, and should not be passed.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
14480	Opinion - Other	Dear BLM Bakersfield Field Office,	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12268	Opinion - opposed to hydraulic fracturing	I strongly support Alternative C. Hydraulic fracturing is too destructive to be allowed to increase. It has been shown to poison ground water, significantly adds to greenhouse gas emissions and is the likely cause of increased earthquakes. In the effort to prevent the catastrophic effects of climate change and possibly climate collapse, which threatens the health of people and indeed the health of the planet, it is imperative to phase out all fossil fuel extraction (including highly destructive hydraulic fracturing) and move toward sustainable non-carbon intensive energy sources. Increasing liquid, gas and mineral extraction is counter to those goals and leads to further degradation of natural ecosystems and the planet-wide biosphere.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
11270	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	My family has lived in California for more than 200 years historically, ranging from Northern to Southern California. We do not want fracking in our state. I am already disgusted at how much we allow at the present time. Bakersfield is already a disgusting polluted hell hole that doesn't need more pollution and more dangerously under regulated industries running rampant. I DO NOT SUPPORT THIS PROPOSAL FOR OPENING OUR PUBLIC LANDS TO FRACKING.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
21596	Opinion - opposed to hydraulic fracturing	Potential for oil spills including land & ocean. Increased potential for sink holes. Increased potential for earthquakes.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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12432	Opinion - opposed to hydraulic fracturing	"By far the largest factor in these emissions is burning the fuel, not producing it (CCST 2014)." Producing fuel enables it to be burned. Leaving it in the ground prevents it from being burned. The impact of burning should be figured into this study, in which case many of these impacts could not be rated "negligible" as compared to not burning the fuel. BLM and oil companies acknowledge that the majority of extracted fuel is burned in California. As a multi-generational California citizen with extensive family and children in California, we should not be further adding to the burdens of environmental debt that will be shouldered by our descendants.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11062	Opinion - opposed to hydraulic fracturing	Don't mess with our water supplies through fracking! We have so little water, and rely on wells that will likely become useless if fracking is allowed, then the entire area will become a desert as people will be forced to leave. You will be held responsible! Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12580	Opinion - opposed to hydraulic fracturing	Fracking is inherently a bad idea. Here's why: 1. CA does not have 80 million gallons of water per year to generously give to oil and gas companies. Who's going to pay for that water, and who is going to go without because of its loss? CA was just in a massive drought 2 years ago. Do we not think that is going to happen again in the next 20 years? Of course it will. Then a whole new battle for water will occur. 2. No amount of cap rock is a guarantee that fracking fluid will not reach groundwater supplies. Given enough wells and time, it WILL happen, and HAS happened in other fracking regions (Bradford county PA as just one example). Who's going to fix the peoples health that got/gets permanently ruined by ingesting these chemicals? Are the oil and gas companies going to be around in 50 years to repair their decomposing wells when they start leaking? Who's going to pay to have them closed properly? There are too many unanswered questions about the LONG TERM REALITY of fracking. Although the problem of fluid reaching groudwater will certainly get worse over time, we don't have to wait for the future to see negative results. 3. What these companies say and what they do are often two different things. Regulatory oversight means very little when your windfall profits can easily cover low cost fines. There is no real disincentive to follow regulations once the money is flowing. Inevitably, regulations will be intentionally or un-intentionally not followed and innocent people will pay the price. CA says NO! to fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
10391	Opinion - In favor of oil and gas exploration and development	As a life long Ojai Valley resident I support fracking on public and private land. Fracking produces natural gas. Natural gas is a clean alternative fuel. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12697	Opinion - opposed to hydraulic fracturing	The proposed fracking plan is irresponsibly bad. It undermines the health of Californians with toxic chemical emissions, like methane, going into our clean air. It threatens critical water supplies for rural and coastal communities. It increases the potential of more oil spills and endangers wildlife and their habitats. This whole idea should be scrapped.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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11633	Opinion - opposed to hydraulic fracturing	<p>I am absolutely horrified to learn at the eleventh hour that lands are being auctioned for fracking licenses within my community. I live in the Ojai Valley, at the fringe of Los Padres National Forest. I value the forest greatly, along with Carrizo Plain National Monument, conservation lands, state parks, and national wildlife refuges in central California. For the unique plants and animals they harbor, for the watersheds they protect, and for the recreation opportunities they offer. I also care deeply about our children and their schools. Fracking and oil drilling are completely inappropriate and utterly incompatible with how local residents use, enjoy, and protect these special and sensitive places. As a community, we barely survived the Thomas Fire. At a time when we both our security and viability as a community are already imperiled by scant fresh water supplies and a recovery from fire, it is utterly unconscionable that these licenses are being considered. The science is clear and even the EPA itself has admitted in its full 2016 report (https://cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=332990) that hydraulic fracturing activities can impact drinking water resources under some circumstances. The report identifies certain conditions under which impacts from hydraulic fracturing activities can be more frequent or severe: in particular, water withdrawals for hydraulic fracturing in times or areas of low water availability, particularly in areas with limited or declining groundwater resources. We are in an emergency drought situation here, and depend entirely for our viability as a community on our scant local water resources. Its madness to think the State would contemplate anything that would put additional strain on the water ecosystem. Moreover: fracking causes noise and air pollution. Chemicals used in fracking, including several known carcinogens, are toxic to humans and animals. Fracking has polluted surface water and caused irreparable harm to aquifers. Fracking has caused increased seismic activity. All of these impacts threaten the health of our children, can harm sensitive ecosystems and endangered plants and animals, and can hinder recreation on public lands. Aside from the compelling science, please note: the public was not provided with an accurate map of the parcels proposed for auction, and surface rights owners have not been properly notified. Its abundantly clear that the public comment period must be extended, and public hearings organized. As part of the Supplemental Environmental Impact Statement, I urge you to use the best available peer-reviewed science to conduct a thorough and transparent evaluation of all known impacts that new fracking and oil development may have on wildlife, water, and public recreation on federal public lands in central California. At the conclusion of the analysis, I trust you will amend your management plan to impose additional restrictions on fracking and oil development that would apply to some or all of the 1.6 million acres of land currently open for new oil leasing, appropriate to the threat posed to water, wildlife, and humans. In addition, I hope that you will apply special lease stipulations for lands on or adjacent to schools, national forests, monuments, and refuges to better protect children, and the resources that make these places so treasured by the public. Thank you for taking my concerns into consideration.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>
8636	Opinion - opposed to hydraulic fracturing	<p>Concerned is a understatement when it comes to expanding the threat fracking already has on our planet. Deeply disturbed, terrified and furious are what I am feeling at this time. Disturbed that everyday we are poisoning the small amount of clean water we have for corporate and government greed. Terrified that future generations are going to face the greatest catastrophe our species has ever seen because our leadership and system of governance has failed us. And absolutely furious that instead of working to regenerate the earth systems in which we have already damaged in ways unrepairable we are here, in the 21st century fighting for what? This is unacceptable and if our government does not start listening and acting on behalf of the betterment of our planet as a whole it is direct evidence that we cannot and will not continue to trust in such a government.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.</p>
12414	Opinion - opposed to hydraulic fracturing	<p>I appreciate the opportunity to comment on the Draft Supplemental EIS. Opening this area to oil drilling and fracking threatens the health of communities already suffering from unacceptable levels of toxic air pollution, endangers our clean water sources, hurts wildlife that depend on these unique and fragile lands, and pushes us even further toward climate catastrophe. A 2015 report from the California Council on Science and Technology concluded that fracking in California happens at unusually shallow depths, dangerously close to underground drinking water supplies, with unusually high concentrations of toxic chemicals that are harmful to human health and the environment. New oil and gas extraction is unnecessary and your work should be directed toward clean energy installations such as solar and wind that will cause much less harm to humans, wildlife and the environment. Thank you, Gail Cheda</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.</p>
12752	Opinion - opposed to hydraulic fracturing	<p>NO FRACKING IN CALIFORNIA !!! We know better than that!</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.</p>

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12098	Opinion - opposed to hydraulic fracturing	Please do NOT allow fracking under this proposal - water, air, and general health of all of us DEPENDS on your stewardship and oversight. We are probably way passed the tipping point on despoiling our environment. It is no consolation to know the worst outcomes will be beyond my lifespan. For all Californians, stop the lunacy of fossil fuels acquisition in this corner of the state.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
22361	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I STRONGLY OPPOSE BLM's proposal to allow new oil and gas fracking leases on more than 1 million acres of public land and mineral estate in California!!!BLM should PROTECT -- not hurt -- lands, waters and local communities!!!Your proposal would hurt wonderful areas such as Sequoia and Kings Canyon National Parks, Carrizo Plain and César E. Chavez National Monuments, and Los Padres National Forest. STOP THE ENVIRONMENTAL DAMAGE!!!STOP THE CORRUPTION!!!!I implore the honest, conscientious employees who remain at BLM to do everything possible to stop these abuses!!!Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12230	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	i oppose trumps proposal to open 1 million acres of CA public land to fracking. I want our public lands to be protected for wildlife and wilderness not corporate gain.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
9608	Opinion - opposed to hydraulic fracturing	Keep all fracking and special interest rape of our landscape OUT of California. We do not want or need it here. Say NO to fracking in Ynez.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12438	Opinion - opposed to hydraulic fracturing	As an educator in Kern, I see chronic absenteeism due to medical issues having a strong impact on local education. Our county has some of the worst asthma rates of the nation. Respiratory issues are only exacerbated by more pollutants added by industry. There are also several cities with near poison level water contaminants. This only makes student/parent overall health much more difficult to maintain. Please, please, please refrain from allowing any more fracking occurring here in Kern.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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12524	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Meeting & Public Comment May 22, 2019 on Trump Admin trying to open up over 1.6 Million acres of public BLM land to oil & gas leases, including fracking, in SLO (125,000 acres being reviewed), SB, Kern & 5 other CA Counties. First proposed oil leases on BLM California lands in 5 years. Trump-appointed EPA heads, Pruitt (resigned under scandal and ties to big Oil) and the current head, Andrew Wheeler (lawyer for Coal magnates) have no regard for Protecting the environment, which should be a requirement for EPA chief. Instead, they reverse regulations and protections, ignore Climate Change science, and only contribute to the problem of global warming as they try to expand the reliance on fossil fuels of coal and oil. I feel strongly on this topic and will be attending the BLM meeting to voice opposition to this scary proposal. Water is a very scarce and precious resource in California (drinking water & household use, fire suppression, agriculture and fish habitat) and the concept of Fracking is so wrong in regards to using water to extract oil and at great risk to valuable groundwater supplies. Fracking may also be the cause for increased risk of earthquakes as Oklahoma experienced huge increase in earthquakes once they allowed fracking in this past decade. Time to stand up and voice opposition to yet another short-sighted Trump Administration policy that attempts to over-reach and reverse important environmental protections and limits. Caring for our Environment and wanting it to last for many future generations is a core value to many Californians and the current Trump Administration shows blatant disregard for our land and water resources and the global climate with their outdated views (and ignoring smarter methods) on how best to approach energy production in our future. No way I let this short-sighted assault take place in our backyards without voicing my strong opposition. I am confident many many many other educated forward-thinking Californians will share my concern that this ill-considered proposal to grant more oil and gas extraction leases on public BLM lands in cherished parts of the California landscape. Likewise, we are opposed to expanding any offshore oil drilling in the coastal waters of California (which has also been suggested by the Trump administration) as the risk of oil spills and accidents are too great to our fragile and precious marine environment. I was living in Goleta/Santa Barbara during the 1969 Oil spill there. That was a travesty. A much smaller but also ecologically horrible oil pipeline spill happened along the Gaviota coast in Santa Barbara County in year 2017. When do we ween ourselves off our love affair with fossil fuels that pose safety risks and shift to more sustainable energy sources instead? Might be time to keep pushing imoreso in those directions of solar and wind based energy in sunny and windy and beautiful California. Thank you for allowing members of the public to express their ideas and opinions on this matter of big importance to those of us who live here, Respectfully, Gregory Berlin Contractor and CPA age 57 Arroyo Grande, CA 93420	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12100	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am strongly opposed to the administration's plan to open public lands to fracking and oil development on the Central Coast of California. The Central Coast is already facing grave impacts from climate change, including rising sea levels, drought, and a nearly year-round fire season.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
10942	Opinion - opposed to hydraulic fracturing	Fracking in California would worsen air quality for American citizens. This land borders National Parks. By not moving forward with plans to frack, we can support the health of National Parks and the American people.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
10702	Opinion - opposed to hydraulic fracturing	Please, protect our lands and aquifers from the dangers of fracking and oil production. NO FRACKING!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
20923	Opinion - opposed to hydraulic fracturing	Please don't let more harmful fracking to happen in California. The ground is unstable and will cause more earthquakes. The air will become more polluted, and the water un-drinkable. This is Not a sustainable industry!! We can not continue to rape the earth!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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10479	Opinion - opposed to hydraulic fracturing	The lands that would be impacted by drilling and fracking are important for so many reasons--the sensitive environments, economics, and our health. I think you know how special this land is, not only to Californians but to all US citizens. Besides the aesthetics and health considerations, there is the economy. California is a huge economy and helps support the federal government. We shouldn't be short-sighted and ruin what we have. I live in SLO county near many of the places being considered. I believe that drilling and fracking would be detrimental to the lakes, rivers and coastline, to the flora and fauna, to all life. It could adversely affect our personal springs and wells. California has been striving to be less dependent on fossil fuels and can be a leader in that area. We should not go backward in finding energy sources, but should go forward. PLEASE grant us more time for public input and discussion. You will learn that the residents who live in these areas can help you make good decisions that won't someday haunt you and us.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
20917	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	Dear BLM Bakersfield Field Office, I object to the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental EIS for numerous reasons. The proposed plan to lease the lands discussed in the report is a serious threat to people and wildlife. The fracking process chemicals increase air and water pollution. Wastewater disposal is another significant environmental issue. There are numerous other environmental and health concerns. Tourism, recreation and agriculture are all threatened by the plan. I strongly object to the the drilling deemed acceptable by this report. I respectfully thank you for your attention, Heidi Pearlman	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12506	Opinion - opposed to hydraulic fracturing	Oil and gas production, including fracking, poses such serious health risks that scientists and public health officials have recommended that, in the absence of an outright ban, there should be safety buffers around where people live, work and go to school. Oil drilling relies on large volumes of toxic chemicals-many are found on the EPA's list of Hazardous Air Pollutants known to cause cancer and other serious health impacts. Stop this proposal and make the moratorium permanent!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12079	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	Drilling in this area is totally unnecessary and environmentally devastating. Don't do it.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11427	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I strongly oppose the BLMs plans to open over 273,000 acres of public land and 1.2 million acres of mineral estate overseen by the BLM to oil drilling and fracking. Hundreds of fracking chemicals are known to be toxic to humans and wildlife, and several are known to cause cancer, according to several peer-reviewed studies by scientists and state regulators. A 2015 report from the California Council on Science and Technology highlighted these risks. National forests, monuments and wildlife refuges and preserves harbor sensitive ecosystems and wildlife, protect important watersheds, and are places of recreation. The BLM must conduct a thorough review of oil drilling and fracking and their impacts on water, air, wildlife, and recreation. I urge the agency to restrict oil and gas development that impacts any public lands.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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12809	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am vigorously opposed to your proposal to open 1.6 million acres of public land and mineral state to oil and gas drilling and hydraulic fracking in San Luis Obispo and neighboring counties. This is my home. I do not want our limited groundwater supplies to be depleted and laced with toxic chemicals. I do not want the air we breathe to be polluted with contaminants that can rob us of our health and shorten our lives. I do not want the wide-open spaces that I cherish, and their furry, scaly and feathered denizens, destroyed by roads, traffic, fencing, lights, wells, holding ponds and the incessant racket of industrial development. I do not want the ground beneath my feet to start shaking on a regular basis, perhaps unleashing the fury of the San Andreas fault. What I want is an end to the burning of fossil fuels and a rapid shift to clean energy that offers the promise of a livable planet in the future. I urge you to withdraw this reprehensible proposal and select No Leasing as the preferred alternative. The draft Environmental Impact Statement you prepared does not sufficiently address the many risks noted and fails to address the overwhelming public concerns about the potential for contaminating our water and air. contamination. At the conclusion of the analysis, I hope you will amend your management plan to exclude, or place restrictions on, parcels offered for oil leasing and fracking, reflective of the risks and impacts they pose to public health and the environment. In addition, I hope that you will close lands to leasing and fracking that are on or adjacent to schools, national forests, monuments, and refuges to better protect children and the resources that make these places so treasured by the public. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12431	Opinion - opposed to hydraulic fracturing	I demand you stop all all planned fracking project in California. They will cause devastating harm to the environment and make the climate crisis worse. We don't need anymore fossil fuel extraction.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12571	Opinion - opposed to hydraulic fracturing	fuck the whole department of interior especially David Bernhardt. He needs to suck his own cock and submerge his head in oil and natural gas. The environment is being destroyed. This is it folks, there's no turning back.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
14624	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	As a citizen of California, I oppose this lease deal and urge the Bureau of Land Management to close BLM land in California to additional oil and gas extraction. My objections to the EIS are below: 1) Proposed fracking leases come within two miles of the border with Sequoia National Park, and border much of Sequoia and Kings Canyon National Parks and Los Padres National Forest. This will have impacts on the important ecosystems in this area, reduce the ability for California citizens to enjoy this beautiful area for recreation, and reduce local revenue due to decreased tourism. 2) Fracking produces air and water pollution, and the Central Valley already struggles with some of the worst air pollution in the country, in part due to oil and gas development. This is already making people sick and causing hazy skies and damage to national parks. 3) Fracking is very water intensive and California already struggles with its water supply, especially the Central Valley. Adding this water intensive activity not only increases the risks of earthquakes in an already earthquake prone state, but also puts an additional burden on California citizens due to increased water usage.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
16421	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	Fracking and similar techniques often release large amounts of methane, a highly potent greenhouse gas that's at least 86 times more effective at trapping heat than carbon dioxide over a 20-year period. Fracking also allows access to huge fossil fuel deposits that were once beyond the reach of drilling. In California, oil companies are increasingly interested in using fracking on the Monterey Shale, a geological formation under the San Joaquin and the Los Angeles basins that may hold a large amount of dirty, carbon-intensive oil. Moreover, much of California's oil is dirty, heavy crude. The California Air Resources Board scores many of the state's oil fields as approximately as carbon intensive as oil from the infamous Alberta tar sands. As California strives to lead the fight to avoid a climate change catastrophe, why should we facilitate the release of carbon in billions of barrels of carbon-intensive oil now safely sequestered in our shale formations? We shouldn't. This is not just a question of fracking versus conventional drilling.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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16918	Water Resources	<p>"A 2015 report from the California Council on Science and Technology concluded that fracking in California happens at unusually shallow depths, dangerously close to underground drinking water supplies, with unusually high concentrations of toxic chemicals. The public lands at stake encompass "numerous groundwater systems that contribute to the annual water supply used by neighboring areas for agricultural and urban purposes," a federal judge noted in 2016." (CBD) Over the past several decades, U.S. industries have injected more than 30 trillion gallons of toxic liquid deep into the earth, using broad expanses of the nation's geology as an invisible dumping ground. "In 10 to 100 years we are going to find out that most of our groundwater is polluted. A lot of people are going to get sick, and a lot of people may die."- Mario Salazar, an engineer who worked for 25 years as a technical expert with the EPA's underground injection program in Washington. What the BLM says...(2014 ROD) (pg. XII) "There are no publicly reported instances of potable water contamination from subsurface releases in California. More than half of the stimulated oil wells in California have shallow depth (less than 2,000 feet) and shallow hydraulic fracturing poses a potential risk for groundwater if usable aquifers are nearby. Some shallow hydraulic fracturing occurs where groundwater is highly saline, or non-existent; however, investigators could not determine the groundwater quality near many hydraulic fracturing operations and found that existing data was insufficient to evaluate the extent to which contamination may have occurred. The State of California needs to develop an accurate understanding about the location, depth and quality of groundwater in oil- and gas-producing regions in order to evaluate the risk of well stimulation to groundwater." Hey, BLM! Here's one! How old are your resources? Oil-industry pollutants were present in water-supply wells in Kern County, according to a new report released by the State Water Resources Control Board. Chemicals detected at elevated levels include arsenic, barium and boron. The report also showed a recent increase in hydraulic fracturing ("fracking") near protected groundwater in California. The water board stated that pollution is "expected" given how close water wells are to oil and gas activities. It also deemed it "likely" that unlined oil-industry wastewater pits caused some of the water pollution. In 2010, contaminants from such a well bubbled up in a west Los Angeles dog park. (2014 ROD) (pg. XII) The toxicity of chemicals used in hydraulic fracturing fluids warrants further review now that SB 4 requires disclosure. Based on the voluntary database FracFocus, most of the chemicals used in California well stimulations are not considered to be highly toxic. However, a few of these chemicals, especially the biocides and corrosion inhibitors, are acutely toxic to mammals. No information could be found about the toxicity of about a third of the chemicals and few of the chemicals have been evaluated to see if animals or plants would be harmed by chronic exposure. Mandatory disclosure should improve our understanding, as previous data acquired from FracFocus does not consistently disclose all chemicals and may not always be complete or accurate. Hey, BLM. Get a full disclosure before you lease and take another sample before they pour the stuff into the shafts. Make them pay for testing at a reputable lab. Check ponds that they use for produce water. Refuse to lease space to non-cooperative companies. Get accurate plans for "produce water" disposal that don't pollute the groundwater or cause earthquakes. However, better you should get out of this toxic business altogether. (2014 ROD) (pg. XIII) Some chemicals used for hydraulic fracturing may become incorporated in the water that is produced along with the oil ("produced water"). In some cases, operators dilute produced water with fresh water for use in agriculture and some produced water is pumped into unlined pits where it could seep into the groundwater. Current practice and testing requirements do not necessarily protect against adding produced water contaminated with hydraulic fracturing fluid to water used in agriculture. Yes, we know. And we're not even going to go into your massive and deliberate underestimation of every aspect of the wells you want to permit, from air pollution to water usage. Here's a list of information, issues and failures in regards to CA's regulations of the toxic 'produce' water created by all drilling, including fracking. What's missing</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; and Water Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.</p>

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		<p>at the bottom of the list is how the BLM will acquite themselves in the handling of this horrendous and inescapable side effect of drilling."Produced water" is CA's 2nd largest Waste Stream: Every year the oil and gas industry in California generates billions of gallons of wastewater, known as produced water. According to a study by the CA Council on Science and Technology, in 2013, more than 3 billion barrels of produced water were extracted along with some 0.2 billion barrels of oil across the state. This wastewater is usually contaminated with a mixture of heavy metals, hydrocarbons, naturally occurring radioactive materials, and high levels of salts. Yet, contaminated wastewater from oil-field operations is exempt from the hazardous waste regulations enforced by the Resource Conservation and Recovery Act (RCRA). It's legal to re-inject produced water into aquifers for disposal. Under the Underground Injection Control program, wastewater is supposed to be injected only into geologic formations that don't contain usable groundwater. However, a loophole in the Safe Drinking Water Act allows oil and gas companies to apply for what's called an aquifer exemption, which allows them to inject wastewater into aquifers that potentially hold high-quality drinking water. Wells, like pipelines, leak, it's just a matter of time. Structurally, a disposal well is the same as an oil or gas well and they fail the same way - spills and leaks; well blowouts; and faulty well casings, cement, and equipment. A recent analysis estimated that between 2012 and 2013, the number of reported spills in 15 major oil and gas producing states rose by 17 percent to more than 7,000. More than 7,000 wells showed signs that their walls were leaking. Do you want to do this? Although many of these spills were small, their combined volume totaled more than 26 million gallons of oil, hydraulic fracturing fluid, wastewater, and other chemicals and compounds used or produced during oil and gas production. Hydraulic fracturing fluid and wastewater are often a toxic soup of chemicals. Many toxic and carcinogenic chemicals used in fracking and oil and gas extraction are water soluble and pose a great risk to the water we drink. For instance, hydrochloric acid is used to initiate rock fractures, ethylene glycol is used to prevent scale deposits in pipes, and glutaraldehyde is used to eliminate bacteria from produced water. There are also chemicals that are directly associated with fossil fuels and produced water, such as the well-studied BTEX chemicals (benzene, toluene, ethylbenzene, and xylene). This suite of chemicals, both from fracking fluids and fossil fuels, poses threats to virtually all systems of the body including the sensory, gastrointestinal, immune, reproductive, cardiovascular, endocrine, and nervous systems. It's really hard, if not impossible to fix a contaminated aquifer. California is the only state with significant oil production that allows waste water to be dumped into unlined pits, and independent scientists have called for the state to phase out this practice. The regional water boards still allow toxic wastewater discharges to continue at hundreds of wastewater pits. One company in Kern County has, over 6 decades, dumped more than 60 billion gallons of produce water in a system of unlined ponds. The water tests at levels for benzene, boron, toluene, and chlorides that exceed the state's maximum contaminant levels for drinking water, sometimes by orders of magnitude. A plume of wastewater beneath the ponds, for example, has already migrated more than 2 mile underground. Oilfield products are being found in groundwater under agricultural fields from other pit systems. The Division of Oil, Gas, and Geothermal Resources (DOGGR)– has for decades failed in its regulatory capacity. In 2015, for example, DOGGR admitted that at least 2,553 wells had been permitted to inject oil and gas waste into non-exempt aquifers– aquifers that could be used for drinking water. A major component of the SB-4 report covered California's Class II injection program. Researchers analyzed the depths of groundwater aquifers protected by the Safe Drinking Water Act, and found that injection and hydraulic fracturing activity was occurring within the same or neighboring geological zones as protected drinking water. When, not if, pollution and contamination from drilling is found on our public properties you're supposed to be managing, we're not waiting for lame explanations. The risks of this activity are known. We just want you to know that we're all watching now.</p>	
12465	Opinion - opposed to hydraulic fracturing	<p>Hi. I am commenting on your report as a whole, not a particular chapter or section. I have seen reports of how Oklahoma, not a state known for earthquakes, has significantly increased the number of small quakes it experiences. California, riddled as it is with faults both major and minor, cannot afford the risk of tension along these faults being increased. Fracking in California is simply too risky. Don't trigger "The Big One"! Sincerely, Ingrid Desilvestre</p>	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12539	Opinion - opposed to hydraulic fracturing	<p>I'm originally from Pennsylvania, a place now being fracked like crazy, and my family and friends still living there say there are many more earthquakes now, more frequent and more felt. So what about California, known for its seismic activity? While I believe we need to develop sustainable energy sources and end all new fossil fuel infrastructure projects, I am truly concerned about fracking's ability to trigger some 'big ones'. Why do we need to destroy so much for a little more gas and oil?</p>	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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9971	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	While I understand that our current oil and gas resources are under some pressure, I'm concerned about the potential, and very real, risks that fracking and oil development pose to the people of California and to our environment. Specifically, fracking presents serious risks to ground water availability and quality, something of particular concern in California where water is a precious commodity and already under threat due to drought. In addition, the waste water from the fracking process (indeed, from all oil production processes) is injected into deep wells, which has been associated with earthquakes, even in states not historically prone to earthquakes. In a state like California where earthquakes are not uncommon, it seems especially irresponsible to frack in areas that imperil the populations living near fault lines, like the proposed fracking site along the Carrizo Plain through which the San Andreas Fault passes. Further, oil and gas extraction produce air pollution, something that would imperil the improvements to air quality that we in California have worked so diligently and successfully to improve in recent decades. Inasmuch as some of the propose sites are located near schools, including Cate School where I teach, these emissions would negatively impact the students' health, as well as the health of others living in nearby communities. Moreover, public lands are resources in their own right that provide real monetary and health benefits to the people of California. I value Los Padres National Forest, Carrizo Plain National Monument, conservation lands, state parks, and national wildlife refuges in central California for the unique plants and animals they harbor, for the watersheds they protect, and for the recreation opportunities they offer. And lands that have been designated as National and State Parks deserve the wildlife and environmental protections originally intended by those designations. Ideally you would join me in my opposition to the Trump Administration's proposal for new gas fracking and oil development. At the very least, I urge you, as part of the Supplemental Environmental Impact Statement, to use the best available peer-reviewed science to conduct a thorough and transparent evaluation of all known impacts that new fracking and oil development may have on water, air quality, wildlife, and public health and recreation in central California. I also ask that, at the very least, more time be allotted for public review of proposals for each individual location, especially as the public was not provided with an accurate map of the parcels proposed for auction, and surface rights owners have not been properly notified. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12426	Opinion - opposed to hydraulic fracturing	As a long-time resident of California and Lover of California's Central Coast, I strongly oppose expanding the number of oil and gas wells by using fracking in San Luis Obispo County. This area's business and schools depend on tourism and agriculture and wineries to provide essential tax revenues. In addition, there is limited water for drinking, agriculture and recreation, including golf. There are many other inland areas in California, Texas a, Colorado, and other states that are less sceptical to earthquakes zones which are far better for oil and gas exploration. Do NOT distroy the economy, the air and water quality by allowing fracking in San Luis Obispo County. As the former CEO of the Law Foundation of Silicon Valley, it is vital that your agency listens to the concerns of the residents of San Luis Obispo County. Than you, James K. BOWEr	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11341	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I support the oil industry and the goal of energy independence for The United States. But I adamantly OPPOSE FRACKING on PUBLIC LANDS or ANYWHERE in California. It is absolute lunacy to consider fracking in a state that is crossed with so many known and unknown earthquake fault lines. The irrationality of allowing fracking in California is clearly evidenced by the sudden and substantial increase in earthquakes after fracking was initiated in states that were known to be geologically stable such as Oklahoma. In addition to the risk of increase of the rate and severity of earthquakes, the issue of significant groundwater contamination as was chronicled in the 2010 documentary Gasland should be enough reason to prohibit fracking in California. A drought prone state like California needs to do everything possible to protect its water resources which is a primary source of water to much of California. I submit that these reasons alone are sufficient to ban fracking on any lands subject to Bureau of Land Management authority. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11291	Opinion - opposed to hydraulic fracturing	I am not a scientist, but not disclosing what chemicals may be used in the fracking process is a big Red Flag. I believe Kern County already has water issues with TCP and we do not need to add to the existing problem. The potential enviromental and health side affects isn't worth it. My personal opinion is Don't Do It.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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20151	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am writing to urge you not to open federal public lands and mineral estate to oil and gas drilling and fracking. California is mandated to be completely carbon neutral by 2045. Each new oil or gas lease locks us into decades of carbon pollution that our climate cannot afford. Scientists agree we must stop fossil fuel expansion immediately and phase out both use and production of fossil fuels. California is seismically active with countless fault lines. Fracking and underground injection of oil and gas waste fluids are known to cause seismic events. The risk is too great.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
19571	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	I don't have to tell you all the reasons why fracking and oil drilling is a menace to humanity, wild life, water, air, land, environment, recreation, and natural beauty. You know all the reasons. Just say NO.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
19649	Opinion - opposed to hydraulic fracturing	Please do not allow this to pass. It is not necessary to ruin our environment and quality of air and water more. We are rather swiftly converting to clean energy	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
18196	Opinion - Air Quality	Allowing tracking and dangerous drilling would also put the state's most iconic landscapes at risk. It threatens not only lands managed by the Bureau of Land Management, but risks polluting the air and water in eleven distinct national parks, monuments, forests, and recreation areas, including Yosemite and Sequoia National Parks, portions of the Pacific Crest Trail, Hopper Mountain National Wildlife Refuge, as well as numerous state and local parks, open space, and schools.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
18196	Opinion - Air Quality	Moreover, new drilling and tracking would do even further damage to air quality in Central California, particularly in the San Joaquin Valley. The San Joaquin Valley is home to one of the most polluted air basins in the United States, failing to meet federal pollution standards for both particulate matter and ozone. ¹¹ These pollutants, which are also emitted by oil and gas drilling and tracking operations, stunt children's lung development, contribute to the formation of chronic lung and heart diseases, trigger asthma and heart attacks, and are correlated with premature death. ¹¹¹ New drilling in the region would threaten the health of low-income communities and communities of color already harmed daily by toxic air pollution.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
18196	Opinion - opposed to hydraulic fracturing	New drilling and fracking pose unacceptable risks to our health and safety. The Bureau of Land Management estimates that up to 90 percent of new wells on federal lands are tracked. A 2015 report from the California Council on Science and Technology concluded that tracking -in California happens at unusually shallow depths, dangerously close to underground drinking water supplies, with unusually high concentrations of toxic chemicals that are harmful to human health and the environment. ¹	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
18196	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Like a household budget, the planet has a fossil fuel budget, and it has been overspent. There is enough oil, gas, and coal in already open, producing fields globally to take us far beyond the Paris climate targets. ¹ v It defies reason for the federal government to continue auctioning off publicly owned lands and fossil fuels for development. Now more than ever, we must keep fossil fuels in the ground.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
18196	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	On behalf of the undersigned organizations, I'm submitting the attached letter, which urges BLM to withdraw its plan to open over one million acres of public land and mineral estate in Central California to new oil drilling and fracking. If there is anything else you need for this submission, please contact me. Sincerely, Jason Pfeifle	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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8846	Opinion - opposed to hydraulic fracturing	I live in the Los Padres National Forrest. I am utterly horrified that fracking is being considered in our area. There are so many reasons why this is wrong. One of the most glaring problems is we are in the midst of a long term drought. Fracking requires huge amounts of water that California can not afford to waste. We need clean water much more than cheap fossil fuels. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12748	Opinion - opposed to hydraulic fracturing	No fracking. Fracking is detrimental to underground water sources. Spend money on SOLAR installations. California is the leader in renewable energy.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11987	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Is it really necessary to point out all the reasons why fracking anywhere - but especially in already earthquake prone California - is a disastrous idea? Is there anyone out there who stills values the integrity of the natural beauty of the land, not to mention clean water (another resource subject to peril), healthy habitats for humans and animals alike, and not continuing to contribute to the destructive effects of climate change before it's (already) too late? How is this even up for debate unless there are just folks out there who are completely under the demagogic spell of the vile and disgusting leadership currently installed in our country?	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
9759	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	Let's continue NOT allowing this land to be developed for fracking and other oil development and preserve it as a reserve of energy resources, available for a future energy emergency. These parcels could be auctioned in the future for a fair market price to the benefit of taxpayers if and when there is a need to develop them.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12750	Opinion - opposed to hydraulic fracturing	Dear BLM team, As a citizen of the U.S. and a resident of California, I am against any fracking of any kind in California. We are already facing climate change and our water supply is under stress. To add the damaging effects of fracking to our state would be extremely harmful. Not only are we barely coping with the variables of climate but to undertake fracking and the expansion of this activity would further add to our water problems. It causes devastating pollution and the implications of this is beyond the scope of what any study could predict. NO more fracking. No to this proposal. Please.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12662	Opinion - opposed to hydraulic fracturing	This Southern California (tax-paying, homeowning and small business owning) family is against fracking in our beautiful State because it: -undermines our health with toxic chemical emissions, like methane, into our clean air; -threatens critical water supplies for rural and coastal communities; -increases the potential of more oil spills; and -endangers wildlife and their habitats. With climate change upon us and more extreme weather to come, we should not be seeking more oil but instead investing in sustainable energy like solar and wind. Oil is over and fracking is further destroying our great country. PLEASE NO FRACKING IN CALIFORNIA!! Sincerely, The van Zyl Family Los Angeles, CALF	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12243	Opinion - opposed to hydraulic fracturing	Please do not allow hydraulic fracturing. It has been linked with numerous problems (contaminated water and earthquakes among others).	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
10570	Opinion - opposed to hydraulic fracturing	We must get off fossil fuels!! Stop any efforts to frack on public lands in CA, or elsewhere! -- and do not allow any oil drilling off shore in our precious oceans.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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20615	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I value California's natural places and take regular trips to enjoy them. Each year I travel to Los Padres National forest to go camping with my friends and family. Last month I invited four family members from out of state to come to CA for vacation and we all went to Sequoia and King's Canyon National Park, bringing tourism income to the state directly due to their interest in visiting California's natural landscapes. There are many, many reasons, of which I'm sure you've already heard, about why we MUST NOT DRILL FOR OIL OR NATURAL GAS on our public lands. This includes: Los Padres National Forest, Carrizo Plain National Monument, and more. These lands are vital to our state for not only generating tourist income, but for also keeping our air, soil, and water clean, our local communities healthy, and the local flora and fauna protected. We need to protect these lands not only because it's morally and ethically the right thing to do, but it's also an obligation we owe to future generations. Fracking and oil drilling are inappropriate and incompatible with how local residents use, enjoy, and protect these special and sensitive places. It causes noise and air pollution. Chemicals used in fracking, including several known carcinogens, are toxic to humans and animals. Fracking has polluted surface water and caused irreparable harm to aquifers. Fracking has caused increased seismic activity. All of these impacts threaten the health of our children, can harm sensitive ecosystems and endangered plants and animals and can hinder recreation on public lands. At the conclusion of the analysis, I hope you will amend your management plan to impose additional restrictions on fracking and oil development, appropriate to the threat posed to water, wildlife, and humans. In addition, I hope that you will apply special lease stipulations for lands on or adjacent to schools, national forests, monuments, and refuges to better protect children, and the resources that make these places so treasured by the public. Thank you for taking my concerns into consideration. THANK YOU FOR NOT ALLOWING THE DESTRUCTION OF CALIFORNIA'S NATURAL LANDS!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12745	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	1 million acres of land and natural resources. That's what's at stake if the Trump Administration moves its plan forward to expand fracking in Central and Southern California. Secretary Bernhardt is attacking California with a dangerous fracking plan that threatens our health, our environment, and our safety. The proposed fracking plan: undermines our health with toxic chemical emissions, like methane, into our clean air threatens critical water supplies for rural and coastal communities increases the potential of more oil spills endangers wildlife and their habitats Time and time again, Secretary Bernhardt proves he simply wants to roll back our progress -- instead of moving forward towards greater protection of our open lands and nature. We cannot let Trump and his allies surrender our land, our water, and our communities to corporate polluters. Big Oil and proponents of fracking have caused irreversible damage that have destroyed precious habitats, killed wildlife, and devastated rural communities in our state. SHAME ON YOU FOR EVEN CONSIDERING THIS!!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12820	Opinion - opposed to hydraulic fracturing	do not trash California. do not frack in California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11710	Opinion - opposed to hydraulic fracturing	I live in the San Joaquin Valley, which has the poorest air quality in the country. Increasing fracking leases will only make the air quality worse in the Valley. The negative effects of poor air quality on health and longevity in the Valley are well documented. I think that it would be ill advised for the BLM to take actions that would make air quality in the Valley worse, which granting fracking leases would do. I oppose increasing granting any new fracking leases in California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Comment Number	Issue	Comment	Response
12266	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am a Californian resident and US citizen and absolutely against allowing this expansion of regions where fracking will be done!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12569	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I oppose the Bureau of Land Managements proposal to open up over 1 million acres of public land and mineral estate in California to new oil and gas hydraulic fracturing (fracking) leases. California is already over burdened by air, climate, and water pollution and cannot afford any additional sources of pollution from fracking. Moreover, this proposal fails to adequately evaluate the numerous impacts it could have on treasured landscapes, such as Sequoia and Kings Canyon National Parks, Carrizo Plain and César E. Chavez National Monuments, and Los Padres National Forest. I urge you, for the health and well-being of our public lands and communities, do not allow any additional oil and gas fracking to occur under this proposal. Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
20549	Opinion - opposed to hydraulic fracturing	Hello Im writing to oppose the proposed tracking of public land in the central coast of California. I know you received thousands of comments or post of this proposal. I too am a post and would like to invite you to visit our coast and hopefully not experience the first fracking induced earthquake along the San Andreas Fault. Please drop this proposal endangering our lives is not worth the oil youll find	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
10376	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I urge the BLM to allow for a fair comment period, to conduct a thorough review of fracking and its impacts on water, air, wildlife, and recreation, and to restrict oil development that impacts public lands. Drilling and fracking near key sites like schools, conservation lands, state parks, national forests and monuments, state ecological reserves, and city-owned natural reserves is too dangerous. The public was not provided with an accurate map of the parcels proposed for auction, and surface rights owners have not been properly notified. For these reasons, the public comment period must be extended. Thank you for taking my concerns into consideration and do the right thing.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
8644	Opinion - opposed to hydraulic fracturing	I am writing to express vehement opposition to any new fracking, continued fracking, or contribution to existing fracking operations (save to dismantle or clean up sites). The process of fracking is toxic, the processing of fracked materials is toxic, and the use of refined fracked materials is toxic. Lose, lose, lose, unless you are in the freaking business. The natural world is the ONLY thing we all have in common so let's get jobs in order going after sustainable energy, and projects that benefit now AND in the future.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11697	Opinion - opposed to hydraulic fracturing	Although I work for a school (Cate) less than half a mile from a proposed oil drilling and fracking site near Carpinteria, CA, we only two days ago learned of the proposal and the associated 30-day public comment period, which is almost over before we even knew it was happening. Affected landowners and nearby public resources, like schools, received no notification. That is unconscionable. Please extend the public comment period in order to allow the plans to be adequately publicized and studied by the affected public. In addition to schools, these plans affect numerous watersheds, wildlife habitats and highly valued recreation areas. Fracking and oil drilling lead to air and water pollution, as well as noise and visual impacts to areas highly valued for their natural beauty. Fracking uses toxic and carcinogenic chemicals, and has caused increased seismic activity. These areas are not the place for that. Our schools, water supplies, and recreational areas are too valuable and irreplaceable to destroy. Thank you for your consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12735	Opinion - opposed to hydraulic fracturing	Fracking in an earthquake-prone zone? Why are you focused on the short-term profits of a few large corporations--or does that question answer itself?	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

Comment Number	Issue	Comment	Response
12366	Opinion - opposed to hydraulic fracturing	Please no fracking in California. We don't need more oil in this world. There is only risk and no benefit to the average citizen.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12592	Opinion - opposed to hydraulic fracturing	Please put resources into safer and cleaner energy sources. We should be lowering our dependence on oil.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
10940	Opinion - opposed to hydraulic fracturing	I live in an orchard in Carpinteria, Ca, near some of the proposed hydraulic fracturing sites. Given our communities reliance of groundwater for our agricultural production alone, I am very concerned about the use of this extraction techniques. As I am interested in energy policy, I have read the U.S. EPA's 2016 report on Hydraulic Fracturing. I also have read a large number smaller studies over the last decade. What is clear is that there are circumstances in which the risks to groundwater from the overall operations involved with this technique should be taken very seriously. The area around Carpinteria and Santa Barbara county in general pose some of the very "severe" risk conditions identified by the U.S. EPA. I strongly believe that this activity should be prohibited in our location and should be confined to area without such a dependance on groundwater. In addition, at looking at some of the proposed lease sites, it appears they are very near schools and homes. I strongly encourage the agency to prohibit the leasing of public lands and rights in situations that would allow for such heavy initial activity (let alone the hydraulic fracturing) so close to schools and homes.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11801	Opinion - opposed to hydraulic fracturing	No fracking on our land!!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12831	Opinion - opposed to hydraulic fracturing	I was born and raised on the central coast, and am proud of our air quality, clean water and biodiversity. I have studied the California Condor and heard that with the installation of this possible project, they would be highly endangered. These birds have faced the risk of extinction and I cannot stand by and let the BLM put them back into such a fragile state, as they have just recently been re-released into the wild and are finally doing well. There are many cites that are on the list for potential drilling and fracking in my area that I love and treasure as pristine public lands, and I will not stand for the BLM destroying them with their dangerous work. DO NOT CONTINUE WITH THIS PROJECT.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12521	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	To whom it may concern, Are you people so blinded by money that you would endanger multitudes of humans and wildlife living on the central coast to make a bit of money on oil? The plan to put in a fracking facility within a 1/4 of a mile of Cate School is the height of foolishness, because the Shepard Mesa Fault as well as myriad other smaller faults, run throughout the area being proposed for fracking exploration. Other pressing problems include proximity to schools and the degradation of the water supply. WHAT ARE YOU THINKING???????? This is an incredibly shortsighted plan which would put people and the environment at risk. RECONSIDER. In anger, Julia Laraway	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11965	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I oppose opening new lands in California to fracking. Fracking makes no sense for California. It works against our legislated target to reduce greenhouse gas emissions and is a waste of water in a drought prone state. We should be investing money in wind and solar energy, not fracking. Moreover, fracking presents significant health risks to local communities (not to mention nearby waterways and wildlife.) I don't want my neighbors to have to start worrying about their drinking water. I don't want to set back our emissions reduction goals. And I don't want the beautiful public lands where I hike, camp, and backpack to be spoiled by intensive resource extraction. Please do not open new lands to fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
16739	Opinion - opposed to hydraulic fracturing	I am opposed to frackingIn the area of San Luis Obispo this is a very sensitive environment and not a good idea for our area. I have lived on the central coast for 40 years and this is very disturbing	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

Comment Number	Issue	Comment	Response
10338	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am terribly concerned about the current administration's plan to open large expanses of Central California land to drilling and fracking. I have no confidence that officials have any actual idea where these sites are, much less which earthquake faults lie underneath them and which watersheds they encompass. Californians take our land and resources very seriously, and the idea that parcels near our National Forest and Monument lands, wilderness reserves and delicate waterways and water sources can be auctioned off to oil companies for next to nothing is both frightening and insulting. As a citizen and taxpayer I expect and insist on proper, transparent due diligence from all government agencies. That includes the Bureau of Land Management. Please don't assume that the taxpayers aren't listening. We are.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12556	Opinion - In favor of oil and gas exploration and development	After reading the draft, I came to several conclusions. First conclusion is that BLM has set out an effective plan to manage further production of oil and gas on BLM and non-BLM lands. The reviews that continue to be required for protection of natural and environmental consequences remain consistent. The objections voiced by activist groups seem to be the same old "harms ground water", "causes subsidence" and "poor air quality" are boiler-plate issues raised concerning all current energy producing methods. Fracking, while effective in production, is not the destructive process it's critics would have you believe. Amazing that folks with no solid scientific underpinnings can stand at a public hearing and expose their lack of knowledge of a subject as important as production of energy for the country. Secondly, I know and have discussed with many oil company geologists and chemists the importance of using fracking to obtain product otherwise unattainable by conventional means. They have told me how carefully production is monitored and how they spare no expense to follow safe and economically sound practices. One friend worked for a large oil company and her job was spotting and protecting kit foxes and other endangered species, yet critics would have you believe the drilling companies are bent on raping and pillaging their own lease land. Finally, I know that there are interests in our country who wish to end all sale and production of petroleum products. Again their knowledge of the alternatives, cadmium sulfide used in solar panels and the cost to build wind turbines for example, is ignored in an effort to make their case. They overlook cost and environmental difference between natural gas and coal, the infrequent leaking of methane, and the proximity to population addressed in the draft. I think the time frames, management plan and environmental issues in the draft are well-done and I support BLM strongly.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12556	Opinion - In favor of oil and gas exploration and development	After reading the draft, I came to several conclusions. First conclusion is that BLM has set out an effective plan to manage further production of oil and gas on BLM and non-BLM lands. The reviews that continue to be required for protection of natural and environmental consequences remain consistent. The objections voiced by activist groups seem to be the same old "harms ground water", "causes subsidence" and "poor air quality" are boiler-plate issues raised concerning all current energy producing methods. Fracking, while effective in production, is not the destructive process it's critics would have you believe. Amazing that folks with no solid scientific underpinnings can stand at a public hearing and expose their lack of knowledge of a subject as important as production of energy for the country. Secondly, I know and have discussed with many oil company geologists and chemists the importance of using fracking to obtain product otherwise unattainable by conventional means. They have told me how carefully production is monitored and how they spare no expense to follow safe and economically sound practices. I have an acquaintance who worked for a large oil company and her job was spotting and protecting kit foxes and other endangered species, yet critics would have you believe the drilling companies are bent on raping and pillaging their own lease land. Finally, I know that there are interests in our country who wish to end all sale and production of petroleum products. Again their knowledge of the alternatives, cadmium sulfide used in solar panels and the cost to build wind turbines for example, is ignored in an effort to make their case. They overlook cost and environmental difference between natural gas and coal, the infrequent leaking of methane, and the proximity to population addressed in the draft. I think the time frames, management plan and environmental issues in the draft are well-done and I support BLM strongly.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12516	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	In the Los Angeles Times article, "Trump fracking plant targets over 1 million acres in California," by Anna M. Philips, the act of replacing a natural habitat is discussed. Replacing natural habitats threaten the ecosystem in that location. Rather than harming the environment to harvest oil, the area could be preserved for wildlife. Fracking would not only target public land, but also private land in eight counties. The additional risk with oil drilling involves health issues from poor air quality and ground water contamination. Projects such as drilling for fossil fuels, may provide job opportunities, yet they are still detrimental to the environment.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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14136	Opinion - opposed to hydraulic fracturing	I am writing to ask that the BLM Bakersfield Field Office fully evaluate and address potential impacts of hydraulic fracturing in the Central Valley, including considering the need to refrain from moving forward with new leasing entirely and to put in place meaningful protections. Please amend the Bakersfield RMP to include alternatives that fully and legitimately consider the tremendous risks involved in hydraulic fracturing and the consequences that could befall communities in the Central Valley.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
17593	Opinion - opposed to hydraulic fracturing	No more fracking. Period.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12485	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	The extraordinarily high air, water, noise, and visual pollution rates associated with fracking do not permit any reasonable public value to be gained from land that is subject to fracking. BLM land should be managed for public good, not corporate gain. No public good will come of any plan allowing fracking. Water is already exceedingly precious in California and only becoming more so under climate change. We can't afford to lose more of our precious public resources and land to fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
9961	Opinion - opposed to hydraulic fracturing	Seeing in Science News, and other publications on the earthquake stimulating results of fracking (especially Oklahoma as an example), why anyone would allow fracking in California must be very uniformed of the consequences of such activity. We have enough seismic activity in this State without any further assistance from the oil industry.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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13402	Opinion - opposed to hydraulic fracturing	<p>I am writing to express my complete opposition to the BLM issuing additional oil and gas leases in California, including the Central Valley and on the Central Coast. This is my public comment. Just because the technology exists, fracturing dense shale thousands of feet deep to forcibly release oil and gas locked there – doesn't make it a wise choice. There are consequences and these are the most important to me. Earthquakes: There is a connection between fracking and earthquakes. California is riddled with earthquake faults including the San Andreas. The Planning Area Map shows a lot of red splotches along the San Andreas. No gas/oil company can possibly protect the public from a catastrophic "accident." In Oklahoma, experts have reported a millennium's worth of quakes in two years because of fracking there. We could expect nothing less in California. [https://www.theguardian.com/environment/2016/jan/10/fracking-earthquakes-oklahoma-colorado-gas-companies]</p> <p>Climate Change: Fracking advocates have argued the technology is good for climate change because, at least in the U.S., gas has been displacing coal in the power mix. But that coal is usually still burned elsewhere in the world, meaning fracking is simply adding to fossil fuel supplies – and the stock of greenhouse gases in the atmosphere. We have cleaner technology and more sustainable options that provide more jobs. Water: Fracking consumes huge quantities of water in the process. In Spring 2015, the U.S. Geological Survey (USGS) issued a report declaring that a spate of earthquakes over seven years were man-made, triggered by drilling for oil and gas. [https://www.theguardian.com/world/2015/apr/23/oil-gas-drilling-triggers-man-made-earthquakes-usgs]</p> <p>Dumping toxic wastewater from the drilling process destabilized faults in the bedrock, according to the report, causing more problems than the high-pressure injection of water, sand and chemicals. [https://www.theguardian.com/world/2015/apr/24/earthquakes-fracking-drilling-us-geological-survey]</p> <p>Water contamination: Water contamination is a valid environmental concern and where some of the most egregious incidents have occurred. Research by the U.S. EPA concluded in 2016 that in some cases fracking had harmed drinking water supplies. [https://cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=332990]</p> <p>With great power comes great responsibility. The U.S. should be leading the world in fighting climate change. This is a meaningful Mitigation Measure. For our safety and that of future generations, I am adamantly opposed to the BLM issuing additional oil and gas leases in California, including the Central Valley and on the Central Coast Kathleen F. Lamoree 212 Warren Way San Luis Obispo, CA 93405</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.</p>
24466	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	<p>I am writing to express my complete opposition to the BLM issuing additional oil and gas leases in California, including the Central Valley and on the Central Coast. This is my public comment.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.</p>
24176	Opinion - opposed to hydraulic fracturing	<p>I vigorously oppose the BLM's proposal to open up more than 1 million acres of public land and mineral estate in California to new oil and gas fracking leases. Our public lands -- indeed, our planet as a whole -- is under a terrible strain from pollution, climate change, overdevelopment, habitat loss, and more. Besides being symbols of the great country we all want, our national parks provide huge benefits to people. The economic benefits alone far outweigh our need for more cheap oil and gas. As a taxpayer, I am sick of subsidizing oil and gas companies. We can do better. Please do not agree to any additional oil and gas fracking. Thank you.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>

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14292	Opinion - opposed to hydraulic fracturing	CORRECTED SUBMISSION I would like to address the Trump administration's proposal to open up over one million acres of federal land in California to new fracking sites.I was born in the San Joaquin Valley and have lived here and in other parts of California my entire life. In the years since 1944, business interests have brought the San Joaquin Valley to its knees, environmentally speaking. They have done this through excessive agricultural acreage, over-drafting of our aquifer and rivers, destruction of wild habitat through urban sprawl, and poisoning of our air, land and water with petrochemicals. Yes, population growth underlies much of this, because we need the basics of life and a supporting economy, but the citizens of our state are becoming aware that environmental exploitation and forever types of destruction are anything but supportive of life.I dream of helping the Valley re-invent itself for coming generations. What form its economy might take to be both environmentally friendly and aesthetically appealing I do not pretend to know, but I do know that some present-day practices, if they continue, will make any good future unrealizable. Fossil fuel extraction, fracking in particular, is one of those. Some of the chemicals used in fracking will be in our land and water for eons. Some are known to cause cancer, others to interrupt hormone cycles. The methane and CO2 released through site leakage and as a by-product of natural gas as a fuel contribute to the most perilous situation ever faced by the human race, climate change. We face possible extinction because of it.Much of the federal land proposed to be opened up for fracking is not very appealing, should that matter to some deciders (it shouldn't). Other areas are among the most beautiful places on earth, and I refer to Yosemite, Kings Canyon, and some unspoiled parts of our Coastal counties. But all are home to living things that are part of the web of life, and none should be poisoned, the least reparable of the many harms we do to our planet.In short, I am adamantly opposed to fossil fuel extraction, and fracking in particular. Rather than open new sites, we should ban fracking now. Our future depends on doing the right thing.cc: Gov. Gavin Newsom	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24540	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	It is unacceptable to frack anywhere, but on PUBLIC LANDS? No!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
23540	Opinion - opposed to hydraulic fracturing	My name is Kathryn Barron, I live in southern California. I want to express my support for the need to prohibit hydraulic fracture drilling as well as to share my hope that this set a precedent for increasing moratoriums on fossil fuel extraction across the board. Clean water is a massive concern as hydraulic fracturing negatively affects availability and potability of groundwater. It is also imperative to stop evading the larger issue demonstrated by the massive amount of internationally accepted research collected and agreed upon by the UN IPCC and Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services finding that fossil fuels are actively harming our communities and causing immediate peril to health and safety now by urgently threatening to our ability to inhabit this planet. we must use policy to direct transition to renewable sources of energy that provide jobs that do not expose workers to dangerous conditions or carcinogenic petrochemicals unlike the supposed plethora of secure employment offered by petroleum companies. I ask that my government, the Dept. of the Interior represent me, represent the youth, and represent the sanctity of life and of future generations and create solid foundation for resilience by acting in accordance with this climate emergency in this county and taking the lead to transition away from fossil fuels.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
16558	Opinion - opposed to hydraulic fracturing	Let's prioritize our water, air, wildlife, and people by not permitting this harmful activity. It is far past time to be exploiting new sources of carbon-based energy. C'mon, California, we know better.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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13835	Opinion - opposed to hydraulic fracturing	I want to have no fracking in the state of California We have a high incidence of earthquakes and to adding fracking since like adding an extra injury to the process and increases the likelihood of earthquakes.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
10224	Opinion - opposed to hydraulic fracturing	Why fracking is bad for our environment:The Anatomy of CyclicSteaming excerptsJune 26, 2014 By Lyz Hoffman, The Independent, S.B. In its first year of life, a successful well would yield about 50 percent oil, a figure that could drop to 5 percent over time. Kevin Drude, deputy director of Santa Barbara countys Energy Division. No chemicals are injected into theground [with cyclic steaming]..... But the use of the water itself and the energy it takes to heat it is where the environmental concerns come in. The process is much more carbon intensive than traditional drilling, which can emit a quarter of the emissions of a cyclic-steaming operation for the same number of wells. The gas-powered steam generators required for the process can pump thousands of metric tons of carbon dioxide into the air. Santa Maria Energys 136 wells will likely emit 88,000 metric tons annually, equivalent to the emissions from more than 18,000cars. ****Approximately a ten percent increase to existing carbon dioxide emissions in Santa Barbara County. --Santa Barbara County Planning and Development. --Santa Barbara County Air Pollution Control District. 2011xxxxCanada's experience w/fracking:1.2 Million Litres and still leaking Cold LakeDerrick on August 18, 2013Underground oil spills on Canadian Natural Resources Ltd. Primrose facility have been leaking bitumen (asphalt) emulsion into the muskeg, waterways and forest that surround the site for nearly three months.... and has yet to show signs of abatement."As a consequence of assorted fractures, well casing failures and leaks, Imperial is now investigating levels of benzene, toluene and ethylbenzene that exceed Canadian Drinking Water Guidelines in local groundwater." (Cold Lake, Canada)xxxxCasing failure rate is high in steam injection wells and especially in cyclic steam injection wells..https://www.onepetro.org/conference-paper/SPE-114231-MSPlease watch this:Why fracking is bad - 8 min video.https://tinyurl.com/ybasxgrfl strongly urge you to keep our public lands free of harmful fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
14085	Opinion - opposed to hydraulic fracturing	Water is a precious resource and its use in fracturing needs more careful research. Is this a viable use of water? Can we afford to pollute our water? Does the end product justify the means of obtaining it? The environment needs to be secured for future generations. More perspectives need to be taken into account in this document.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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11948	Opinion - opposed to hydraulic fracturing	Opening up new public lands to fracking and other fossil fuel extraction methods is contrary to California's commitment to building a sustainable future without reliance on fossil fuels. California has a statutory target of reducing greenhouse gas emissions to 40 percent below 1990 levels by 2030, and a plan to reduce petroleum consumption by 45 percent by 2030 to meet this target. We need environmentally and economically sound energy strategies focused on the development of renewable energy sources. Fracking involves the use of toxic and poorly understood chemicals. These toxic chemicals get into the groundwater, especially in California, where fracking operations are dangerously shallow. Our communities, waterways, wildlife, and outdoor economy will all be put at risk.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
12224	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	NO to BLMs proposal to open up over 1 million acres of public land and mineral estate in California to new oil and gas hydraulic fracturing (fracking) leases. This proposal fails to adequately evaluate the numerous impacts it could have on treasured landscapes, such as Sequoia and Kings Canyon National Parks, Carrizo Plain and César E. Chavez National Monuments, and Los Padres National Forest. No more fracking. Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12129	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am writing to respectfully request no new fracking permits allowed on BLM (or any) land in California. This dirty, polluting, dangerous, destructive and frankly somewhat unknown process is far too risky for our state to take part in when the scientific community (and the majority of Americans) agree that we should be expanding clean fuel development, and move away from a carbon-based economy as quickly as possible. My family has fracked their land in Wyoming, with disastrous results. Don't let this be us next.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24094	Opinion - opposed to hydraulic fracturing	Fracking is so questionable, and there is data showing how communities near fracking have pollutants in their water. I don't believe the benefits seen from fracking merit the dangers seen. Please, please do not allow this to happen. Thank you for hearing comments.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
21069	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Please do not allow fracking in California. The detriments to the land are unacceptable and we need to move towards clean, renewable energy. The planet needs us. Future generations need us to make the right decision. The time for change is now.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11193	Opinion - opposed to hydraulic fracturing	Do not open central CA for fracking. Your grandchildren will thank you for it. Fracking fluids and water dont mix.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

Comment Number	Issue	Comment	Response
16223	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am writing to express my long-time regard for our national parks and thus my opposition to the Bureau of Land Managements (BLM) proposal to open more public land in California to oil and gas fracking. Please put focus and priority on protecting America's natural treasures instead of sacrificing them to the treasuries of energy corporations. Some things are more valuable than economics, and our parks and public lands are such valuable things. The current BLM proposal does not adequately take into account the likely impacts on places such as Sequoia and Kings Canyon National Parks, places I've been blessed to visit in person. Please stop the potential plundering of such iconic natural wonders. Please do not allow any additional oil and gas fracking to occur under this proposal. Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
22585	Opinion - opposed to hydraulic fracturing	Hello, I am a resident of nearby Ventura, CA. Although it's becoming increasingly crowded, the Ojai Valley remains a scenic recreational area for both nearby residents and tourists. It is an asset to the local economy as a tourist destination. I am concerned about fracking and oil exploration near Ojai Valley because it is known to increase seismic activity, and fault lines are nearby. For these reasons, I am opposed to further oil and gas development within Ojai Valley. Additionally, the draft EIS appears to be inadequate as it is reportedly being rushed through the process with an artificial one-year deadline that will compromise the quality of the study. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
23908	Opinion - opposed to hydraulic fracturing	The idea behind this proposal is extremely irresponsible. Opening our public lands to fracking directly endangers precious water resources at a time when we should be preserving our water resources as much as possible, and moving away from fossil fuels as quickly as we can. Please do not allow this project to go forward. We cannot drink oil. We need freshwater to survive.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
9380	Opinion - opposed to hydraulic fracturing	My two daughters are enrolled in High School at the Thatcher School located in Ojai, CA. Following review of the BLM map designating drilling and fracking leases, it appears that a 40-acre parcel located on (or immediately adjacent) to the Thatcher School campus. For the obvious reasons, given the location of this parcel and the proximity to the Thatcher School, any type of drilling or fracking activities on this parcel would be highly inappropriate and cause irreparable harm and disturbance and would be classified as a "nuisance." As part of the Supplemental Environmental Impact Statement, I urge you to use the best available peer-reviewed science to conduct a thorough and transparent evaluation of all known impacts that new fracking and oil development may have on wildlife, water, and public recreation on federal public lands in central California. At the conclusion of the analysis, I hope you will amend your management plan to impose additional restrictions on fracking and oil development and in addition, I hope that you will apply special lease stipulations for lands on or adjacent to schools, national forests, monuments, and refuges to better protect children, and the resources that make these places so treasured by the public. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
19465	Opinion - Alternatives	Recent investigations have exposed that ExxonMobil has known since about 1977, that fossil fuel extraction, processing and use of derivative products causes green-house gas emissions which cause climate change. It was discovered that ExxonMobil created extensive internal forecasting plans using this information to estimate potential opportunities for exploration in new areas of the arctic and northern Asia and to assess risks to itself from rising sea levels, extreme weather and regulatory agencies. ExxonMobil also embarked on an intentional, self-conscious campaign of dis-information to prevent an accurate understanding of the effects of fossil fuel production and climate change among the public. Given the acknowledgement of the consequences of the extraction and use of fossil fuels by the world's leading oil and gas corporation and heeding the warnings and recommendations of the IPCC, and US federal government, the only reasonable policy is to adopt the no lease option in the relevant draft SEIS analysis area.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement. Neither a state-wide leasing moratorium, nor the choice of a "no leasing" alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.

Comment Number	Issue	Comment	Response
21743	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I want to add a comment to say I am against the fracking in California. Millions of gallons of water are used in the fracking process, which directly reduces the amount of clean water available to surrounding residents. Water contamination could also reduce the overall water supply of regional fracking areas, as the chemicals that are used in the process have the propensity to leak back into local water supplies. Waste water is also an issue at fracking sites. Between 20% and 40% of the water used for fracking that is returned to the ground surface consists of toxic contaminants. The presence of wastewater has harmful ramifications for the environment, as it cannot be easily treated and returned to a usable state – for purposes other than fracking, that is. Other Environmental Concerns In addition to air and water pollution, fracking also increases the potential for oil spills, which can harm the soil and surrounding vegetation. Fracking may cause earthquakes due to the high pressure used to extract oil and gas from rock and the storage of excess wastewater on site. Please do not pass this in California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Water Resources; and Seismicity. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
14707	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am curious as to why the Bureau of Land Managements (BLM) is proposing to open up over 1 million acres of public land and mineral estate in California to new oil and gas hydraulic fracturing (fracking) leases. I'm not even writing this message to oppose this idea (although I do oppose it). I really do wonder what the Bureau of Land Management is thinking when you put your stamp of approval on leasing/selling public land for something that you know is environmentally unsound at best. Other than certain parties financially gaining from what you propose, there is no benefit to this and there is absolutely going to be great and in many cases irreversible harm done. Why are you even considering leasing/selling public lands to the coal or any industry that is going to cause so much harm?	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12813	Opinion - opposed to hydraulic fracturing	I strongly oppose this plan. It threatens critical water supplies, which are already under stress. Under this plan water that should be used for sustaining the residents of these areas will be wasted on fracking. Chemicals deposited in the ground by the fracking process are likely to contaminate ground water used for families. Fracking companies are not required to be disclose what chemcals they use in the fracking process and the health threats these chemicals pose to the public remain unknown. The plan further undermines public health with toxic chemical emissions like methane into the air.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12853	Opinion - opposed to hydraulic fracturing	I am opposed to this for many reasons, but the biggest and most pressing is that fresh, clean drinking water is already too precious to squander or even risk, and with sea level rise and population rise it's going to become even more so. Our aquifers are far more precious than oil.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12760	Opinion - opposed to hydraulic fracturing	I would like to register my strong opposition to any measures that allow or expand hydraulic fracturing. At a time when everyone realizes that water is precious and crucial, especially in California, it is total madness to allow a procedure that uses vast amounts of water, and threatens to pollute vast reserves of groundwater. Please uphold your responsibilities as guardians of our natural resources. It is also madness to be producing more fossil fuels when we urgently need to be decreasing our carbon emissions. Head the warnings of Science. NO FRAKKING at all in California or anywhere else. sincerely, Kyle Kosup	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

Comment Number	Issue	Comment	Response
14545	Opinion - opposed to hydraulic fracturing	Greetings. I urge you to reject the Supplemental Environmental Impact Statement for this project, and demand that the moratorium on oil exploration on Los Padres National Forest Lands be kept in place. The risks involved in further oil exploration, especially hydraulic fracturing, have been hardly considered in this SEIS. Many of the proposed sites for oil exploration WILL affect important watersheds that provide drinking water for thousands of Californians. An example of this just occurred in Orcutt, CA, where a USGS survey determined that the aquifers near Orcutt Oil Field has been contaminated with oil field fluids, largely from steam injection. The fact that this sort of thing occurs on projects that already exist, and had already gone through the same sort of environmental impact statement that has been drafted here completely invalidates the risk assessments outlined. Clearly the practices involved are not safe, and the risks of groundwater contamination are MUCH higher than reported. This state does not have the water budget to allow for this sort of activity, nor the will to poison its land. Also of paramount importance is the looming issue of climate change. We as a state, a country, a world, need to transition away from fossil fuel production as fast as possible to avoid a worse climate crisis than we are already guaranteed to experience. Increased oil production in California will add to carbon emissions in the act of extraction as well as in the actual consumption of product. One of the main concerns of climate change for most of the West is fire danger. Santa Barbara County has already seen a climate change-based increase in fire danger due to drought. The process of oil extraction poses a serious risk of fire as well, yet another reason to not approve of new oil exploration in LPNF. Another concern of mine is that several schools lie within close proximity of proposed sites, which would expose schoolchildren to the pollutive effects of oil drilling and hydraulic fracturing. Another important note: This state is already extremely earthquake prone, and hydraulic fracturing has been found to cause seismic events, and existing oil waste storage wells are in close proximity to fault lines, greatly increasing the change of spills and groundwater contamination. These are dangerous practices in states without serious earthquake risks, let alone the most earthquake prone state in the Country. In conclusion, I reject this SEIS as inadequate, and demand an additional alternative added to the DEIS: no new leasing. Keep the moratorium in place, the practically nonexistent benefits are not worth the monumental risks.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
22003	Opinion - opposed to hydraulic fracturing	Do not allow fracking anywhere.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
21923	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Please do not allow Fracking in or near the Ojai Valley, or in the Los Padres National Forest. Because of water concerns, chemical concerns, public health concerns, earthquake concerns, wildlife concerns, public safety, and beauty of the landscape. It is not good for living things and we live here. Thank you, Laura Rearwin Ward Publisher, Ojai Valley News 805-6461476	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
13134	Opinion - opposed to hydraulic fracturing	As a lifelong Southern Californian, I grew up among plenty of oil wells. Visiting my grandparents in Santa Barbara, I remember seeing the effects of the oil spill on the beach in the late 1960's. Smog was part of my childhood and my little sister was hospitalized for asthma attacks at least twice. I remember watching her struggling to breathe inside an oxygen tent. Although the air quality is much better now, and my own kids got to grow up with views of the mountains I never could see as a child, I am deeply concerned about our continuing dependence on fossil fuels. They create air pollution, devastate waterways and contribute to climate change. Fracking presents even more hazards that haven't been fully documented. In a region already prone to seismic activity, injecting liquids and breaking up the bedrock to extract oil could introduce unexpected dangers. The evidence is now beyond irrefutable that our dependence on oil and gas is contributing to climate change. Every week brings a new and unprecedented weather catastrophe. We cannot, can not, allow this to continue. Our children must not be left with the consequences of our irresponsibility. If they are to have a chance at survival, we must immediately curtail drilling and focus instead on developing cleaner and more sustainable energy. Solar arrays, wind turbines, geothermal energy and other systems offer a way forward. Any jobs that might be lost in oil can be found in more environmentally-friendly power production. I plead with you as a human being and a mother. Do not allow more drilling in a region that's already suffering from its effects. Do not allow more drilling on a planet that is on the brink of serious devastation. Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

Comment Number	Issue	Comment	Response
12407	Opinion - opposed to hydraulic fracturing	Please do not subject Californian residents to the dangers of fracking. Fracking will jeopardize water and food security for Californians the latter of which the rest of the US depends on as well. We are already earthquake-prone. Why increase the risk of disastrous seismic activity further? Our national parklands need to remain public and unspoiled. We need to preserve all of our forests to combat present and future climatic catastrophes.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9373	Opinion - opposed to hydraulic fracturing	Short term gain is too expensive for long term loss. Fracking is unnecessary and dangerous to ecosystems, animals, and humans. Fracking and oil drilling causes noise, air and water pollution, seismic activity, carcinogenic chemicals toxic to humans and animals, and caused irreparable harm to aquifers. Property owners have not been notified and the public have not been given accurate maps....so the public comment period must be extended.Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12209	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Dear Acting State Director Joe Stout, I am shocked and outraged to hear that the Federal Government is lifting the moratorium on fracking and oil drilling on BLM lands. This will mean the irreversible devastation of the already fragile ecosystems that have been protected thus far by a concerned public that still shares a sense of common caretaking, and here in California, this action further threatens our emaciated and increasingly contaminated aquifers and critical water supply. I have been researching the Monterey shale and its related aquifers for many years. I understand that that shale harbors some of the dirtiest crude oil on the earth, and that the aquifers are intimately associated with the shale. Most of the oil and gas development, were it to go forward, would extract from the Monterey formation. There are many exciting developments in alternative energy sources and systems, especially here in California, that should be given priority for research and development over this irreversibly destructive move. Please do not allow our public lands to be opened for new drilling of oil and gas wells, or for fracking. Sincerely, Laurie Palmer 1230 N Branciforte Ave Santa Cruz, CA 95062-1052	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
8924	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I strongly oppose the BLMs plans to open over 273,000 acres of public land and 1.2 million acres of mineral estate overseen by the BLM to oil drilling and fracking. Hundreds of fracking chemicals are known to be toxic to humans and wildlife, and several are known to cause cancer, according to several peer-reviewed studies by scientists and state regulators. A 2015 report from the California Council on Science and Technology highlighted these risks. National forests, monuments and wildlife refuges and preserves harbor sensitive ecosystems and wildlife, protect important watersheds, and are places of recreation. The BLM must conduct a thorough review of oil drilling and fracking and their impacts on water, air, wildlife, and recreation. I urge the agency to restrict oil and gas development that impacts any public lands.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
9566	Opinion - opposed to hydraulic fracturing	With horror I have read about the BLM's plans to open vast areas around me to fracking and oil developments. I would like to voice my strong objections to these plans. I know many of the areas well, i.e. I just spent time in the close vicinity of The Thatcher school, basically right on top of one of the proposed sites, as my friends live very close to this area. Not only would opening these areas up destroy beautiful nature, habitats to a host of flora and fauna - it also would potentially endanger the people that are living there. Please be aware that the resistance to these plans will be fierce if you are not able to show that the planned drillings pose no danger to the lands around it - including the wildlife and the people close by.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12655	Opinion - opposed to hydraulic fracturing	Bakersfield has been damaged enough with the oil drilling. Please, do not add fracking to this damage. Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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24014	Opinion - opposed to hydraulic fracturing	Fracturing is bad for the environment and should not be done anywhere in California. There is no wat to mitigate the damage to the environment.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
8789	Opinion - opposed to hydraulic fracturing	<p>Calculations from the EPA show at least 9 hydraulic fracturing chemicals may be injected at concentrations that pose a threat to human health ---through drinking water sources, direct kin contact, breathing vapors from flowback wastes stored in pits or tanks. Even their own (oil industry) studies show that 20-85% of fracturing fluids may continue to be a source of groundwater contamination for years. A few examples of spills from fracturing chemicals and waste: 2009 Cabot Oil, 8000 gallons of fluid polluted Stevens Creek, resulting in a fish kill; 2009 Atlas Resources wastes entered Dunkle Run, a high watershed.; May 2010 Range Resources250 barrels of diluted fracturing fluids from a broken transmission line flowed in a tributary of Brush Run, killing at least 168 fish, salamanders and frogs; Oct 2005 a Kerr-McGee well in Colorado failed resulting in up to 210 gallons of flowback fluids spraying into the air and offsite, mostly on pasture land, leaving a visible coating of as much as thick.Shales contain many organic hydrocarbons and additional chemicals that are injected are eventually brought to the surface in fracturing flowback or produced water, where they will offgas its organic compounds into the air, becoming a pollution problem (HAPs) Chronic inhalation results in headache, dizziness, giddiness, insomnia, nausea, gastric disturbances, conjunctivitis, visual disturbances and blindness. (EPA)Then there is the problem with wastes, which contain high concentrations of certain chemicals. A Pro Publica article raised concerns about concentrations of radioactive materials in wastewater from natural wells gas wells. Disposal of drilling and fracking wastewater is a continuing problem. Research by Carnegie Mellon suggests that elevated levels of Bromide in the Allegheny and Beaver Rivers reacted with disinfectants used by municipal treatment plants...and are linked to several types of cancer and birth defects.Because of the proprietary information, we dont even know all the chemicals that are used. (NRDC and other groups tried unsuccessfully to get this information.Then there is the link between fracking and earthquakes, primarily during the fracking process and secondarily via the disposal of fracking wastewater via underground injection. With California being on fire the last couple years, the absolute last thing we need is an earthquake. And recent studies show these earthquakes can be quite large, eg 5.7 near Prague OK. (More info at Science (2013); National Academy of Sciences-2012; The Earth Institute Colombia University; Journal of Geology, 2011; Capitol Confidential; Mother Jones.) NBC news Jan 2011 reported that fracking conclusively was to blame for Ohio earthquakes.The industry is quick to point out that the chemicals only make up just .05 to 2% of the volume of fluid. But when millions of gallons are used, that amount is quite significant. For example, a four million gallon fracturing operation would use from 80 to 330 TONS of chemicals. (Earthworks) And per the Environmental Working Group, very small quantities of some fracking chemicals are capable of contaminating millions of gallons of water. And many of these chemicals are known to harm both human and animal life, like toluene, benzene, hydrochloric acid, etc. And VOCs pose a risk to our drinking water, as well as entering the air. In addition to polluted air, polluted water, changes in migration, earthquakes, and community health problems, the amount of water used is obscene. We are in a drought. We are all asked to cut back. We need water for farming. Fracking can use from 2 million up to 10 million gallons per well (and leaves behind almost as much toxic waste.) We dont need it. We dont want it. We cannot afford it from a water or health perspective. This is only to benefit the corporations...and havent they already put us in enough danger with climate change?</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>
8492	Opinion - opposed to hydraulic fracturing	<p>I am opposed to the potential plan to allow fracking in the Ojai Valley in Ventura County, California. In addition to the ecological and environmental impact concerns that many others are sharing, I am extremely concerned about the impact on our water supply. As you may know, Southern California is in the midst of an extreme drought. This drought impacts the Ojai Valley more than other areas of the state because our ONLY water source are a reservoir, which collects rain water, and groundwater. (Other areas are connected to so-called "state water", which is delivered via aqueducts and pipelines from Northern California. We are not connected to this system.)Our reservoir is currently at 32.2% capacity and is estimated to go dry in 4-5 years unless significant rainfall occurs. Our groundwater levels are likewise significantly low.Fracking, of course, uses significant amounts of water and although the water used is "returned", it is contaminated and therefore no longer of value to humans, livestock, or agriculture.I STRONGLY URGE you to to protect what little water supply we have and not allow the proposed fracking to take place in the Ojai Valley.Thank you for taking my concerns into consideration.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>

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10720	Opinion - opposed to hydraulic fracturing	FRACKING CAN CONTAMINATE DRINKING WATER. WHAT ELSE DO WE NEED TO KNOW? https://www.scientificamerican.com/article/fracking-can-contaminate-drinking-water/ Regulations are put in place to keep us safe. This is no exception! No to any additional lands being used for the purpose of fracking in California.People in Pavillion, Wyo., living in the middle of a natural gas basin, complained of a bad taste and smell in their drinking water. U.S. EPA launched an inquiry, helmed by DiGiulio, and preliminary testing suggested that the groundwater contained toxic chemicals. Lesson learned! !NO! to more fracking in California. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11061	Opinion - opposed to hydraulic fracturing	Big oil wants to use millions of gallons of California's water, lace them with toxic chemicals, & frack for oil from Sacramento to L.A. If we let oil companies unleash this hugely controversial drilling process, well be in for an environmental nightmare.On the heels of Californias worst drought in recorded history, the last thing we should do is let water-intensive fracking spread across the state. According to the U.S. Energy Administration, oil companies could drill as many as 25,000 fracking wells in our state each one using about 10 times more water than a typical California family in one year.We can't spare the water, plus toxic chemicals are puts us and wildlife at risk. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
9233	Opinion - opposed to hydraulic fracturing	FRACKING CAN CONTAMINATE DRINKING WATER. WHAT ELSE DO WE NEED TO KNOW? https://www.scientificamerican.com/article/fracking-can-contaminate-drinking-water/ Regulations are put in place to keep us safe. This is no exception! No to any additional lands being used for the purpose of fracking in California.People in Pavillion, Wyo., living in the middle of a natural gas basin, complained of a bad taste and smell in their drinking water. U.S. EPA launched an inquiry, helmed by DiGiulio, and preliminary testing suggested that the groundwater contained toxic chemicals. Lesson learned! !NO! to more fracking in California. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
13831	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	I am responding to the Trump Administration's push to expand fracking in Central and Southern California. I believe that this plan threatens our health, our environment, and our safety. The proposed plan would - undermine our health with toxic chemical emissions like methane -threaten critical water supplies for rural and coastal communities -increase the potential of more oil spills -endanger wildlife and their habitats -release methane gas in to the atmosphere. Methane is a potent greenhouse gas that will intensify climate change at a time that we need to do all in our power to combat climate change We cannot afford to surrender our land, water, and our communities to polluting industries. We need to move away from fossil fuel mining and convert to a green economy quickly while there is still time to avert the worst effects of climate change. Hydrolic fracking is a dangerous technology that threatens our health and safety. Instead of expanding fracking in California we need to be moving forward toward greater protection of our open lands and nature.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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23191	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	As a resident of Santa Barbara County living on the edge of Los Padres National Forest, I strongly oppose the opening of fracking and fracking leases in the region. We are already a water scarce, earthquake-prone region, and adding additional strain to our water supply and quality by allowing fracking in this region is irresponsible to the communities, businesses, and industries that call this place home. We already face air pollution concerns from high-intensity wildfires and shipping in the Santa Barbara Channel, and adding yet another source of air pollution would also be irresponsible. I urge you to not weigh short-term gain more strongly in the balance-- honestly we need a reliable, sustainable, clean energy path forward. We need to demand that our energy companies look to provide our energy needs without compromising our health and well-being. Allowing fracking in this region would be a mighty and embarrassing step backwards in the journey toward a clean energy, environmentally just future.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
22648	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	There can NEVER be environmentally responsible development of oil and gas on public lands. Furthermore, environmentally responsible and fracking are diametric opposites. I am an interested party as I camp in the Lake Isabella area on a regular basis; kayak, raft and boat on the lake and on the Kern River; hike in the forests and have multiple friends in the area. Fracking is antithetical to clean water, clean air, maintaining the water table, safe crops, good health and a future for our country. Fracking involves injecting a cocktail of toxic chemicals into the ground that find their way into our water table. Those exposed to these chemicals suffer further because Big Oil outright REFUSES to tell us and our doctors WHAT they put in their cocktail. 'Proprietary trade secrets' is NOT an excuse to go on poisoning our land, our water, our people. Scientists and physicians have long said that there is no way for fracking to be done safely. Furthermore, fracking has indisputably been linked to increased seismic activity. Don't think that is something our state needs along the San Andreas Fault. Fracking is pushing toxins up into the air we breathe. In our hospitals, our schools, our churches. Workers in hazmat suits inject fluids in wells 20 feet from low-rent housing. There is NO excuse for exposing the most vulnerable - the children, the sick, the elderly, the poor - to this danger. Fracking infrastructure is associated with spills of the chemicals used and ruptures in the pipeline transporting it. Will the companies make the land whole? Doubt it. Traditionally, carbon-based energy companies like to declare bankruptcy and flee or demand public dollars clean up their private mistakes - not that they would consider sharing their profits with the public. Oil companies are selling fracking wastewater to some irrigation districts because they're running out of places to dump it and it saves them money. Meanwhile the water is being used to grow food in California. Water samples show that this wastewater contains dangerous chemicals linked to cancer and reproductive harm. This practice is a threat to the safety of our food, to the farmworkers who grow our food and to our environment. FURTHERMORE, when crops containing these toxins are fed to animals many will build up in the milk and meat that is sold in our stores in concentrations even more toxic. And the run-off goes into our water table, expanding the reach of these poisons even further. Fracking is making money for the few while putting the many at risk. Fracking must be stopped and it must be stopped NOW! In addition to harming communities and public health, drilling and fracking contribute to the climate crisis. Investing billions of dollars on the infrastructure to support burning gas not only sells out our communities, it also prevents us from moving toward a sustainable energy future. Your Draft EIR talks of creating jobs and providing economic opportunities for local communities. The jobs created are low level and exploitive, put the workers and communities at much higher risk because they track the chemical cocktails home, and the jobs will only last until the companies find another way to make money and walk away. They certainly don't create the good professional jobs, the careers that green energy development does. WE, the American people, NEED well-paying jobs. But ones that contain good health for all and a future for our children and grandchildren. And any initial economic activity will be immediately off-set by the claw-backs they demand in infrastructure to be build and taxes to be waived. Then, whenever they think they aren't seeing enough profits they'll ask for more or walk away. Or both. AND they won't clean up. They will fold the shell companies they've set up to be 'local,' declare bankruptcy and leave the local governments to clean up the mess and address all the health issues their fracking created. As Spike Lee once said: Do the right thing! And as Nancy Reagan said: Just say No! If you really want to understand what oil and gas development can do for rural communities, read Amity and Prosperity, a book on how the fracking industry raped a rural community in western Pennsylvania. These were people who welcomed US energy development and they were poisoned for their pains. In Los Angeles I am fighting for a 2500 set back of ALL fossil fuel extraction from hospitals, schools and homes. The image that sticks with me is one of fracking workers in full Tevak with respirators working 20 feet from a woman's kitchen. Her apartment was built long after the oil companies abandoned that rig as having run dry. But with the advent of fracking, there was economic incentive to reopen but the lives around it were not taken into account. If the process is so safe, why were their workers so clothed? If the process is so safe, why do the workers demand to wear protective gear?	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.

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		PLEASE pay attention to the above comments. Do the research. Profit for corporate interests is not a good reason to put our land and our people at risk. This administration's goals is no reason to put yourself and your family and friends at risk.	
11386	Opinion - opposed to hydraulic fracturing	Absolutely not. Leave our state and public lands alone. We have already fought this battle in our counties against fracking. Don't force our populace to have fracking and oil development on lands that should be held in pristine conditions for future generations.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
14222	Opinion - opposed to hydraulic fracturing	Dear BLM Bakersfield Field Office,	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
8850	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	No! No! Absolutely NO! Los Padres National Forest, Carrizo Plain National Monument, conservation lands, state parks, and national wildlife refuges in central California, with their unique plants and animals they harbor, the watersheds they protect, and for the recreation opportunities they offer must be protected from the horrors of fracking and drilling for oil! Period!Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
21688	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	it is my understanding that the BLM is a government agency charged with protecting and maintaining government lands for the health and welfare of the people. Clearly using EIRs that do not even address the consequences of fracking to try to move forward with fracking projects, is not in the best interest of the land use or its inhabitants. The environment you are charged with managing needs your protection not your wrath. We do not want or need fracking technology in California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12686	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Bureau of Land Management , Thank you for the opportunity to give written comment regarding the new land leases under consideration for fracking for oil in San Luis Obispo County . There is nothing that i can add this time that is any more illuminating than my past correspondence rejecting this proposal . I adhere to the same opinion that the use of any of the lands under consideration for this process is ill advised . The notice for public comment released this second time around mentioned that there were 8,400 responses the last time that comment was opened up from the public , with only 211 that were " unique and substantive". This statement is condescending . There are only so many ways that an intelligent and thorough message can be stated . It isn't a mystery . The basic research and undeniable facts already published clearly indicate the many dangers involved with fracking and can only be stated just so many times before they become repetitive .. The objection is that :: A) FRACKING CAUSES HEALTH COMPROMISING POLLUTION B) FRACKING CAUSES EARTHQUAKES Plain and simple. I will only state the obvious again : Fracking is poisonous and dangerous . The possibility of opening these new lands , some of them in very sensitive watersheds, some in actual iconic natural treasures enjoyed and appreciated by all is deplorable. This letter was first composed before attending the meeting that the BLM sponsored here in San Lus Obispo . I hadn't realized that the BLM organized it because "people like to be heard" as was stated later in the news as a statement from a BLM representative . Apparently the BLM created the meeting to appease legal mandates and not because the BLM is sincerely interested in the vested interests of the inhabitants of this county . Is this request for written comment a charade as well ? Knwing the factual data and concrete evidence that fracking undeniably causes serious health problems, and intiates earthquakes (in this county close to nuclear waste) is unfathomable and mind boggling that it is even being considered . Do the decent thing and abolish this project . Sincerely , Lucy Hunt-Pierson	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
10868	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I strongly oppose opening BLM and public lands to new development such as Fracking and miring. There is a delicate balance in our planet and keeping the historic open space is essential. Please vote NO ON THIS DEVELOPMENT.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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10601	Opinion - opposed to hydraulic fracturing	Fracking ruins groundwater and releases hydrocarbons. We need to limit fracking to areas where it does the least harm. Certainly not in populated areas of the Los padres National Forest or Montana de Oro or the Carrizo Plain. These are all places that provide peace and refuge to many including me. Fracking ruins an area. Please say no to fracking and the noise and water pollution and visual destruction it causes. Thanks.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11898	Opinion - opposed to hydraulic fracturing	I strongly oppose the investigation into leasing or actually leasing of public lands in California for hydraulic fracturing for natural gas extraction. The method of extraction is extremely harmful to the environment and has been known to poison the water supply and surrounding land with extraction waste. Hydraulic fracturing in California risks California's water supply and agriculture, All one has to do is see the effects of fracking in OK and other areas where it is done to see the negative effects ranging from earthquakes - of which CA already has enough, to affecting the water supplies.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
14646	Opinion - opposed to hydraulic fracturing	It makes absolutely no sense to expand a water-intenstive industry in a state and area that have historically dry periods. This will also increase water and air pollution for the nearby communities, areas that already suffer from some of the worst air pollution in the country and often cannot drink tap water. We need industries that help empower and protect these communities, not further pollute them. Renewable energy should be prioritized in California, this proposal is a huge step backwards for our environment and people.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values and Water Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
19274	Opinion - opposed to hydraulic fracturing	Our National Parks need to be safe from all of this sucking up of our natural resources. I do NOT support fracking near any of our National Parks nor close to communities! This is a greedy unnecessary industry - with a complete lack of attention to the safety of the environment and the humans around it!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
18176	Opinion - opposed to hydraulic fracturing	This is my home	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24451	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	NO on fracking, NO on further oil exploration in our state.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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16707	Opinion - opposed to hydraulic fracturing	The situation in our area (SLO County) is particularly sensitive because (i) the unique geology of the Monterey shale make fracking and horizontal drilling especially challenging, and (ii) high levels of seismic activity increase the likelihood of well failure. Both of these factors pose greatly aggravate the threat of water contamination. The high-volume use of carcinogenic chemicals used as lubricants and proppants pose a threat to health, particularly to workers on drilling sites and who handle the wastewater from fracking. U.S. companies are not even required by law to disclose the chemicals used in the process - which can run to thousands of gallons per well. Fracking is exempt or excluded from most major federal laws protecting environmental health, including the Safe Drinking Water Act, and once a lease is granted, administration is turned over to DOGGR (Division of Oil, Gas and Geothermal Resources), at which point the BLM has absolutely no control over how many wells the oil companies create.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
22012	Opinion - opposed to hydraulic fracturing	Please do the right thing ~ do not allow any further fracking. The long term impact of fracking will add poison to the earth and destabilize the area.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11924	Opinion - opposed to hydraulic fracturing	Do NOT allow expanded hydraulic fracturing permits. At this point, any expanded natural gas or oil exploration practices have severe long-term consequences for human and environmental health. Please do not allow this.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12723	Opinion - opposed to hydraulic fracturing	Secretary Bernhardt is attacking California with a dangerous fracking plan that threatens our health, our environment, and our safety. The proposed fracking plan:- undermines our health with toxic chemical emissions, like methane, into our clean air - threatens critical water supplies for rural and coastal communities - increases the potential of more oil spills - endangers wildlife and their habitatsTime and time again, Secretary Bernhardt proves he simply wants to roll back our progress -- instead of moving forward towards greater protection of our open lands and nature. For these reasons, I am adamantly opposed to the proposed fracking plan that is addressed in the Draft Supplemental EIS.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
16244	Opinion - In favor of oil and gas exploration and development	To whom it may concern: Please develop the oil and gas reserves in California. We own land, including all mineral rights, located in the Carrizo Plain National Monument in San Luis Obispo County. The land has proven oil and gas reserves. Nevertheless, we are unable to interest anyone in extracting those reserves because of their concern with administrators in San Luis Obispo County who will not issue the necessary permits. Administrators will not issue permits because political pressure exerts a strong influence to stigmatize fossil fuels in California notwithstanding the requested permits be for a reasonable, safe, and wise use of land. We will agree to any reasonable proposal that facilitates the development of our land, including a joint venture with the Federal government. I attach a letter I recently wrote the Secretary Zinke providing additional details. Kind regards, Mark Vatuone	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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12709	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	<p>Hello – I am writing to oppose plans to conduct hydraulic fracturing on BLM-administered public land and mineral estate in the Bakersfield Field Office Planning Area—an area that covers Fresno, Kern, Kings, Madera, San Luis Obispo, Santa Barbara, Tulare, and Ventura counties. As you surely must know, much of this area contains some of the most polluted areas in the country. The pollution produced now by similar fossil fuel extraction across much of this area becomes trapped by natural topography and climate, sometimes for weeks at a time. This situation results in increased rates of asthma, as well as other respiratory and pulmonary diseases. It forces local residents indoors during these periods, damaging their quality of life. The economic situation for many residents—many of whom work hard to produce food that feeds our nation and the world—is challenging, and they are unable to relocate, even as they watch their children and elders suffer from respiratory diseases. Anyone driving on I-5 during the frequent episodes when the pollution is trapped in the valley is keenly aware of the stench and the visible pollution produced by the industrial processes currently in place. The State of California is working on many avenues to address this chronic problem, with some success. Federal efforts to expose these areas and the people who live in them to further pollution produced by hydraulic fracturing on public lands will negate these efforts. Mitigation for much of this area simply doesn't exist—the only solution is to reduce or eliminate the pollution at the source. Your project website states that “This effort supports the Administration's goals of promoting environmentally responsible development of oil and gas on public lands, creating jobs and providing economic opportunities for local communities.” This is not true, because environmentally responsible development of gas and oil in this area is simply not possible. Current cumulative levels and sources of pollution in this area clearly show that increased gas and oil production in the area cannot be conducted without further damaging the health of local residents already burdened. I encourage you to abandon the idea of opening these public lands to hydraulic fracturing. I also encourage you to contact the California Air Resources Board to better understand the damaging effects from the proposed oil and gas development in this area.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>
11910	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	<p>As of my writing (May 10th, 2019), a number of governments have declared a "climate emergency". These include the UK and Ireland, as well as California cities such as Alameda, Berkeley, Chico, Fairfax, Hayward, Oakland, Richmond, San Francisco, Santa Cruz, and Mendocino and Santa Cruz counties. These declarations reflect the severity of the situation facing us, in which we must rapidly transition away from fossil fuels or endanger our civilization itself. The only rational response to this situation is to stop allowing new fossil fuel development. As far as I can tell, all the alternatives still allow some "fluid minerals leasing". The BLM should instead enact a policy across all of its property that no new pits or wells may be dug for coal, oil, or natural gas, and no new exploration for fossil fuel may take place. ?Yours, Martin MacKerel</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.</p>
10086	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	<p>I am deeply concerned that property owners were not provided with an accurate map of the parcels proposed for auction, and surface rights owners have not been properly notified. For these reasons, the public comment period must be extended. I am a surface rights owner in the area proposed for this action so my right to due process have been violated due to my not being notified in a timely manner. I had to hear about this through the media at the last moment for comment. Thank you for taking my concerns into consideration.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>
8759	Opinion - opposed to hydraulic fracturing	<p>I am disheartened to know that the Trump Administration is encouraging MORE fracking and oil extraction from our precious land, all in the name of greed. Living in a town dependent on well water and surrounded by earthquake faults, it is only a matter time before a catastrophe occurs. It is absolutely appalling that ANYONE can purchase mineral and oil rights to not only public and national lands, but also private property with no recourse allowed by the landowner. Would YOU like to have fracking done under your home where your family lives or under your childs school? And let us speak of the massive amounts of water that is used to frack. California has been in a serious drought for years and every drop of water is precious to survive. Please DO NOT approve this horrible plan!</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>

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9677	Opinion - opposed to hydraulic fracturing	(I am unsure if my email went through so am trying again.) I am disheartened to know that the Trump Administration is encouraging MORE fracking and oil extraction from our precious land, all in the name of greed. Living in a town dependent on well water and surrounded by earthquake faults, it is only a matter time before a catastrophe occurs. It is absolutely appalling that ANYONE can purchase mineral and oil rights to not only public and national lands, but also private property with no recourse allowed by the landowner. Would YOU like to have fracking done under your home where your family lives or under your child's school? And let us speak of the massive amounts of water that is used to frack. California has been in a serious drought for years and every drop of water is precious to survive. Please DO NOT approve this horrible plan!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
9897	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	Block this notion to the people of oil companies who want to steal our lands resources for big money. The Central Coast has space for wildlife, camping, hiking, and scenic areas that many people have rights to use for their enjoyment. Respect the laws and protection efforts put in place by the citizens and residents of the Central Coast.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
15303	Opinion - opposed to hydraulic fracturing	I am writing to ask that the BLM Bakersfield Field Office fully evaluate and address potential impacts of hydraulic fracturing in the Central Valley, including the need to refrain from moving forward. Fracking in California is a bad idea since California lays on the Sandreas fault line which runs north/south - earthquakes are all too frequent before and this will certainly endanger people and homes. This practice using over 500 chemical compounds destroys water quality for miles from the initial fracking site. Many states have banned hydro-fracking and in Europe they have also banned this idea...too unsafe. California has already water problems with low levels for its population. Fracking waste water transmits under ground miles away from the original site - unseen until it is too late and people get sick. It happened in Dish, TX with the mayor finally moving his family away because they were getting sick. Live stock and farms were also affected. How can people sell their homes with a problem this large? No one will come into areas where there isn't clean healthy water. Mayor from Dish TX even came to upstate Delaware County to warn us of these dangers to health of both human and farms. BLMs initial analysis of impacts from hydraulic fracturing in the Bakersfield Field Office was not sufficient. It underestimated impacts on air quality, drinking water, protected public lands and local communities and did not consider making any meaningful changes to current management. The tremendous risks involved in hydraulic fracturing and the consequences that will befall communities in the Central Valley.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
14935	Opinion - opposed to hydraulic fracturing	Save our planet!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11986	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	Please do not federal government to allow oil companies to drill in California. Period	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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19568	Opinion - opposed to hydraulic fracturing	It is my understanding that the Bureau of Land Management has proposed to allow new oil and gas fracking leases on a vast amount of public land and mineral estate in the State of California acreage - over 1 million acres. This is absolutely ill advised and unacceptable. As a member of the public, a United States citizen, and a lover of our state and national parks and forests, I am horrified. Your proposal fails to evaluate the seriousness and permanence of the impacts on Cesar Chavez National Monument, Carrizo Plain National Monument, Kings Canyon National Park, Sequoia National Park and Los Padres National Forest. This proposal will threaten these beautiful public places, will affect the water supply negatively, and will create enormous amounts of pollution. I respectfully respect that you do not allow any further oil and gas fracking to occur under this proposal.Thank you for considering my comment.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
8877	Opinion - opposed to hydraulic fracturing	Myself and others who enjoy the natural beauty of the Los Padres National Forest vehemently oppose hydraulic fracking ANYWHERE near the Forest. Fracking is a destructive process that injects unknown chemicals deep below the bedrock with unknown longterm consequences. Oil companies are also notorious for abandoning their facilities with little to no cleanup efforts. Please don't be a sellout, stand up for our public lands and the rights of Americans, their children, and grandchildren to enjoy outdoor recreation.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12757	Opinion - opposed to hydraulic fracturing	This plan threatens our health and the health of the ecosystem. Communities surrounding the proposed area rely on the clean water, water that would be contaminated by the fracking plan. California is at a crucial state of being concerning water. We cannot allow this plan to pass.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
20606	Opinion - opposed to hydraulic fracturing	Several issues exist within this proposal. First and foremost, fracking produces extreme air and water pollution, and the Central Valley already struggles with some of the worst air pollution in the United States. Secondly, fracking is incredibly water intensive, and the Central Valley already struggles with water supply issues due to the large amounts of agriculture. Finally, the proposed fracking leases come within two miles of the Sequoia National Park border, as well as border much of Sequoia and Kings Canyon National Parks and Los Padres National Forest. This is a hazard for the preservation of these beautiful national parks.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9449	Opinion - In favor of oil and gas exploration and development	Dear Director Jerry Perez:I 100% AGREE with proceeding with the Trump Administration proposed fracking and drilling on the lands in Central California. I am an environmentalist, but completely understand that our national security demands energy independence. If we give into the NIMBY attitudes and hysteria that falsely screams no drilling/fracking can ever been done in an environmentally responsible manner, than we will again become indebted to China and Middle East. Please do not be swayed by all the Chicken Little's. There are still some rational voices in California. I am not a hypocrite either; I would let you drill on my small ranch.SO, DRILL BABY DRILL... JUST DO IT RESPONSIBLY AND DO IT QUICKLY.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12672	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	To go to the BLM website, is to see nature at it's best in stunning photographs, and promises of protecting the land and environment. And truth be told, public lands were created for the benefit of the public Daily, people use BLM lands to enhance their lives with connection to nature. Hiking, fishing, camping, swimming, and so forth, are all essential to the well-being of people. BLM lands provide the beauty and wonder of nature--something that is hard to find in cities built of concrete. Fracking does little to benefit the public--only in controvserial economic ways. Mostly fracking harms the public. Our aquifers, our seismic fault lines, our air, our entire environment--including water, plants, wildlife, air, and people--are all adversely affected by fracking. Please think of our future generations--our children's children's children. Please do not amend the purpose of BLM lands to only minor economic gains. Life and quality of life is essential if we are to have a viable future for our children. Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
16999	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I oppose this proposal, and any expansion of fracking activity in the California Central Valley, because this area cannot afford any further environmental impacts due to oil and gas development. The San Joaquin Air Basin already suffers from some of the worst air pollution in the country, in part due to oil and gas development. Central Valley residents and the beautiful Sierras are both severely impacted by this pollution. This proposal almost perfectly surrounds the borders of beloved public lands like Sequoia National Park and Los Padres National Forest, which is unacceptable. Additionally fracking is incredibly water intensive, and California cannot afford another unnecessary demand on its limited water supply. I imagine Central Valley farmers would not be pleased to know that their water is being used to make a few oil companies richer, instead of going to feed Californians. Make the right choice, BLM, and cancel this proposal.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
14171		Please accept our comments on the Bakersfield RMP Hydraulic Fracturing Analysis. -Melissa Traugh, BizFed Central Valley	

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14171	Opinion - In favor of oil and gas exploration and development	We are pleased that after five years of work and thorough study, the federal government has reaffirmed that hydraulic fracturing is a safe method to stimulate oil and gas production in California, which has some of the most protective production regulations in the world.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
16609	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I oppose the Bureau of Land Management's plan (Docket #2019-08282) to open public lands in California to oil and gas development projects. I urge you to halt the proposed plan and protect our public lands. We must put the brakes on fossil fuel development, including fracking. Fracking pollutes our air and drinking water, hurts communities, worsens climate change and is linked to earthquakes. The chemicals used in fracking are known to be toxic to humans and wildlife, and some are known to cause cancer.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
19813	Opinion - opposed to hydraulic fracturing	I oppose this plan to allow fracking on CA public lands. Fracking is dangerous and posing many health and safety risks. We need to move toward 100% renewable energy.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12290	Opinion - opposed to hydraulic fracturing	As a citizen of Southern California, I strongly oppose the proposed plan for hydraulic fracturing in Bakersfield. This practice is known to cause pollution of ground water, a precious resource we cannot afford to destroy. Additionally, the distress caused to the region in the form of increased seismic activity is extremely dangerous in a region already prone to earthquakes & tectonic shifts. The plan for this land should be altered to be used for the creation of solar and/or wind energy, a more sustainable, less destructive resource. Jobs can be created just the same using these technologies and without causing adverse effects to the communities in the region. Thank you for carefully considering my comments.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9197	Opinion - opposed to hydraulic fracturing	I'm writing to strongly oppose the use of fracking on any of the properties currently under consideration in the Ojai Valley, including those on Thatcher School, Ilvento Preserve (Ojai Valley Land Conservancy) and the Upper Ojai. Our valley is 100% reliant on groundwater - we have no access to the State Water Project - and we are now in a Stage 4 drought. It's critical that our scarce water supplies remain pure. Important tributaries, including the San Antonio and Thatcher creeks, run through this land and risk being polluted by these proposed operations. At the same time, the fracking process requires large use of water that is not available in the proposed areas.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11955	Opinion - opposed to hydraulic fracturing	California is one of the country's most dynamic, future-oriented states with an economy larger than most countries. We attract the world's smartest and most inventive people partly because of our extraordinary quality of life. Californians do not want our public lands opened for drilling and we don't want to drink groundwater contaminated with chemicals that have unknown risks. Selling drilling rights here would endanger our booming tech and clean energy industries in exchange for a little, purely temporary profit. Please help California prioritize building for the future, instead of propping up the oil industry.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9667	Opinion - opposed to hydraulic fracturing	The notice given was inadequate. Extend the public comment period. An SEIS is needed. Fracking and drilling in the proposed areas would be ruinous to many places I have visited and loved for decades. Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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10804	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	At a time when the effects of climate change are becoming more and more impossible to explain away or deny, when we should be moving away from fossil fuels and towards renewable energy sources, it makes little sense to continue these dangerous and irresponsible drilling and fracking practices. As a resident of the California Central Coast, I strongly oppose opening additional local lands to oil and gas exploration. The dangers of chemical additives to the soil, the increased risk of earthquakes in an area that is already prone to earthquakes, and the contribution to climate change all point to the same conclusion: opening lands on the Central Coast is an irresponsible, even reckless, practice. As a San Luis Obispo county voter, I will vigorously oppose any efforts to open these fragile lands to these practices.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
8878	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	I am a U.S. citizen who lives in Santa Barbara, CA, and I do not want any new fracking or fossil fuel industry development in this county or anywhere else. The scientific community is clear on the danger climate change poses to our planet, so we must quickly transform our economy away from fossil fuels towards clean, renewable, and sustainable sources.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12070	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	I oppose further gas and oil extraction in California. We are supposedly committed to reducing use of fossile fuels in order to combat the effects of climate change and pollution of our precious water. We need to honor that commitment immediately. Fracking uses toxic chemicals the long term effects of which are unknown. It also pollutes our precious ground water. We cannot afford it. We need to spend our time, energy and money on developing alternative renewable sources of energy, now!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9760	Opinion - opposed to hydraulic fracturing	Please respect the history and beauty of California. I am a Garden Educator in SLO County where kids are share their ideas to lower their carbon footprint. Fracking isn't ever part of it and it's because it's unsustainable. Please respect the children, families, animals, and life that live on this planet. There's no need to destroy other people's health and public lands.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9969	Opinion - opposed to hydraulic fracturing	Any potential actions which could threaten our already low water supply should not be allowed. The Carpinteria Valley aquifer is essentially our life blood and must/should be protected at virtually any cost.Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Comment Number	Issue	Comment	Response
9988	Opinion - opposed to hydraulic fracturing	I spent 15 years working and living at Cate School. The beauty of living in a God-given, blessed place is my ever re-occurring memories in my old age. To think that will be bastardized by the BLM supporting fracking. Yes, bastardized. You will tear apart this area to appease a president whose ignorance is legion, surpassed only by his need to "rule." We don't want, we don't need the oil stolen from these God-blessed places. Please rethink this. Our mother earth is crumbling. Time is running out. This proposal is nothing more than BLM catering to a dangerous, ignorant man. And -- once it's (Oil) gone, it's gone. For your children - and my grandchildren.Fracking and oil drilling are inappropriate and incompatible with how local residents use, enjoy, and protect these special and sensitive places. It causes noise and air pollution. Chemicals used in fracking, including several known carcinogens, are toxic to humans and animals. Fracking has polluted surface water and caused irreparable harm to aquifers. Fracking has caused increased seismic activity. All of these impacts threaten the health of our children, can harm sensitive ecosystems and endangered plants and animals, and can hinder recreation on public lands.The public was not provided with an accurate map of the parcels proposed for auction, and surface rights owners have not been properly notified. For these reasons, the public comment period must be extended.As part of the Supplemental Environmental Impact Statement, I urge you to use the best available peer-reviewed science to conduct a thorough and transparent evaluation of all known impacts that new fracking and oil development may have on wildlife, water, and public recreation on federal public lands in central California. At the conclusion of the analysis, I hope you will amend your management plan to impose additional restrictions on fracking and oil development that would apply to some or all of the 1.6 million acres of land currently open for new oil leasing, appropriate to the threat posed to water, wildlife, and humans. In addition, I hope that you will apply special lease stipulations for lands on or adjacent to schools, national forests, monuments, and refuges to better protect children, and the resources that make these places so treasured by the public.Thank you for taking my concerns into consideration.	
11234	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	I live near the areas that are being threatened with the poisonous, toxic practice known as fracking. I get my water directly from the springs that surround our property.We live in a toxic, broken society, and I'm used to learning of new was our culture has poisoned the land, but I have to say - this news has me devastated. DO NOT ALLOW THIS TO HAPPEN TO OUR BEAUTIFUL LAND IN CALIFORNIA!!!! Energy from fossil fuels is optional, clean water is essential to all life.Please, wake up.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12363	Opinion - opposed to hydraulic fracturing	"If fracking was just a new-fangled way of tapping natural gas sources, it would be welcomed by most people as a cheaper, cleaner alternative to oil and coal. The problems lie in the method of extraction.In order to get the gas out, a witch's brew of toxic chemicals has to be pumped into the shale at high pressure. More specifically, this is a mixture of water, sand, lubricants, poisons to keep bacteria and other microorganisms from clogging the pipes, and hydrochloric acid to dissolve the excess cement in the pipes (Brooks, 2013). If these fluids stayed far underground, they might not damage the human environment. The problem is that they find their way back to the surface through accidents at well heads, well blowouts, backflow of fluids to the surface, and leaks throughout the system. Altogether, more than 650 products containing chemicals with potential cancer-causing properties have been used in fracking (Balaba and Smart, 2012)". Climate change is creating horrendous fires, floods and droughts. Keep fossil fuels in the ground! California's water supply should be used for food production, drinking and trees. Do Not poison our environment and our aquifers!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9972	Opinion - opposed to hydraulic fracturing	Previous attempts to frack some of the proposed areas brought to light the dangers of polluting water aquifers that feed a majority of California's agricultural properties. Oil company profits do not precede the importance of uncontaminated water for food production and subsequent human consumption. There is adequate history of the damage to private properties and public lands in previously fracked lands in the East and Mid West. We know this, even though those property owners have been made to sign non-disclosure agreements. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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11106	Opinion - opposed to hydraulic fracturing	What an irresponsible and horrific proposal that would put current lives of humans, animals, and plant species at imminent risk. With fuel levels reaching an all-time surplus. It is now time to turn to renewable energy, that will evoke more jobs and a better enviornmental future. It is incredible to me that lawmakers as well as lobbyists and anyone impacting legislation continue to make such detrimental decisions affecting our enviornment. We have one Earth and she is ANGRY. Fracking as a construct is an incredibly inefficient and unnecessesary and catastrophic invention. The time to act is now. There is no longer the option of waiting for someone else to help our environment. This is a crisis and our legistation needs to act with prevention efforts rather than continuing destructive and old technologies that have been proven to grossely endager Earth and all of it's inhabitants.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
14504	Opinion - opposed to hydraulic fracturing	The blm seems to be on a continuing mission these days to destroy as much as possible .. there are numerous reasons to not have fracking in the central valley but right now there is NO REASON to do this mainly due to the already high supply that is driving down oil prices .. We are overloaded with oil and gas so stop thinking about destroying the land for something that IS NOT necessary	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11583	Opinion - opposed to hydraulic fracturing	It is illegal to offer BLM land for private use and especially fracking or environmentally controversial purposes without appropriate notice and opportunity to comment. You know that. For these reasons, the public comment period must be extended.As a citizen of the United States of America, and I speak for others who believe in science and impact studies that have shown fracking as a danger and a threat to wildlife, water, and public recreation on federal public lands in central California. I encourage a science based study to provide the underlying and indisputable evidence this is true and I demand you will then amend your management plan to allow leasing whatsoever for this purpose or any purpose, since it's not your land to lease. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12493	Opinion - opposed to hydraulic fracturing	I oppose the fracking plan put forth in this document because it threatens important water supplies for rural and coastal communities, will emit toxic chemicals into the environment, increases potential for more oil spills and endangers wildlife habitat.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24055	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	As an American citizen and a resident of Ventura county, I do not support using public lands for purposes of resource extraction, and especially not resource extraction that impacts the water supply, air quality and contributes to global warming. I specifically oppose opening land in my backyard for this purpose. This is the property of all Americans - not a few oil/gas companies - and it's entirely inappropriate to use it for this purpose. Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12644	Opinion - opposed to hydraulic fracturing	Americans must hold Secretary Bernhardt accountable fir his numerous conflicts of interest and attacks on our environment. Now, Secretary Bernhardt is attacking California with a dangerous fracking plan that threatens our health, our environment, and our safety.The proposed fracking plan:undermines our health with toxic chemical emissions, like methane, into our clean air threatens critical water supplies for rural and coastal communities increases the potential of more oil spills endangers wildlife and their habitatsTime and time again, Secretary Bernhardt proves he simply wants to roll back our progress -- instead of moving forward towards greater protection of our open lands and nature. I oppose these flagrant attacks on our naural heritage - the American peoples' heritage!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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18048	Opinion - opposed to hydraulic fracturing	Opening up large areas of California to allow fracking is unwise. We rely on our ground water resources to get us through regular periods of drought. Fracking will pollute ground water with cancer-causing chemicals and prevent the use of ground water for drought emergencies. Many of the areas outlined are at high elevations where the chemicals can run down into cities and agricultural land -- I live just downhill from such an area and our city relies on ground water during droughts.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11085	Opinion - opposed to hydraulic fracturing	we do not have the water to support fracking and it will destroy the groundwater we have.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12833	Opinion - opposed to hydraulic fracturing	Dear Acting State Director Joe Stout, Please be aware that the people of California are very strongly opposed to any new oil and gas drilling. The risks are numerous including health of nearby residents, especially children, and risk of water pollution. In any case we need to cease new oil extraction immediately in order to prevent run away climate change with catastrophic results. Sincerely, Pauline Seales 328 Getchell St Santa Cruz, CA 95060-6327	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12535	Opinion - In favor of oil and gas exploration and development	As long as the recommendations in the latest studies for protecting the groundwater and air are followed, I am in favor of the plans for drilling in the ares as outlined in the document.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12808	Opinion - opposed to hydraulic fracturing	This is a dangerous fracking plan that threatens our health, our environment, and our safety.In my opinion, the proposed fracking plan:undermines our health with toxic chemical emissions, like methane, into our clean air threatens critical water supplies for rural and coastal communities increases the potential of more oil spills endangers wildlife and their habitatsI care about our environment, clean air and precious water resources, climate change, and community health and safety and am therefore opposed to this plan.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12443	Opinion - opposed to hydraulic fracturing	Fracking is contrary to California's commitment to building a sustainable future without reliance on fossil fuels. Our state has a statutory target of reducing greenhouse gas emissions to 40 percent below 1990 levels by 2030, and a plan to reduce petroleum consumption by 45 percent by 2030 to meet this target. California needs environmentally and economically sound energy strategies focused on the development of renewable energy sources. Fracking involves the use of toxic and poorly understood chemicals that get into the groundwater especially where fracking operations are dangerously shallow. Clean water is worth more than oil. I oppose fracking in the Bakersfield Field Office planning area !	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
10855	Opinion - opposed to hydraulic fracturing	It is your duty to properly inform all landowners, institutions, and individuals likely to be impacted by this proposal to open more land to fracking, conduct proper due diligence on the environmental impact, and allow time for public comment. I grew up in Santa Barbara and attended Cate School. The backcountry provides a distinct and important kind of learning outside the classroom. Lets not spoil that, and put children and teachers at risk in the process.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
16494	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Federal lands belong to all f us. They are not an exclusive recreational playground (paid for by the rest of us) for self styled "environmentalists". The oil industry in California has a superb record of safe exploration and development, whatever the completion process for a particulr well might be. Simplistic propaganda like the faked scenes in films like " Gasland" are the tools of fanatics, not concerned ciizens. Californians already pay a substantial premium (10% or so) for the crude oil component of their gasoline. That is because we are an oil deficit state. The more oil we can produce here, the less we will have to import by rail. Please go ahead with granting the drilling permits on the land all of us own.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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11925	Opinion - opposed to hydraulic fracturing	Fracking involves the use of toxic and poorly understood chemicals. These toxic chemicals get into the groundwater, especially in California, where fracking operations are dangerously shallow. Our communities, waterways, wildlife, and outdoor economy will all be put at risk. Let's not sacrifice our health, wildlife and climate to profit the oil and gas industry. In a state where water is so precious — to agriculture, human populations, and wildlife — clean water is worth more than oil.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
12475	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Under the current administration both at the EPA and in Washington, and with fracking technology still in its' infancy I cannot be confident that any attempt to recover gas and oil by this method will not have repercussions on the enviroment and on reserves of drinking water in a region known for drought.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12674	Opinion - opposed to hydraulic fracturing	Do you guys realize what this will cause, does profit and money mean more importance to our environment, dangers of sink holes, lives of people. You really need to really need to reconsider, and think of the people.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
22624	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I appreciate the effort that went into crafting this EIS on the subject of hydraulic fracturing on BLM lands in California. I ask that the Bureau of Land Management and the Department of the Interior take seriously their mission as stewards of public land, and not lease BLM lands for this kind of reckless, short-sighted extraction. To do so is appallingly irresponsible, in light of climate science that is universally accepted among all reputable scientists. Any decision makers that would continue to sacrifice public lands to the moneyed interests behind fossil fuels, in light of terrifying evidence that we are digging our own graves, should not be public servants at all, let alone land managers. Our land managers have an important job to do, even if they don't care at all about the species and natural values of their charges. Unmolested nature is one of the most valuable tools available for removing carbon from the atmosphere. <u>Do your job and protect the land, if only to save yourselves.</u>	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
8702	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	I oppose any fracking or oil development on our public lands. We need to take care of our resources, not exploit them. The damage the can be done far outweighs the meager profits that can be made.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9725	Opinion - In favor of oil and gas exploration and development	Public lands should be made available for oil & mineral resource extraction by private industry. I believe that the obscene amount of land that is in the public domain should produce revenue and offset some of the likewise obscene taxation that exists throughout California & its' counties/cities. To tie-it up for non-development is not "good" stewardship of the land.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
17724	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	I cannot overstate the degree to which i object to drilling/fracking across the California counties under consideration. The potential damage to the ecology and economies of the proposed areas is too great.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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19264	Opinion - opposed to hydraulic fracturing	Hydraulic fracturing should not be considered , due to the environmental damage to ground and water resources.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
10858	Opinion - opposed to hydraulic fracturing	These places are sacred to myself and many. Please preserve them as they are. Thank you so much,	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9489	Opinion - opposed to hydraulic fracturing	<p>Dear Bureau of Land Management (BLM) ~Respectfully.As our taxpayer-financed-and-benefited public servant employees thank you for inviting comments on the Draft Supplemental Environmental Impact Statement (EIS). A statement that analyzes the potential impacts of hydraulic fracturing associated with oil and gas development on public lands within the Bakersfield Field Office planning area. The area of which includes Fresno, Kern, Kings, Madera, San Luis Obispo, Santa Barbara, Tulare and Ventura counties.I am a lifelong coastal Northern Californian and an over four decade adult working and voting Rural American resident. I am against the proposed tunnel, dams and any hydraulic fracturing endeavor. Here's why:1 Water, tunnels and dams—oh my It could be said these proposed PUBLIC-funded water projects, claimed for expanded housing and agriculture, open the door wide for PRIVATE fossil fuel industries and their shareholders' profits, gains and interests.The present, bold notion and promotion of hydraulic fracturing associated with PRIVATE oil and gas development on lands within Fresno, Kern, Kings, Madera, San Luis Obispo, Santa Barbara, Tulare and Ventura counties runs counter to several of these very counties' claims of having lack of clean, available water for (sub)urban expansion and big-agricultural requirements.In pursuing this parallel PRIVATE grand fossil fuel hydraulic fracking endeavor, with its proposed extensive PUBLIC-funded and environmentally costly dam and tunnel projects of Northern California water—for further housing tracks and big-agricultural concerns—is in clear and direct competition for these very limited natural water resources.2 Earthquakes The process of hydraulic fracturing has raised valid concerns and has been documented to increase earthquake activity throughout the United States of America—where activity has never before existed. Please note the extensive and once-unheard of but now too-common earthquake activity within the US Midwest. An introduction (in some locations) and an increase of earthquake activity as proposed within our state's Bakersfield Field Office planning area (listed above) may result in real and considerable undermining of the notable, vulnerable greater (ground)water sources within this very agricultural and populated region.3 Toxic (ground)water To ignore the past decade of the known toxic aftermath of hydraulic fracturing and the adverse effects upon our nation's PUBLIC health, safety and lack of available clean water usage (drinking, bathing, landscaping) would be cavalier, unethical and inhumane, at best. It would result in multiple millions of innocent (infant to elder) lives' health compromised, and even their deaths. Countless health claims and far reaching expenses upon our neighbors and communities, and the predicted accompanied class action lawsuits, would cost we-taxpayers multiple millions of dollars—for present and future generations. Because as we all know, somehow within the small print, these PRIVATE companies and their shareholders would manage to be immune of social and monetary responsibility.4 Rob Peter to pay Paul Quite the shell game, that.But in this case it isn't just generations of billions of citizen taxpayers' money that is the issue. It is OUR short and long term collective clean air-water-soil, OUR farmlands, orchards, forests, environments and habitats that are the issue. Equally. Specifically. The health and safety of California's residents and our livelihoods, including our domestic, farm, ranch animals, as well as our state's once abundant fish, bird and mammal wildlife are the issue.Given the above concerns.Please do NOT allow this proposed or related hydraulic fracturing, associated with oil and gas development on public lands within the Bakersfield Field Office planning area, to be approved.With appreciation for your time and thoughtful consideration of this far reaching concern—that will effect present and future generations—including those of your immediate families and descendants. Every good intention.Rita A</p>	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
15180	Opinion - opposed to hydraulic fracturing	No more drilling in California!! This proposal is a disaster and will pollute our air and water!!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

Comment Number	Issue	Comment	Response
9470	Opinion - opposed to hydraulic fracturing	My home is near to the proposed fracking location adjacent to Horn Canyon in Ojai Ca. Our only source of water is from rain run off that is collected in Lake Casitas and from ground water. We are not connected to the California water system. The proposed is over one of our major aquifers. The significant potential for contamination of our ground and surface water from fracking is an unacceptable risk. It would destroy the livelihood of many who live and work here, and cause the loss of our agricultural base. Please consider these factors against the value (in my view limited) of another fracking site so close to a thriving community. Sincerely, Robert Bonewitz	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12164	Opinion - opposed to hydraulic fracturing	I am writing because I oppose efforts to open DOI and BLM land in California for oil exploration, drilling, and fracking. The impacts of these activities on the environment and the future of our climate will negatively impact our state for decades to come. These areas are precious, valuable natural and recreational areas and communities. The drilling and fracking activities would damage the air quality in areas with already unhealthy levels of air pollution in the San Joaquin valley, threaten water quality, and impact the unique wildlife in the area. We owe it to our children to focus instead on exploring renewable energy sources that will leave our children and grandchildren a livable climate. Please do not open the areas to drilling and fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12248	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	There is a reason that national parks were established. To preserve the amazing environment that we so often take for granted. When you enter a national park or a state forest there is a feeling of purity knowing that most everything there has looked the way it did when first declared a protected area. There is something currently threatening to disrupt this peacefulness and serenity and that is the proposal to remove some of this land from protected areas and to open it up to drilling and hydraulic fracking. This proposal has the potential to disrupt the lives of much of the wildlife and impact the human community structures in these areas as well. Fracking is a very invasive and dangerous process that has the potential to increase earthquakes and contaminate drinking water among other things. This potential disruption to the region of the national parks is something this country has experienced before with the overhunting of Grey wolves in Yellowstone National Park. The absences of wolves impacted their entire ecosystem and a fracking project like the ones proposed present the same dangers. Not only does this project present potential harm to the ecosystem but also to the human population in the surrounding areas. Fracking has been known to contaminate local drinking water and to alter air quality and other negative impacts to the environment. In communities like the ones most likely impacted, a large element of their economy is tourism, which is put at risk with this proposal. With a loss of livelihood many of the surrounding peoples are at risk of displacement for economic reasons as well as health reasons. It is unhealthy to live somewhere with hazardous drinking water. For these reasons and others, I a concerned citizen call upon the Bureau of Land Management to maintain the protection of our sacred national parks and to ban hydraulic fracking in the US.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12364	Opinion - opposed to hydraulic fracturing	Why? 1. Earthquakes are too common already. Let's not ask for more. 2. Fracking and drilling are steps in the WRONG direction. We need to be looking forward towards clean solutions to energy production; not backwards. 3. If funds Are available to put towards fracking, put those resources towards clean energy solutions. If jobs are to be created, hire and train workers in a field with a future. Don't create the next generation of coal miners. 4. The damage fracking would do to the very structural integrity of the land cannot be repaired. i submit an emphatic and absolute NO to drilling and especially fracking. Californians know better. California deserves and wants something much better!!!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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10611	Opinion - opposed to hydraulic fracturing	I am someone very much in favor of domestic oil & gas production. Alt energy sources are extremely inadequate and will be for some time. But I draw the line at Hydraulic Fracturing. The west coast is already a fractured landmass-- to pressurize this area well below the surface is nuts. Yes, not a scientific term, but nuts it is. And I KNOW the experiments & studies have not been done to determine the long-term safety of fracking. Secondly, injecting petroleum products that include Diesel fuel, benzene, etc. into underground areas where mixing with the water supply (aquifers) is available is also completely nuts. When those chickens come home to roost, I'll be around to help prosecute those responsible. Figure out a different way to get the oil & gas.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11273	Opinion - opposed to hydraulic fracturing	I am writing in regards to the tentative plan of the BLM to explore oil production via fracking within a half mile of my residence. I live in the East End of Ojai a quarter mile from the Thatcher School campus. This area narrowly survived the massive Thomas Fire in December 2017 and is further stressed by a five-year drought. Ojai receives no state water and relies on springs, rainfall and ground water completely. Fracking would jeopardize and probably make unusable a major aquifer. In addition, the massive amount of water used by any fracking would deplete what are our already desperately limited supply of water. In summary, fracking between the Thatcher campus and Horn Canyon Creek/Reeves Creek would be foolhardy and potentially disastrous for those of us who live here. Please study the extensive environmental impacts in advance of any exploration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
13291	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	As a resident of Santa Barbara County, I do not believe any fracturing is a solution or answer for oil and will not let precious land be used as a commodity. It is indescribably amazing how much open land is around Santa Barbara and I intend on doing everything to keep it that way. Fracturing for oil would cause not only definite habitat loss for local wildlife but will affect so many ecosystems within the area that depend on the land. I understand that oil is still necessary as a society to thrive but I'm hopeful we can find other ways to thrive and coexist with the land in ways that are ultimately not harmful. Unfortunately, our usage and obtaining of oil are beyond what this earth can provide and it must change. We must evolve our ways of thinking - starting but NOT CONTINUING TO USE THE LAND FOR FRACTURING FOR OIL. I do not and will never agree with fracturing for oil and am hopeful to see this proposal shut down.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12854	Opinion - opposed to hydraulic fracturing	As a homeowner and resident of San Luis Obispo County, we say "NO FRACTURING" in San Luis Obispo County or any County within the Bakersfield Field Office. Fracking can contaminate our drinking water (which is already extremely limited due to drought), pollute our air, contribute to the destructive greenhouse gases and potentially trigger earthquakes. There is plenty of data supporting these facts about the harmful effects that hydraulic fracturing has on human, animal and plant health and safety and to our environment. NO FRACTURING here.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
17516	Opinion - opposed to hydraulic fracturing	Please do not do this! We live in earthquake country!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12694	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am a resident of Morro Bay. I am strongly opposed to expanded oil and gas production on public lands, including fracking. To quote Gov. Newsom, "We need a future free of fossil fuels -- not the other way around."	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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11688	Opinion - opposed to hydraulic fracturing	I am writing to express my opposition to oil exploration and production on BLM lands in the Central Coast. I have lived in the state of California for the past 10 years, but came here from Pennsylvania, where fracking is common. Because of my experience in Pennsylvania, I am particularly opposed to any kind of fracking in California. Fracking uses and pollutes huge amounts of water. It can also decrease geological stability. This state can afford neither of these. Using out public lands for oil exploration and production is inconsistent with the values of our state, as we try to move towards renewable energy sources.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12824	Opinion - opposed to hydraulic fracturing	The proposed fracking plan:undermines our health with toxic chemical emissions, like methane, into our clean air threatens critical water supplies for rural and coastal communities increases the potential of more oil spills endangers wildlife and their habitats	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12489	Opinion - opposed to hydraulic fracturing	I am writing to express my opposition to the proposal. Fracking is harmful to the environment and should not be allowed at all.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12844	Water Resources	As your own analysis reads, "Injection of hydraulic fracturing fluids poses risks to groundwater.". These risks are too great in a state that relies so greatly on groundwater reserves for our economy and survival. Once you have destroyed a well, we can never recover it. In addition the consumption of up to 800 million gallons of water is a waste. We are in a time that will be bookended by droughts and fires. We should not be using so much water for an endeavor that is yesterday's technology. It is wasteful, dangerous, and toxic to our environment. Please reject this plan to frack. Sincerely,	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts Water Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
11894	Opinion - opposed to hydraulic fracturing	I was born and raised in California; I am a citizen and a voter. I strongly oppose the proposal to allow fracking in California on BLM-managed lands. Fracking is a dangerous, toxic process that pollutes our groundwater. In California, both wild lands and clean water are precious--and they should be preserved for ALL of us, not sold off to fossil fuel companies for profit. The US BLM has a responsibility to respect the will of voters in California, and we have already voted to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030, and therefore to reduce petroleum consumption by 45 percent by 2030. This proposed BLM plan runs directly counter to the will of voters in my state, and the federal government should be ashamed of itself for trying to exploit our beautiful wild lands for this purpose.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
15542	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am completely opposed to any Hydraulic Fracturing anywhere in the State of California, including this currently proposed project listed above with the Bakersfild Field office.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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18755	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Hello, I am a Santa Barbara native and I strongly oppose all areas up for fracking discussions because of the unique plants and animals it harbors because of the beauty and solitude it risks abolishing forever for the sake of nothing more than money and greed. I am more than deeply concerned about fracking because it can cause asthma, learning difficulties, rashes, cancer, endocrine disruption and other health issues, in addition to ruining the landscapes and water sources near and far from it. We have already ruined many irreplaceable areas of the world due to this same process, please do not do the same to these areas. Additionally, the draft EIS is inadequate because the analysis is misleading and incomplete. At the conclusion of the analysis, I hope you will amend your management plan to exclude, or place restrictions on, parcels offered for oil leasing and fracking, reflective of the risks and impacts they pose to public health and the environment. In addition, I hope that you will close lands to leasing and fracking that are on or adjacent to schools, national forests, monuments, and refuges to better protect children and the resources that make these places so treasured by the public. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12705	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	The Central Coast of California has numerous natural treasures. We are so fortunate that we have such pristine areas when much of coastal California has been heavily developed. These treasures of ours garner national attention and are enjoyed by countless visitors as well as locals. Tourism is one of our most important industries because of our natural surroundings. And this relatively unspoiled beauty isn't by accident; we have worked hard to maintain and preserve flora and fauna. People have done plenty of damage to the environment everywhere, but we work hard to reduce that impact here. Drilling and fracking have ABSOLUTELY no place on the Central Coast. They are anathema to our values, our natural beauty, and our proactive preservation. We have been leading edge on so many issues of pollution from bans on indoor smoking to single use plastic bags. If we care that much to take action, how dare the federal government force upon us an oil extraction method that makes plastic bags laughably minor. California, the U.S., and the entire world need immediate action to slow climate change. We DO NOT need to accelerate it! Reaping profits now at the expense of our future is short-sighted, incredibly selfish, and self-destructive. And of course I haven't even addressed the stupidity of potentially increasing earthquakes so close to a nuclear power plant. Do not shrug that off. Do not ignore the evidence of Oklahoma's experience. Do not ignore facts that don't fit your plans. DO NOT open tracts for fracking. We need our water. We need it clean. We need it useful to residents and agriculture, not blasted into a well. Leave our gorgeous natural landscape alone.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12572	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	BLM, I STRONGLY OPPOSE fracking on California's Central Coast because it disrupts wildlife habitats, pollutes water, causes earthquakes and produces greenhouse-gas emissions. We're in a climate crisis! The last thing we want is to produce and use more fossil fuels and contaminate our land. The Trump administration must respect Californians' goal to reduce our dependency on and use of fossil fuel. For that reason, I also strongly oppose more oil drilling. The BLM's plan puts at risk the well-being of California's residents, wildlife, natural resources and scenic landscapes, not to mention our tourism, outdoor recreation and agriculture industry. BLM -- PLEASE REJECT THIS PLAN THAT WILL SUBJECT CALIFORNIA TO FRACKING AND MORE OIL DRILLING!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
17777	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	In a state that is already struggling to maintain a sustainable water supply and houses one of the most polluted areas in the country, please do not open up more public land to fracking. Our attention needs to be turned toward divesting from fossil fuels; not continuing to turn a blind eye to the climate crisis.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12736	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	This proposed fracking would be taking place on BLM managed public land. Public. Not private. If private interests are considered before the responsibility of public protection, then the BLM is not properly administering this land. Public protection includes weighting the irreversible damage to surrounding environments, the projected cost of clean-up to affected land and the economic break down of rural towns against private gain. This proposed project does not protect these factors.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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9930	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	The lands in which it proposed to drill are set aside as landmarks, for recreation, wildlife refuge, ecological protection and diversity, and tourism. The opening of these beautiful and unique lands to destructive mining and other mineral extraction is irreparably damaging, changing these landscapes forever, and permanently altering the fragile and vital ecosystem in which these lands are a part. Hydraulic fracturing uses numerous toxic chemicals, which once released into the ground are uncontrolled, produces tens of thousands of gallons of contaminated water, activates fault lines, and creates scars on the land that will never look as they once did. All this for some money. Neighboring areas and communities, not to mention all that land itself, is widely visited by residents, neighbors, and visitors alike. Tourists bring money into the local economy, supporting small, local businesses and governments by going to state, local, and federal parks, including precious lands such as these. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
14091	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Please do not expand public lands for more oil drilling/fracking. Rather encourage the development of renewable energy sources.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
19845	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am strongly against opening acreage in California to drilling and fracking as proposed by the Bureau of Land Management Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12845	Opinion - opposed to hydraulic fracturing	Further fossil fuel exploration using hydraulic fracturing is environmentally irresponsible. We do not need to search for new sources of fossil fuels when it is clear that we cannot even use all of worldwide proven reserves without causing climate disaster. In addition the disposal of millions of gallons of recovered water from hydraulic operations causes unmitigated damage to California's already scarce water resources.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
14231	Opinion - opposed to hydraulic fracturing	This is a horrible idea. Fracking 1) pollutes water; 2) causes earthquakes; 3) uses large amounts of water that we don't have; 4) releases carbon into the atmosphere. We need to get off fossil fuels and get more into alternative energy.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
17414	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Hi - these leases are too close to our Sequoia National, Kings Canyon and Los Padres Parks and forests. The impacts on these national treasures need to be deeply considered for short term financial benefit.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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12530	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	This process is an insult to the people living in this area. The proposal to open more federal lands for any kind of fossil fuel development, let alone fracking, is absurd in light of the daily changes the world is witnessing resulting from climate change fueled largely by greenhouse gas emissions. There is already a glut of oil on world markets, fracking damages fragile water and air resources, is likely to lead to earthquakes and extends the reach of an industry whose technology is outdated. The only gain from any of the operations justified here is to enrich a small group of already rich investors. How sad that employees of a government that is financed by and obligated to serve the people choose to continue with this cruel enterprise.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
10803	Opinion - opposed to hydraulic fracturing	We have seen the damages done by past attempts to drill in the Ojai Vally and how it has polluted the water table and the land. We do not need more oil. We need renewable energy. Destruction of our forests and oceans in the name of big oil's profit does two things : It destroys the natural engines of clean air and animal life including human, and at the same time it produces deadly pollution permanently harming our natural wealth and health.	
8913	Opinion - opposed to hydraulic fracturing	As I write this, New Mexico is alarmed because companies from Texas are fracking in NM but bringing water over the state line in Texas to do so. However, this Texas water is from the same aquifer as the New Mexico water and NM is worried that fracking will lower the aquifer for both states. We in Central California have a severe drought going on and CANNOT AFFORD TO LET OIL COMPANIES USE OUR WATER. WE NEED ALL THE WATER WE HAVE FOR INDUSTRIES, AGRICULTURE AND HUMAN CONSUMPTION. WE HAVE NO EXTRA WATER. WE DO NOT WANT TO END UP LIKE PORTERVILLE, CA or SOUTH AFRICA WHERE THEY HAVE RUN OUT OF WATER FOR RESIDENTIAL USE! The public was not provided with an accurate map of the parcels proposed for auction, and surface rights owners have not been properly notified. For these reasons, the public comment period must be extended. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12083	Opinion - opposed to hydraulic fracturing	Fracking is a dangerous process with poorly understood consequences. Consequences that have been observed are often deleterious to public health, and the health of the land. Rather than open public lands to drilling, the BLM should respect California's desire to reduce greenhouse gas emissions, and to preserve the health and beauty of public lands. Please do not allow public lands to be used for fracking and drilling. Please do not allow corporations to purchase mineral rights at very low prices and then introduce drilling and fracking. Do not sacrifice the health of our wildlife, our climate and our citizens to allow the oil and gas industry to profit. With climate change, drought impacting the availability of water, do not help support industries that squander that precious resource. Clean water is more precious than oil or gas.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
10352	Opinion - opposed to hydraulic fracturing	I live near the proposed fracking sites and don't want noise, ground shaking, possible ground water contamination etc.. plus with the recent fires, when the rains come again the area will be flooded. Please don't allow these folks to disrupt the natural beauty of our neighborhood. Thanks	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9178	Opinion - opposed to hydraulic fracturing	Fracking in the public lands of central California is unthinkable. We struggle to save our fragile environment in the face of fires, drought, and possible earthquakes. Not only would the proposed plan endanger our environment, it would be extremely hazardous to our people, especially our children attending schools in the areas under current discussion. Please help save our environment and our earth so that it will provide a place to live and grow for our children and grandchildren. Sincerely, Susan P. Reed	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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11860	Opinion - opposed to hydraulic fracturing	This is the most dieastrous plan on record. The need for Fracking is becoming unnessary with renewable energy. This will rob the coming generations of the water that is necessary for sistaining life in the valley. This can never be corrected once it is done and your legacy will be tarnished for history. No Fracking along the CA coast or in the Cental Valley!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11732	Opinion - opposed to hydraulic fracturing	My family and I have enjoyed visiting the Los Padres National Forest many times and have also spent time in the Carrizo Plain Reserve and in state parks such as Montano De Oro, Point Mugu and other oceanside parks. These are precious recreational areas and should be fully protected. Therefor, relative to the proposal to allow new fracking and other oil development projects throughout central California, I urge the BLM to allow for a fair comment period, to conduct a thorough review of fracking and its impacts on water, air, wildlife, and recreation, and to restrict oil development that impacts public lands. Drilling and fracking near key sites like schools, conservation lands, state parks, national forests and monuments, state ecological reserves, and city-owned natural reserves is inappropriate and incompatible with how local residents use and enjoy these lands.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
9226	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	I hope you will amend your management plan to impose additional restrictions on fracking and oil development in central California that would apply to some or all of the 1.6 million acres of land currently open for new oil leasing, appropriate to the threat posed to water, wildlife, and humans. In addition, I hope that you will apply special lease stipulations for lands on or adjacent to schools, national forests, monuments, and refuges to better protect children, and the resources that make these places so treasured by the public.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
13660	Opinion - opposed to hydraulic fracturing	I oppose fracking in this county! We sit on so many fault lines, it would increase the instability of our area. Hardly a day goes by that there are not earthquakes! It is dangerous to our water supply too. We are already in a drought area & do not need the increased danger of Fracking! Please do not allow this to happen here! Thank you, Susan Waidner	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11927	Opinion - opposed to hydraulic fracturing	California must be protected from "fracking" and the worsening of climate effects caused by the products of fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
8511	Opinion - opposed to hydraulic fracturing	Keep it in the ground. Opening up these lands for Fracking is not in the public interest of the people of the United States, rather it is putting money into the pockets of the oul and gas industry as they reap profits, while creating pollution for all others. Ban dirty polluting fracking and transition to sustainables	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
20561	Opinion - opposed to hydraulic fracturing	To whom it may concern, hydraulic fracking is a monumentally bad idea, for the State of California. As you know, California is prone to earthquakes, since it is where the pacific, and North American, techtonic plates slam into each other. Hydraulic fracking will only exacerbate the earthquakes in California. Hydraulic fracking has been tried in Oklahoma, an area that doesn't historically have earthquakes... well, they have them now. Do we have to destroy the entire state of California before you realize that what you're trying to profit off of is what's destroying our state? Say no to hydraulic fracking in the State of California, it's not only bad business, it's bad for California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12641	Opinion - opposed to hydraulic fracturing	No fracking in California -- or anywhere!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
13305	Opinion - opposed to hydraulic fracturing	We must stop hydraulic fracturing in Central California. This technology threatens our precious water resources and wild habitats. It is imperative that we make the transition from fossil fuel to renewable energy ASAP in order to prevent climate meltdown.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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15495	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	The proposal to frack on public lands is unacceptable. These lands provide shelter to more than 1/3 of federally listed threatened and endangered species. The land also has groundwater systems that provide water for agriculture and residential purposes. This information is provided by The Center for biological Diversity. Hydraulic fracking has come under increasing scrutiny from scientists, regulators, and the public for good reason: groundwater contamination and surface water pollution. Hundreds of fracking chemicals are KNOWN to be toxic to humans and wildlife. A 2015 report from California Council on Science and Technology highlighted these risks. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
14203	Opinion - opposed to hydraulic fracturing	1. We have no need for more gas extraction 2. Fraking induces earthquakes 3. California is overdue for more large earthquake s 4. The danger is greater in this state for catastrophic damage and loss of life and property	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12267	Opinion - In favor of oil and gas exploration and development	Oil Field Fracking- A Hazard Analysis Approach A few years back, this writer was asked to conduct a Hazard Analysis on a “generic” Fracturing Project, by a major Oil Exploration and Production Company in Kern County. A Hazard Analysis at a multi-step industrial process, and asks, in a structured manner, what can go wrong in each part of the system, what are the consequences of these mishaps (particularly safety and Environmental outcomes), what safeguards are in place, followed by a risk evaluation in each scenario. Several representatives from the Production Company and their contractors participated, to lend their expertise. These are my impressions from the Hazard Analysis. They mostly center on safety, and how the work is approached by the owners: 1. The Fracking process is Large and Expensive- multiple heavy equipment, rented from specialty suppliers, computer monitoring, trailers, power supply, water supply, large pumps, high pressure piping and controls, etc. 2. Very High pressures involved: Both in “Injection Step”, and then in the “Exhaling Step”. In this, water, sand, oil & gas is discharged from the formation, at high pressure at the end of fracking. 1000 psig pressure is not unusual. 3. The production company wants to target the right formation underground, pump in the right compound, pressure, and volume. A mistake here might cause damage to another formation, or damage to the well, or a clean-up bill. 4. Hiring a group of contractors to set-up, operate several days, and then break down is very expensive. 5. All of the above leads to: This Fracking Operation is carefully planned, carried out by competent people, with supervision from the Production Company (Customer). 6. The “big issue” in Safety was very high pressures (could cut your leg off!), in the event of loss of containment. This hazard was controlled by heavy-walled equipment designed for the purpose, redundant equipment, safety valves, etc. Other concerns include flammable gas, and chemicals in the effluent water. These also had mitigations, designed into the process. These companies don’t wait until the Hazard Analysis to put in protections; these are generally in place already, based on experience. 7. The “big issue” (potentially) for environmental impact is disposal of the water/ chemicals/ sand/ gas in a responsible manner- particularly controlling leaks and secondary containment. The technology for handling this waste are well-known: sand separation, neutralizing pH, etc. Note that for business reasons, as well as respect for the environment, the Production Company does not want to make a mistake, or have an incident. Here, the concerns of the owners coincide with those of the public. Now, how does this relate to an Environmental Impact Report/ EIS? In most large projects, the sources of air, ground, and water pollution (or possible pollution) have been previously identified, and are covered by permits which identify and limit these sources. The EIR is another layer: it looks at several additional areas. I have looked through the Supplemental EIS, and it appears to have covered a multitude of issues. According to my knowledge, the obvious environmental disruption is that, in preparation for the Fracking exercise, a larger area has to be cleared (larger than for well-drilling), and people plus equipment are moved in for a period of time. This will impact the landscape, and the local animal population in that specific spot. After Fracking is over, I would think the land will return to “normal oil-field”.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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22688	Alternatives	I am writing to ask that the BLM Bakersfield Field Office unequivocally oppose and cease all hydraulic fracturing operations in the Central Valley, including stopping new leasing entirely and putting in place meaningful protections against such activity in the future, initiating remediation efforts to mitigate and repair the damage that has already been inflicted upon the environment, and restoring the natural habitat of this region that is vital for sustaining all forms of life. BLMs initial analysis of impacts from hydraulic fracturing in the Bakersfield Field Office was woefully insufficient. It downplayed and outright ignored the impacts this activity would have on air quality, drinking water, protected public lands and local communities and did not consider making any meaningful changes to current management.BLM must immediately cease all leasing of land for the purpose of petrochemical extraction. Please amend the Bakersfield RMP to immediately and permanently prohibit hydraulic fracturing due to the consequences that could befall communities in the Central Valley and throughout the rest of the state.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement. Neither a state-wide leasing moratorium, nor the choice of a “no leasing” alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.
11883	Opinion - opposed to hydraulic fracturing	Dear Acting State Director Joe Stout, I'm a licensed civil engineer and spent my 25 year career focused practicing on the ground environmental protection particularly in areas of resource conservation. From this background, I question why the cost to society is neglected when the SEIS fails adequately address the negative impacts of hydraulic fracturing on our air quality and its potential dangers to the health of California's people. This report estimates potential air pollutant emissions but fails to consider the larger health impacts of fracking operations on nearby communities. Multiple recent studies have proven that oil and gas wells, particularly fracked wells, emit a cocktail of chemical compounds into the air that pose a special health risk to residents living adjacent to oil and gas development—many of whom are low-income or minority communities. Among the list of health dangers associated with fracking operations are low birth weight, birth defects, blood disorders, cancer, respiratory illnesses, and nervous system disorders. What will the health impacts of fracking operations be on nearby communities? California, and the nation, must continue to move toward clean energy that does not disproportionately impact our most vulnerable communities. I believe it is essential that all of our state's residents be protected from dangers to their health and well-being. I respectfully ask that no new drilling be undertaken without further research into how these concerns can be fully addressed. Please do not spoil California's unique and precious ecosystems and natural beauty. Sincerely, Tiffany Wise-West 4795 Opal St Capitola, CA 95010-3130	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Soil Resources; Water Resources; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
11880	Opinion - opposed to hydraulic fracturing	To whom it may concern: I have been a resident of Santa Barbara since 1973. Protection of our natural resources—including wilderness and the non-commercial values, is crucially important to me. That is why I am opposed to hydraulic fracturing, and indeed any oil extraction, in the watershed of the Santa. Ynez River. This river is important to people here for many reasons. For most it is recreational. It is the first place many families think of when planning a day trip or a weekend campout in nature. It is also important for our water supply, being one of the main sources for Cachuma Lake, which provides drinking and ag water for most of the county. The draft Environmental Impact Statement you prepared does not sufficiently assess those risks.Additionally, the draft EIS is inadequate because no changes were made in response to overwhelming public concerns over water contamination.At the conclusion of the analysis, I hope you will amend your management plan to exclude, or place restrictions on, parcels offered for oil leasing and fracking, reflective of the risks and impacts they pose to public health and the environment. In addition, I hope that you will close lands to leasing and fracking that are on or adjacent to schools, national forests, monuments, and refuges to better protect children and the resources that make these places so treasured by the public.Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
11110	Opinion - opposed to hydraulic fracturing	Please don't allow oil companies to destroy our communities by drilling and fracking near our schools and near our wilderness areas.Don't be a pawn for the oil companies. Be a better man.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9147	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	As a retired attorney resident of the Central Coast. I am writing to strongly oppose opening our public lands to oil drilling, particularly to fracking. Under the legal doctrine known as the Public Trust Doctrine, governmental entities are required to preserve and protect essential natural resources for residents both present and future. Court have recently expanded this doctrine to include protection of the atmosphere (preserving breathable air). Increased emissions, risk to watersheds, water sources and environmental damage are not consistent with such fiduciary and public policy obligations. There is strong opposition to this proposal.Thank you,Tina S. Boradiansky	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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9287	Opinion - opposed to hydraulic fracturing	I am writing to express my opposition to the Trump Administrations proposed opening of 1.6 million acres of public lands in California to new gas fracking and oil development. While I understand that our current oil and gas resources are under some pressure, I'm concerned about the potential, and very real, risks that fracking and oil development pose to the people of California and to our environment. Specifically, fracking presents serious risks to ground water availability and quality, something of particular concern in California where water is a precious commodity and already under threat due to drought. In addition, the waste water from the fracking process (indeed, from all oil production processes) is injected into deep wells, which has been associated with earthquakes, even in states not historically prone to earthquakes. In California where earthquakes are not uncommon, it seems especially irresponsible to frack in areas that imperil the populations living near fault lines, like the proposed fracking site along the Carrizo Plain through which the San Andreas Fault passes. Further, oil and gas extraction produce air pollution, something that would imperil the improvements to air quality that we in California have worked so diligently and successfully to improve in recent decades. Inasmuch as some of the propose sites are located near schools, including Cate School, these emissions would negatively impact the students' health, as well as the health of others living in nearby communities. Moreover, public lands are resources in their own right that provide real monetary and health benefits to the people of California. I value Los Padres National Forest, Carrizo Plain National Monument, conservation lands, state parks, and national wildlife refuges in central California for the unique plants and animals they harbor, for the watersheds they protect, and for the recreation opportunities they offer. And lands that have been designated as National and State Parks deserve the wildlife and environmental protections originally intended by those designations. Ideally you would join me in my opposition to the Trump Administration's proposal for new gas fracking and oil development. At the very least, I urge you, as part of the Supplemental Environmental Impact Statement, to use the best available peer-reviewed science to conduct a thorough and transparent evaluation of all known impacts that new fracking and oil development may have on water, air quality, wildlife, and public health and recreation in central California. I also ask that, at the very least, more time be allotted for public review of proposals for each individual location, especially as the public was not provided with an accurate map of the parcels proposed for auction, and surface rights owners have not been properly notified. Thank you for taking my concerns into consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12841	Opinion - opposed to hydraulic fracturing	As a concerned California resident, I strongly oppose the proposed hydraulic fracturing plan. Our public health is threatened by fracking! The proposed plan guarantees a steep increase in Methane, which is a toxic greenhouse gas that is far more potent than carbon dioxide. The plan also presents a clear and present danger to our water supply. As a result of this proposal, our fragile ecosystem will be irreversibly damaged. I urge the BLM to withdraw this proposal immediately!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9663	Opinion - opposed to hydraulic fracturing	Regarding the plan to open California lands to fracking and oil development: Seriously? Fracking has been shown to increase the risk of earthquakes. USGS reports: wastewater produced by wells that were hydraulic fractured can cause induced earthquakes when it is injected into deep wastewater wells. Fracking has been shown to increase the risk of groundwater contamination. California Council on Science and Technology reports: fracking is done in areas with shallow depths close to groundwater and uses an especially high amount of toxic chemicals.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
21765	Opinion - opposed to hydraulic fracturing	This is crazy. I'm 27 and need to be able to live in 20-30 years. Furthermore, i really need WATER in 20-30 years and I know how much this plan does to ruin our groundwater. Don't ruin sources of the most precious natural resource on earth, and that's NOT OIL	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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10295	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	<p>Patagonia is an outdoor clothing company with 640 employees based at its Ventura California headquarters, most of whom live in Ventura and Santa Barbara counties. Patagonia is writing to express its concern with the BLMs recently released plan to open up approximately 273,000 acres of federal land and mineral estate on the central coast of California for oil drilling, including hydraulic fracturing. Many of the proposed parcels border communities where Patagonia employees live, are dangerously close to where our children go to school, and abut popular recreational areas including state parks, wilderness areas, and other conserved land where our communities spend time. Additional oil extraction in these proposed areas whether by fracking or not poses dangerous health risks to our children as well as the incredible biodiversity and natural landscapes that define this unique region of California. All oil extraction presents risks to neighboring communities and ecosystems. The 2015 Independent Scientific Assessment of Well Stimulation in California states [m]any of the constituents used in and emitted by oil and gas development can damage health, and place disproportionate risks on sensitive populations, including children, pregnant women, the elderly, and those with pre-existing respiratory and cardiovascular conditions. [] Oil and gas development poses more elevated health risks when conducted in areas of high population density. The Report continues, [o]il and gas production . . . accounts for significant emissions of sulfur oxides, volatile organic compounds, and [] hydrogen sulfide. [A]tmospheric concentrations of pollutants near production sites can be much larger than basin or regional averages, and could potentially cause health impacts. All types of oil extraction also cause habitat loss and fragmentation. Hydraulic fracturing presents certain additional risks: The California oil and gas industry uses a large number of hazardous chemicals during hydraulic fracturing and acid treatments. A few classes of chemicals used in hydraulic fracturing (e.g., biocides, quaternary ammonium compounds, etc.) present larger hazards because of their relatively high toxicity, frequent use, or use in large amounts. And, the use of these toxic chemicals is an even greater threat in California given that about three quarters of all hydraulic fracturing operations take place in shallow wells less than 2,000 feet deep. In a few places, protected aquifers exist above such shallow fracturing operations, and this presents an inherent risk that hydraulic fractures could accidentally connect to the drinking water aquifers and contaminate them. Against this dangerous backdrop, BLMs proposal to allow hydraulic fracturing next to schools, dense communities, and sensitive habitat is nonsensical. For example, the proposed Plan would open a parcel of land to drilling and fracking that abuts a trail that nearly 400 students at Cate School in Carpinteria use on a regular basis. It would also make available 40 acres on the eastern edge of Thacher School in Ojai below a popular hiking trail near the schools Gymkhana Field where Thachers 260 students regularly spend time. The Plan would also open a 5 acre parcel across the street from Los Osos Middle School in San Luis Obispo County. There is no reason to subject our communities children to these kinds of risks. The Plan also threatens dozens of the regions iconic open spaces and wildlife that Patagonia employees and their families enjoy regularly. By way of example because the list is long, the Plan would open up 12,000 acres in the Carrizo Plains Ecological Reserve, which connects Los Padres National Forest with the Carrizo Plains National Monument and is home to several endangered species, native grasslands, vernal pools, tule elk and pronghorn antelope not to mention hiking and equestrian trails. The plan would open more than 1,000 acres within Montana de Oro State Park as well as land around Morro Rock at the entrance of Morro Bay Harbor, which is protected as part of the Morro Rock State Preserve and is a State Historic Landmark. The Plan would open the entire Vandenberg Air Force base, which borders the Jack and Laura Dangermound Preserve near Point Conception. It would open 80 acres managed by the Ojai Valley Land Conservancy as well as 1,500 acres near the Hopper Mountain National Wildlife Refuge, which serves as the hub for efforts to reintroduce endangered California condors into the wild. The Plan also opens parcels in the hillsides behind the heavily populated regions of Ventura and Carpinteria. More oil extraction, including using hydraulic facturing, on land where our children play and our families recreate poses an unacceptable health risk to our local communities. It is also incompatible with how our communities use these precious lands. As part of this supplemental Environmental Impact Statement, Patagonia urges the BLM consider all known negative impacts from oil drilling, particularly hydraulic fracturing, on human health as well as to the public lands in our communities. Patagonia implores the BLM to ensure that any management plan ensure for the safety of our children, our communities more broadly, and protects the natural landscapes that define the Central Coast.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>

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12315	Opinion - opposed to hydraulic fracturing	To Whom it May Concern, I am writing today to share my opinion that we should not surrender our land, our water, and our communities to corporate polluters. Big Oil and proponents of fracking have caused irreversible damage that have destroyed precious habitats, killed wildlife, and devastated rural communities in our state. Fracking is especially harmful to young children, people with compromised immune systems, and the elderly. As a mom of young children and as a medical Pediatric social worker, I am inclined to speak out in defense of the disadvantaged. I care deeply about our environment, clean air and precious water resources, climate change, and community health and safety. Now is the time to make my voice heard. There is too much at stake. Please do not allow corporate America to frack our public lands. Instead, I ask you to consider creating new jobs and to stimulate the economy through alternative sustainable energy. Thank you for your time, Valerie Macy-Hurley LCSW	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
8472	Opinion - opposed to hydraulic fracturing	I am writing to say, simply, that there is NO safe way to extract fossil fuels from the earth. We humans have proved that, over and over and over again. If you drill, you spill, and pollute air and water. If you pipe, you spill, and pollute air and water. If you frack, you pollute air and water. If you burn the stuff as fuel, you pollute air and water. That IS the environmental impact. No EIS will ever disprove that. Clean air and water are essential to life. Your life, my life, your friends' lives, your pet dog's life, your lawn's life, the tomatoes in your salad's lives, the bees' lives that pollinate those tomato plants. We have already messed up this lifeboat earth that sustains us as we float through the black, airless, and waterless void of space. We need to stop doing more polluting, and consider our health, our children's (or your friends' children if you don't have any of your own) health, and the health of all the species that make up this WHOLE, this ecosystem in which, as John Muir so aptly put it, if you try to take any one part of it you find it hitched to all the other parts.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
13435	Opinion - opposed to hydraulic fracturing	I am writing to express my complete opposition to the BLM issuing additional oil and gas leases in California, including the Central Valley and on the Central Coast. This is my public comment. The mission of the BLM is "to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations." [http://www.blm.gov/wo/st/en/info/About_BLM.print.html] · Fracking is controversial. Gas and oil corporations repeatedly state that fracking can be done safely and without harming the environment or human health. Government echoes that -- so long as it is properly regulated. Safety of the public and environmental protection are required by law through Mitigation Measures. In the case of corporate gas and oil deals, the EIR Mitigation Measures are as valuable as the paper they're printed on. · Nonregulation: New rules mean that corporate oil/gas have to closely monitor and report seismic activity, as well as potential water and air pollution. But we know that's not been the case throughout fracking's history in the U.S. The corporations requesting these new leases are first and foremost concerned with profit. But the public—families and communities—bear the costs of the many health complications from the drilling. There is growing evidence of a variety of health problems being associated with fracking. Common sense dictates that drinking and breathing cancer-causing agents will take their toll. The correlation is too strong to ignore, especially when we have other, cleaner energy options. [https://www.forbes.com/sites/judystone/2017/02/23/fracking-is-dangerous-to-your-health-heres-why/#6dec00f25945] U.S. Pioneered Fracking: Fracking transformed the U.S. energy landscape, positioning the U.S. to become a net exporter of oil. It is now creating similar shockwaves globally. The modern version of fracking unlocked oil and gas reserves across more than 20 U.S. states and oil production has increased to the point where about half of U.S. crude now comes from fracking. [https://www.eia.gov/todayinenergy/detail.php?id=25372]. I make this point because the U.S. is part of the global community. Concerns about fracking's effects on the environment are well founded. With great power comes great responsibility. The U.S. should be leading the world in fighting climate change. This is a meaningful Mitigation Measure. For our safety and that of future generations, I am adamantly opposed to the BLM issuing additional oil and gas leases in California, including the Central Valley and on the Central Coast Wayne S. Lamoree 212 Warren Way San Luis Obispo, CA 93405	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.

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24467	Opinion - opposed to hydraulic fracturing	I am writing to express my complete opposition to the BLM issuing additional oil and gas leases in California, including the Central Valley and on the Central Coast This is my public comment.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24298	Opinion - opposed to hydraulic fracturing	I agree with Ms. Harmon (Mayor of SLO), that "opening these areas for oil and gas development, including well stimulation, puts our drinking water supplies, air quality and recreational opportunities, public health, and tourism at stake." As such, I am adamantly opposed to fracking in SLO County.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
10056	Opinion	Hello World! Regards, Wesley Ether	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
10241	Opinion	Hello World! Regards, Wesley Ether	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
10416	Opinion	Hello World! Regards, Wesley Ether	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
10887	Opinion	Hello World! Regards, Wesley Ether	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
8502	Opinion - Other	Hello World! Regards, Wesley Ether	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
8810	Opinion - Other	Hello World! Regards, Wesley Ether	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
8922	Opinion - Other	Hello World! Regards, Wesley Ether	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9148	Opinion - Other	Hello World! Regards, Wesley Ether	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9185	Opinion - Other	Hello World! Regards, Wesley Ether	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9702	Opinion - Other	Hello World! Regards, Wesley Ether	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9965	Opinion - Other	Hello World! Regards, Wesley Ether	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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11782	Opinion - opposed to hydraulic fracturing	I am writing in opposition to the Trump Administration's proposed opening up of large areas, especially in California, to oil and gas fracking. Unfortunately, large areas surrounding active wells are despoiled by the construction of roads, pipelines and other infrastructure supporting the oil/gas extraction. Private owners of those proposed areas (split estate parcels) for which BLM owns mineral rights would then suffer extensive damage to their properties. In public lands, important natural resources of value to large segments of the general population would suffer the same damages. And large quantities of water are used in the fracking process, straining water resources in the state. Further, I'm convinced that fracking poses serious risks to ground water quality. This again is of particular concern in California, where water is an especially precious commodity. In addition, the waste water from the fracking process (indeed, all oil production processes) is injected into deep wells, a practice which has been associated with earthquakes. As one of the proposed fracking sites is in the Carrizo Plain, through which the San Andreas Fault passes, it seems irresponsible to take actions which could imperil populations living near the fault. Oil and gas extraction activities produce air pollution: the EPA website https://www.epa.gov/controlling-air-pollution-oil-and-natural-gas-industry states "The oil and natural gas industry is the largest industrial source of the potent greenhouse gas methane and smog-forming volatile organic compounds." Inasmuch as some of the proposed sites are located near schools, these emissions would impact not only the students' health, but also other members of nearby communities, including those with impaired immune systems. William Helm	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12131	Opinion - opposed to hydraulic fracturing	Dear Acting State Director Joe Stout, As a resident and mother of two children born in this magnificent state I fear for our and their generation's future. Please I beg you don't allow fracking that will damage their health and our environment. California, and the nation, must continue to move toward clean energy that does not disproportionately impact our most vulnerable communities. I believe it is essential that all of our state's residents be protected from dangers to their health and well-being. I ask that no new drilling be undertaken. Sincerely, Yostine Pasek 3055 Wilshire Blvd Los Angeles, CA 90010-1108	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
19310	Opinion - opposed to hydraulic fracturing	We understand you plan to continue forward with a plan to lease lands and mineral rights around our neighborhoods, schools and wild places for oil and gas development, including fracking. Your preliminary environmental review appears to be a place holder rather than a serious consideration of the dangers your plan poses to our communities and children. In fact, we already know that fracking will release heavy metals and toxins into our waterways based on the results of a 2014 study by Blue Tomorrow and the University of California at Santa Barbara.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
12192	Opinion - opposed to hydraulic fracturing	Allowing fracking in our area seems like a huge mistake. There's plenty of evidence to show that oil companies have consistently misrepresented the dangers and risks around fracking. It seems particularly dangerous to do shallow fracking in our area, not least because clean water access is a concern for the state.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24469	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Please, I urge you to not move forward with the BM proposal to open our public lands to oil/gas drilling and fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24534	Opinion - opposed to hydraulic fracturing	What do you think is going to happen when you fracture deep into the crust, disturbing the fault from its delicate balance.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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24550	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	You must act now and stop any fracking and drilling.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24481	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am writing to protest any more fracking in CA, especially the Central Coast.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24609	Opinion - opposed to hydraulic fracturing	All the land is beautiful... so not used for fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12863	Opinion - opposed to hydraulic fracturing	Therefore be it resolved the California Democratic Party will work with legislators to help the United States transistion away from fossil fuels to the cleanest greenest renewable energy technologies...	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24450	Opinion - opposed to hydraulic fracturing	Do not approve further oil and gas development, including associated fracking, in California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24657	Opinion - In favor of oil and gas exploration and development	We are writing in support of the BLM Supplemental EIS for the Bakersfield Field Office Resource Management Plan, which responds to a May 2017 settlement agreement with the U.S. District Court for the Central District of California to analyze issues and potential environmental effects of hydraulic on BLM lands.We are pleased that after five years of work and thorough study, the federal government has reaffirmed that hydraulic fracturing is a safe method to stimulate oil and gas production in California, which has some of the most protective production regulations in the world.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24598	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Please do not support the lifting of the moratorium on drilling in the Central Valley and Coast. Resuming drilling and fracking will have a devistating effect on public health and our climate.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24449	Opinion - opposed to hydraulic fracturing	I am a resident of Tulare County, and I DO NOT want fracking to occur here.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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12868	Opinion - opposed to hydraulic fracturing	I oppose any fracking, or fracking exploration on BLM land in SLO County for the following reasons: Air Quality, Water Quality, Long lasting negative environmental impacts	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Soil Resources; Water Resources; Minerals Management; Areas of Critical Environmental Concern; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24568	Alternatives	I urge and plead you to NOT proceed with this proposal to open federal lands and mineral estate to oil and gas drilling and fracking. Please keep the moratorium on leasing in place. Make it permanent by amending the DEIS to include and adopt a "no leasing" alternative as the preferred alternative.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement. Neither a state-wide leasing moratorium, nor the choice of a "no leasing" alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.
24561	Opinion - opposed to hydraulic fracturing	...deeply opposed to the sale or lease of 1.2 million acres of BLM public land for the purpose of oil extraction. Kern County already has a high rate of asthma, COPD and even cancer...already the worse air pollution in the nation. I am also concerned about water pollution and water use.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24536	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	The proposal to frack on public lands is unacceptable.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24539	Opinion - opposed to hydraulic fracturing	No more fracking! No more drilling!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12865	Water Resources	Fracking poses serious health risks to our groundwater and deepens our reliance on gas when we urgently need to de-carbonize our energy system.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.

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24622	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Will allowing the extraction of oil sustain the health, diversity and productivity of the public lands for the use and enjoyment of present and future generations? By allowing some people to extract oil now, aren't you stealing it from future generations?	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24610	Opinion - opposed to hydraulic fracturing	Destroying the little beautiful land we have. Destroying animals habitats and ecosystems and water will be contaminated.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24614	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I urge you to not proceed with your proposal to open federal public lands and mineral estate to oil and gas drilling and fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24615	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I'm here to urge you to not proceed with your proposal to open federal public lands and mineral estate to oil and gas drilling.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24557	Opinion - opposed to hydraulic fracturing	DO NOT IMPOSE THESE RISKS TO HUMAN HEALTH AND ENVIRONMENT AS WELL AS OUR ECONOMY. DON'T DRILL— DON'T FRACK!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24623	Opinion - opposed to hydraulic fracturing	Hydraulic fracturing which uses a lot of water has no place in arid California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24522	Opinion - opposed to hydraulic fracturing	I would request that the BLM not allow fracking as this has been shownto pollute groundwater.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12871	Opinion - opposed to hydraulic fracturing	I do not want fracking or any more drilling to occur on the land that is listed as potentially impacted.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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24558	Climate and Air Quality	BLM Must Withdraw Open Lease Proposal for Drilling & Fracking on Federal Land. ANY ADDITIONAL GREENHOUSE GAS IN OUR WORLD IS UNACCEPTABLE. This is a global crisis and cannot and should not be viewed on a project-by-project basis as the cumulative impacts from the past have already created irreversible damage.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24530	Opinion - opposed to hydraulic fracturing	No substantial research ahs been done for an impact to environment regarding effects on the San Andreas fault.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Seismicity. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24542	Opinion - opposed to hydraulic fracturing	What are you going to do when you get too old to change the fact that your children, grandchildren, and great grandchildren are dying from polution?	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24612	Opinion - opposed to hydraulic fracturing	I totally disagree that President Trump opening oil grounds because they damage our air and bring us many diseases and we battle hard with so much pollution to tolerate more please do not allow it	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24659	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Contrary to BLM's unsupported assertion in the draft SEIS, this proposal will have serious environmental justice impacts. California's Central Valley has already been disproportionately burdened by air pollution. The Environmental Protection Agency, along with state agencies, have worked hard to develop and implement a plan to reduce pollution. Expanded oil and gas operations put communities at risk and jeopardizes efforts to achieve clean air.Fracking also presents an unacceptable risk to California's precious groundwater resources. Fracking is water-intensive and in California occurs at much shallower depths than other parts of the country, meaning it takes place closer to the surface, and to groundwater. This presents a greater risk of contaminating ground and surface water supplies if improperly conducted. These heightened risks are unnecessary.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24653	Opinion - opposed to hydraulic fracturing	I think it would be very detrimental to the health of all of us who live in the county since forests are the lungs of living beings and those who purify the air apart. Many of us attend the forest areas to recreate our children and show them how beautiful the natural is. If the exploitation occurred would lose the appreciation of the lives of our children.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

Comment Number	Issue	Comment	Response
24478	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	The risks associated with increased oil and gas extraction, including tracking, far outweigh any benefits to the residents of California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24647	Opinion - opposed to hydraulic fracturing	For my part I do not agree to expropriate oil because they damage the parks the water and the air that is what we need most to live a healthy life for us and our children, we must take care of the parks and debase of remaining sacred. Parks have more than oil and gas! And we are in an area in danger of terremoto, huz many unique animals that also would be in danger and above all we have only one world to live.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24599	Opinion - opposed to hydraulic fracturing	No long term studies have been done proving fracking is safe.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12859	Opinion - In favor of oil and gas exploration and development	I urge the BLM to move on from the anti-oil rhetoric and continue to permit fracturing for our Energy security.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24489	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	The idea of selling off public lands to oil and gas companies is wrong on so many levels and as a citizen of the central coast of California I can not express enough my concerns about the harmful effects that fracking and oil drilling create and it absolutely should not be allowed on our public lands.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24652	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I do not agree with this decision to make more land available because pollution harms the environment for everyone. We should better take care of our forests so that we can improve our water supply.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24544	Opinion - opposed to hydraulic fracturing	We have a severe water shortage in California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24643	Opinion - opposed to hydraulic fracturing	Please don't let this hydraulic fracturing project go forward to only benefit corporate profits.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24608	Opinion - opposed to hydraulic fracturing	It wouldn't be good for the air or the water.. Also anything that effect a population health should not be good.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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24594	Opinion - opposed to hydraulic fracturing	May we begin this moment in the halting of oil extraction that pollutes and wastes H2O and harms life. No fracking!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24538	Opinion - opposed to hydraulic fracturing	The April 2019 SEIS from the Bakersfield Field Office of BLM does not demonstrate safety for our water, air, animal and human life from the effects of fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24476	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	The Trump Administration's goal of promoting additional development of oil and gas operations on our public lands would be an environmental disaster for both land and all life.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12695	Opinion - opposed to hydraulic fracturing	The people of California don't want fracking. This is a step backward, relying on 20th century fuel sources for 21st century power needs. Fracking is a waste of water. Increased production and burning of fossil fuels will accelerate the already rapid changes we are observing in our climate. The economic toll of unchecked wildfires, alterations in rain fall, atmospheric perturbations from our addiction to fossil fuels will more than outweigh any short term gain from fracking. This is particularly salient since the profits from fossil fuel production invariably accrues to multinational corporations and the already wealthy...this is not a benefit from the citizens of California and/or the world for that matter.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12309	Opinion - opposed to hydraulic fracturing	I am unalterably opposed to any fracking in Santa Barbara County, particularly in the seabed. The scientific evidence I have read condemns this practice without reservation.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12497	Opinion - opposed to hydraulic fracturing	I hope this comment is deemed both unique and substantive, as it seems many thousands of comments sent to you are not. I have sent comments in the past and now wonder if they were taken into account. I'm responding to the Draft Supplemental Environmental Impact Statement (EIS) analyzing the potential impacts of hydraulic fracturing associated with oil and gas development on public lands within the Bakersfield Field Office planning area, including Fresno, Kern, Kings, Madera, San Luis Obispo, Santa Barbara, Tulare and Ventura counties. I am very concerned about the environmental impacts of fracking, especially contamination of groundwater and the effects of this contamination on plants and wildlife, as well as humans. We know that fracking has caused contamination of groundwater as well as human-caused seismic activity, and both of those are direct threats to human life as well as wildlife in California. Furthermore, as an anthropologist, I'm concerned about the impacts on native peoples and on the cultural artifacts of native life that remain in the subsoils and will be disturbed by fracking. We have other sources of energy available and do not need to take the extreme and already known risks associated with fracking. For these reasons, I oppose fracking and believe this new draft supplemental EIS does not sufficiently address these issues. Thank you for your consideration.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.

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12296	Opinion - opposed to hydraulic fracturing	Due to considering too short a time span, the report does not pay sufficient attention to the impact of oil drilling and fracking on (1) the water supply and (2) fire hazard. 1. Water Supply: there is very little water available in California which has seen extended periods of drought and is expected to see more in the future. Hydraulic Fracturing uses large quantities of water which are then not available for drinking, washing and irrigating crops. We do not have enough water to spare for fracking. In addition, oil wells, storage, trucks, and pipes pose a hazard to water supplies as a small leak can quickly become an environmental disaster rendering local water sources unusable. 2. Fire Hazard: the recent disastrous fires in California can be directly linked to climate change as warmer temperatures have rendered many of our trees more susceptible to beetle invasion and other stressors. Warmer temperatures have also caused a change in wind direction and velocity and made fires more likely to be supercharged. Oil extraction is the main culprit in climate change. at this point, for the sake of our children and grandchildren, there should be a complete moratorium on new oil wells.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
12651	Opinion - opposed to hydraulic fracturing	California is riddled with seismic faults. Many major faults, including the San Andreas, run through the Central Valley. As the Santa Monica and other quakes have shown, many potentially dangerous faults are yet to be discovered. Fracking is known to cause earthquakes, even in areas where they were previously rare. Fracking in the Central Valley may cause a major quake. Until the seismic effects of fracking in the Central Valley can be reliably predicted, it should not be approved.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Seismicity. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
12779	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	We strongly oppose the Bureau of Land Management's plan to open up 1,011,470 acres of public land and federal mineral estate in Fresno, Kern, Kings, Madera, San Luis Obispo, Santa Barbara, Tulare and Ventura counties to fossil fuel extraction, fracking and drilling. The proposed plan would put California's people and wildlife in danger. It targets state parks, nature reserves, recreation areas and national parks, forests and monuments. Our family lives in Santa Barbara and we enjoy these natural lands. We urge you to protect these resources so that future generations can enjoy and be inspired by them. Please don't ruin these natural resources with fracking and drilling.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
13084	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	To whom it may concern, As a resident of Santa Barbara County, I am deeply troubled by the BLM's draft of a plan for new oil and gas leasing on public lands in most of the Central Coast and Central Valley. The plan to reopen more than a million acres of public land and mineral estate to fracking and drilling is a great threat to all of us currently living in the state (including animals and plants) and even more of a disaster to future generations. The time to STOP extractive energy practices is now. And we can no longer think locally or even regionally when it comes to energy. Collectively, we need to put our resources--including government funding--toward securing renewable energy sources for everyone. Natural Gas and Petroleum are the energy of the past and they are destroying our planetary future. Please don't be short-sighted about a decision that will ultimately impact billions of lives around the globe. Thank you for your time and attention. Sincerely, Gillian Osborne, PhD	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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12564	Opinion - opposed to hydraulic fracturing	re: proposed Hydraulic fracking projects in central and southern California Fracking involves significant risks of increased seismic activity and damage from earthquakes. Undertaking this proposed fracking project in central and southern California, a part of the country known to be vulnerable to severe earthquakes that have had devastating consequences, and a densely populated area, is not in the public interest, either of Californians or citizens throughout the US. In addition to this obvious drawback, air quality and water safety issues have also been identified as problems associated with fracking. Given that California produces one-sixth of the country's produce, diminished agricultural production from tainted water supplies could adversely affect food supplies across the nation (as well as causing sickness and death to innocent consumers before the danger is recognized). At this time in the history of the earth, increasing human populations, increasing air temperatures, and rising seas, the only responsible choice is to leave oil and gas in the ground and develop alternative energy resources that are safer for all of us. As a nation, we cannot afford to pump more money into the pockets of gas and oil barons at the expense of people's lives and health, the health of the earth, the ground water, the land, and the oceans. Please call a halt to this ill-considered project. It is NOT environmentally responsible. The potential for providing economic opportunities for local communities is present in truly environmentally responsible jobs developing and building alternative energy resources that do not harm air quality, do not threaten water safety, and do not continue to cause irreparable damage to earth from increasing the air temperature, causing ice to melt, oceans to rise, and cities to become uninhabitable. Sincerely, Judith Skenazy	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12528	Opinion - opposed to hydraulic fracturing	Hydraulic fracturing has a negative impact on the environment in which it is performed in multiple ways. The use of local ground water to generate the fracture networks necessary to extract hydrocarbons is one impact. Additional construction of roads, pipelines, well pads, and water-extraction systems, along with increased access traffic are inevitable with fracking operations. The process of fracking has the potential to cause damage through increased erosion and sedimentation, increased risk to aquatic ecosystems from chemical spills or runoff, habitat fragmentation, and the lowering and pollution of local groundwater. All these risks for a finite, fossil fuel at a time when we, as a nation, should be investing heavily in sustainable and renewable forms of energy is unconscionable. The San Luis Obispo County environment would be impacted far less by the installation of additional wind, solar and ocean wave energy generation. The investment in these alternative forms of energy generation would protect the environment for future generations and represent a more reasoned investment in our future.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12544	Opinion - opposed to hydraulic fracturing	I am a life-long California resident and environmental historian writing to implore you to please not proceed with plans to develop fracking in the Bakersfield area or the state of California. Fracking has proven to cause egregious and irreversible public health and environmental damages that in the end cause economic strife that far outweigh any short-term benefits. Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12786	Opinion - opposed to hydraulic fracturing	As a Californian, I oppose the proposed fracking plan which endangers wildlife and their habitat. Additionally, fracking threatens critical water supplies and increases the potential of more oil spills.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12133	Opinion - opposed to hydraulic fracturing	Fracking pollutes ground water and is a health hazard to humans and other creatures as well as a hazard to the planet. The plan to expand fracking is irresponsible, craven, and greedy and we do not want it.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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15121	Opinion - opposed to hydraulic fracturing	<p>Thank you for the opportunity to express my concerns about the proposal to open up over a million acres in the Central Valley of California to Hydraulic Fracturing. I am 65 and a life-long resident of the Central Valley. I am a physician who has cared for patients in the Valley for over thirty years. I have many concerns about this industry, not the least of which is the negative impact this could have on ground water quality in this area. The argument for proceeding with this, that if done properly the danger to our water supply can be mitigated by following safe guards and regulations, is small comfort. Accidents happen. Look at Deep Water Horizon. I know that that situation involved a different extraction method and environment, but it demonstrates that mistakes happen and they can be devastating. If the caustic substances used for the extraction process were to leak into the ground water this could make the Central Valley uninhabitable. Even if there is a small chance this could happen, the effects would be irreversible. Do we really want to take this risk for small short term gain for an industry that is out of step with the current overwhelming evidence of global climate change? Organizations such as the Union For Concerned Scientists feel there is ample evidence today that the burning of fossil fuels is contributing to climate change and that unless we strictly limit this activity, which includes the procuring of fossil fuels to burn, many species, including our own, may not survive. Extinction of species due to habitat encroachment and climate change is another enormous problem which could be accelerated pursuing projects such as this. In addition, the chemicals used for this activity are proprietary and when people are sickened by them it is not possible to directly help them because the company is not obligated to inform the public what the chemicals are. If sulfuric acid is indeed one of these chemicals, and there is reason to believe that it is, this could have far-reaching short and long term side effects on individuals and animal species, including waterfowl, in the area. I oppose this proposal in the strongest terms and ask that a larger forum be provided so that more individuals, not just spokespersons for the oil and gas industry, be allowed to air their concerns in public. If more people were made aware that this proposal was being rushed through in this manner and were informed about the long term health consequences of this activity, I believe there would be overwhelming opposition to it. I feel very grateful to call the Central Valley of California home. We need to take care of our home, for us and future generations. Those future generations will be grateful, looking back, when we do the right thing and oppose any further extractions of this kind in the Central Valley. In the end, those who will ultimately decide whether to proceed with this proposal or not must reflect on whom their decision will affect, namely the future residents of this Valley. The profits of one company during this short time (thirty or forty years before the oil runs out) should not weigh heavily in their calculus. I personally am appalled that this proposal is even being made. Thank you. Mary L. Lindae, M.D., F.A.A.D.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.</p>
12632	Opinion - opposed to hydraulic fracturing	<p>To whom it may concern: I write to voice my strong opposition to any plans to open California lands to hydraulic fracturing activity. This process utilizes toxic chemicals that have, on multiple previous occasions, leaked into groundwater contaminating drinking water and irrigation supplies and poses a significant health risk to California residents. It can leak methane and other gases which exacerbate climate change, and it seeks to extract fossil fuels, the combustion of which lead to disastrous effects on the environment, and costs of which are now more expensive than solar, wind, or hydroelectric alternatives, none of which provide the same detrimental environmental effects. These destructive extraction methods have led to disastrous effects in the Northeast. In northeastern Pennsylvania, my birthplace, fracking of the Marcellus Shale and leakage of combustible gases has caused drinking water contamination that in some locations has rendered tap water combustible. But of far more concern to me as a current California resident is the sharp uptick in seismic activity that has been associated with fracking activities there. Such effects in California, where the Cascadia and San Andreas fault systems are already overdue for major and catastrophic seismic shifting, would catalyze a natural disaster of truly cataclysmic proportions. The technology exists and is being developed to provide for our energy needs via renewable and nondestructive means. It is time - past time - to leave it in the ground and choose a better future. Sincerely, Melissa H. Hoagland MD</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.</p>
12775	Opinion - opposed to hydraulic fracturing	<p>Using fracking for energy production does not make any environmental sense in California. First of all, it is clear that humanity must switch from fossil fuel consumption to alternative means of energy to save our climate. Additionally, California has plenty of wind and sun available to produce electricity. And last but not least, the one truly limiting resource in California is water and fracking contaminates water with very toxic chemicals. It makes absolutely no sense to expand this dangerous practice for short-term energy gain. The long-term environmental cost to be paid in human suffering due to cancer and other diseases from polluted water or destroyed crops and flooded homes from climate change is not worth the short-term energy return.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.</p>

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20114	Opinion - opposed to hydraulic fracturing		Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
12839	Opinion - opposed to hydraulic fracturing	I would like to oppose the fracking involved in exploring for oil and gas reserves in the California counties under the jurisdiction of the Bakersfield Field Office. Fracking has been attributed to polluting groundwater sources and is a waste of water, a precious resource, especially in drought conditions of California. The federal government needs to invest and explore other natural sources of renewable power, e.g. solar, wind and wave rather than the renewable conventional oil and gas sources to limit carbon emissions. The threat of climate change has effected disastrous natural occurrences of severe hurricanes, tornadoes, wildfires, and increase precipitation leading to flooding which has affected the livelihood of many Americans.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
14284	Opinion - opposed to hydraulic fracturing	Please do not allow fracking on public lands in San Luis Obispo County. It's not needed and it's dangerous! Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11188	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	In the closing window of climate tipping point, we cannot afford adding more fossil fuels into our environment. The impact on our water table, the toxicities of the chemicals used injure the environment and humanity in the ares.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12603	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Please include me among the many credible voices that oppose fracking on public lands in the 3 county region of the Central Coast. Oil exploration and development is far too dangerous and dirty for these public lands , and we should not be moving forward on any proposal to do so. Please continue to be a voice for the public and those who live in the area, rather than oil corporations looking for more profits. Count me in as opposed to fracking and oil development in the Los Padres National Forest. sincerely, Steve Hall Arroyo Grande,CA 93420	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
16978	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	And for California, which is so carefully cared for, I can only beg that you not proceed with any further fossil fuel exploitation.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24471	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am writing to express my position against your proposal to open federal public lands and mineral estate to fracking and gas/oil drilling.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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24651	Opinion - opposed to hydraulic fracturing	I do not agree with this proposal because of the damage that can cause the environment to the forests or animals that live in the pollution to the water in the air.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24654	Opinion - opposed to hydraulic fracturing	Well, I do not agree with this proposal. Very bad. They do not think about how much harm they will cause us... The animals and nature will be damaged.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24533	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	No more fracking. No more drilling.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24632	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	There is absolutely no reason to be opening up new lands to fracking... We should be preventing any new fossil fuel extraction.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24650	Opinion - opposed to hydraulic fracturing	It is not possible that they want to pollute the parks too. The families went for a walk with their family to distract me and I do not want them to put any business that pollutes the air and unless it is one or two oil slicks or companies that contaminate the environment or anything that damages the living beings. Think about the others. Do not think about the monetary thing.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24591	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Please no fracking on public or private land with mineral rights.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24593	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Please no fracking - particularly in California on public or private land with mineral rights.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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24575	Opinion - opposed to hydraulic fracturing	I am opposed to fracking for the following reasons:1) Potential for oil spills including land and ocean.2) Increased potential for sink hole formation.3) Increased potential for earthquakes.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24493	Other	We own this land and 100% of the oil-mineral rights. It is located near producing oil and gas wells. Is there any way that this land and the surrounding land could be included in the expanded drilling plans discussed in the enclosed newspaper article?	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24465	Opinion - opposed to hydraulic fracturing	We are AGAINST FRACKING!!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24470	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I do NOT support the opening of public lands and mineral estate to oil drilling and fracking as outlined in the Draft Supplemental EIS for the Bakersfield Field Office Resource Management Plan.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24468	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am writing to urge you to not proceed with the proposal to open federal public lands and mineral estate to oil and gas drilling and fracking as outlined in the "Draft Supplemental EIS for the Bakersfield Field Office Resource Management Plan."	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24648	Opinion - opposed to hydraulic fracturing	I think it's a bad idea in putting fracking of oil where we have life of nature and that the trees that depend on them much to have oxygen. I imagine it would be better to put it where there is no nature.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24475	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	The BLM should not end the moratorium on leasing federal lands in California to oil and gas developers, or open more private lands to drilling.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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24551	Opinion - NEPA process	I feel the SEIS complete failed to address the 2016 court order.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24543	Opinion - opposed to hydraulic fracturing	Find a way othe than fracking to generate energy in California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24590	Opinion - opposed to hydraulic fracturing	...23 of the commonly used chemicals in fracking cause numerous adverse health effects.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24484	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	NOW, THEREFORE, BE IT RESOLVED, that the City of Farmersville hereby supports 1) no new leasing of federal land and mineral estate in California for oil and gas exploration and development, and 2) a ban on new drilling, fracking, and other dangerous drilling techniques on federal land and mineral estate.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24564	Opinion - opposed to hydraulic fracturing	I am against it because it affects a lot the wild life and the birds affect them by the pollution and noise of the traffic and in general they threaten all the species	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24595	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	Fossil fuels are one of the biggest contributors to global wamring.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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24588	Opinion - opposed to hydraulic fracturing	The proposed activities pose so many harms to our water system which is already sparse.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24552	Opinion - opposed to hydraulic fracturing	I am so opposed to fracking. It is totally unacceptable.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24524	Opinion - opposed to hydraulic fracturing	The proposal to frack on public lands is unacceptable. These lands provide shelter to more than 1/3 of federally listed threatened and endangered species. The land also has groundwater systems that provide water for agriculture and residential purposes.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24525	Opinion - opposed to hydraulic fracturing	I am vehemently opposed to any more fracking in Kern county.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24526	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I urge you to reconsider fracking and oil drilling on our public lands.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24527	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am opposed to opening our public lands to private corporations. Our public lands belong to the people, they are not available for private companies to pollute and destroy.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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24528	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	We should be looking to REMOVE extraction of fossil fuels, not take more, especially from our public lands.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24497	Opinion - opposed to hydraulic fracturing	Please do not commit any more fracking plans on the agenda for California projects.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24473	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I oppose the BLM proposal to open federal public lands and mineral estate to fracking and oil drilling as outlined in the Draft Supplemental EIS for the Bakersfield Office Resource Management Plan.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24460	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am opposed to resuming fossil fuel developement in open lands in your district.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24491	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	The Bureau of Land Management proposal stands in conflict with standing County of San Luis Obispo and City of San Luis Obispo's Policy, and while all new oil and gas drilling in the Bakersfield Planning Area threatens our scenic and biological resources, water supply, water quality, air quality, climate, seismicity, and rural and agricultural way of life, there are areas that BLM proposes to open for drilling and fracking that are of particular local concern (e.g., City of San Luis Obispo Irish Hills Natural Reserve and Cayucos & Whale Rock Reservoir). Opening these areas for oil and gas development—including well stimulation—puts our drinking water supplies, air quality, recreational opportunities, public health, tourism industry, and rural and agricultural way of life at risk; and threatens habitat for endangered and threatened species.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.

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24624	Opinion - opposed to hydraulic fracturing	Drilling and fracking have been seen to pollute groundwater and proven to exacerbate earthquakes.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24626	Opinion - opposed to hydraulic fracturing	I implore the BLM to adhere to the moratorium on leasing.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24640	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I'm writing BLM not to proceed with the proposal to open public land to petro assault.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24644	Opinion - opposed to hydraulic fracturing	Damage to air, water, geological resources... earthquakes...	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24631	Opinion - opposed to hydraulic fracturing	Most of California is already in a drought... The land that will undergo fracking is highly populated with wildlife and a habitat for many species.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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24457	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	As a fourth generation Californian, I am alarmed by the BLM plan to open 1.6 million acres of federal land to hydraulic fracturing and increased fossil fuel extraction.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24606	Opinion - opposed to hydraulic fracturing	I oppose the proposal to excavate the national lands to extract oil. These parks are very important for our grandchildren and for all children of the future.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24565	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	I am here to urge you not to proceed with your proposal to reopen millions of acres of public land in California. The potential carbon emissions and mines that from public lands for extraction of oil or gas lead to decades of carbon pollution that our climate can not afford. The scientists agree that we must immediately stop the expansion of fossil fuel consumption and urgently impact in the next decade.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24618	Opinion - opposed to hydraulic fracturing	I oppose the building of oil and gas development on public lands because of pollution on public lands and environmental destruction for our families and public properties.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24642	Opinion - opposed to hydraulic fracturing	Please do not proceed with this proposal to use federal public lands in order to frack... possibility of polluting groundwater... earthquakes are probable.. ocean pollution will affect fishing industries as well as bring harm to protected wildlife.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24573	Opinion - opposed to hydraulic fracturing	Water is far more valuable resource--do not ignore the damage done by fracking	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24596	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am writing to express my opposition to plans to open oil and gas drilling on BLM lands in California's Central Valley. The environmental impacts of increased drilling and fracking is unacceptable. Do not open these lands.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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12869	Opinion - opposed to hydraulic fracturing		Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24580	Opinion - opposed to hydraulic fracturing	We have better use of our water. In the central CA area underground water is starting to be contaminated near fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24635	Opinion - opposed to hydraulic fracturing	Our members treat animals impacted by fracking--especially farm animals and wildlife. We urge you to maintain the current defactor moratorium to protect the water and air and food supply of our human and non-human populations.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24586	Opinion - opposed to hydraulic fracturing	The central coast has indigenous species of both flora and fuana that are endemic populations that would be adversely impacted by fracturing... It is proven that fracturing causes significant toxic damage to water aquifers... Methane gas leaks are posionous, dangerous, and unfavorably affect our climate.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24636	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am opposed to BLM's moving to open California public land to oil and gas drilling and fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24480	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am writing regarding the Bakersfield RMP Hydraulic Fracturing Analysis to register my strong opposition to a possible move by the Bureau of Land Management to open California's public lands to fracking and oil and gas drilling.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Comment Number	Issue	Comment	Response
24639	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I'm writing to let you know that I'm opposed to BLM's move to open California public land to oil and gas drilling and fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24474	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I would like to express my virulent opposition to any fossil fuel fracking on public lands in SLO County.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24547	Opinion - opposed to hydraulic fracturing	Please think of your grandchildren and do not frack in Kern County, especially the Carizzo Plain.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24656	Opinion - opposed to hydraulic fracturing	I am not happy because of this destruction to the environment. It pollutes and causes earthquakes and does not allow children to enjoy a good future of the natural world.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24611	Opinion - opposed to hydraulic fracturing	This initiative will be bad for California's air.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24602	Opinion - opposed to hydraulic fracturing	Hydraulic fracturing will cause higher risk of earthquakes.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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24486	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Please do your part to stop fracking from becoming a reality in San Luis Obispo County.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24569	Opinion - opposed to hydraulic fracturing	Avoid water contamination and avoid everything that is related to the use of sludge to extract oil because it causes water pollution, damages the environment, damages the water that we drink and everything that depends on clean water to survive.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24578	Opinion - opposed to hydraulic fracturing	My opinion is that it is important that oil and minerals that are extracted from the earth are not a problem in the life and health of the people and all living beings as well as nature. Think better in choosing because it costs more to the nation to cure diseases.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12878	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	There are several known impacts which are not acceptable to me.1) Interference with access to + enjoyment of public land.2) Risks to health and environment.3) Financial impacts from the previously discussed impacts.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24462	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am against hydraulic fracturing and oil drilling on public lands within the Bakersfield Field Office planning area.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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24532	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Fracking and oil production should not be polluting and poisoning our public lands which you want to sell to oil companies.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24531	Opinion - opposed to hydraulic fracturing	I am opposed to additional fracking in California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24541	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Oil and gas extraction is against my environmental principals! Please reconsider doing it on public lands!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24554	Opinion - opposed to hydraulic fracturing	Ignoring science will not make fracking okay.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24548	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	No on fracking and drilling! Especially on our public lands.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24535	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am vehemently opposed to any fracking in Kern County.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24546	Opinion - opposed to hydraulic fracturing	I am against fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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24604	Opinion - opposed to hydraulic fracturing	In addition to air and water pollution, fracking also increases the potential for oil spills, which can harm the soil and surrounding vegetation... Fracking may cause earthquakes.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24508	Opinion - opposed to hydraulic fracturing	I am opposed to any more oil fracturing in California. I have been a life long resident and I am aware of the threat to our air and water quality and our health.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24553	Opinion - NEPA process	Please, instead of ignoring the recommendations about heightened risks from fracking in the RMP (2014), how about being honest and truthful and revise the SEIS to address these health and communtiy issues that are vital to our ecosystem, our state and its citizens, and the future of our children and grand children?	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
12628	Opinion - opposed to hydraulic fracturing	If hydraulic fracturing has made homes unlvable - and ot has - howcan it beharmless on public lands?	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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12629	Opinion - opposed to hydraulic fracturing	Fracking is admittedly lucrative for a few companies, and appealing to politicians who want to keep natural gas prices low, but the fact is we have no idea what chemicals are being pumped into the ground, where those chemicals travel in the aquifer system and where they might enter the drinking supply or irrigation waters. I am familiar with some studies of fracking waste water that find carcinogens in the concoction. No study from the industry has shown that what they are doing by is safe. On the whole, the industries mode has been secrecy and obfuscation. On the basis of that alone we should halt fracking until further study. How can anyone in their right mind approve something that they don't have the basic facts about? Add to this that the fracturing processes pollutes huge quantities of water. In a state where drought is in our recent past and with systemic problems with water distribution and complicated history of water rights, the wholesale destruction of a public common (water) that is fundamental to human life is an extremely high price to pay and has not been adequately taken into account. We also don't know what effect fracking has on tectonic plates. Multiple earthquakes in places far more geologically stable than CA have been reported in the wake of fracking. Will fracking companies pay the cost of the next big earthquake, or provide water to Central Valley communities in the next drought? Or will those cost fall to the taxpayers? The practice of fracking has too many unknown risks, starting with secrecy about the stuff they actually pumping into the ground. The risks outweigh the short term expediency of cheap energy. If allowed they will eventually frack everything they can, ruining the water and land in the process, make some people rich. The rest of us and our kids will be in a much worse place than we find ourselves today.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12664	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Big Oil and proponents of fracking have caused irreversible damage that have destroyed precious habitats, killed wildlife, and devastated rural communities in our state.I deeply care about our environment, clean air and precious water resources, climate change, and community health and safety.The proposed fracking plan:- Undermines our health with toxic chemical emissions, like methane, into our clean air - Threatens critical water supplies for rural and coastal communities - Increases the potential of more oil spills; and - Endangers wildlife and their habitats Secretary Bernhardt is attacking California with a dangerous fracking plan that threatens our health, our environment, and our safety; please STOP him from destroying our environment. Thank you for your time, consideration, and cooperation.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
23558	Opinion - opposed to hydraulic fracturing	G. W. Bush "WE must wean ourselves off of Oil and Coal". He was responding to Climate Change. 13 years ago! Before the current and alarming amount of sea mammals, birds, and fish that are washing onto our shores with stomachs full of plastic at an accelerated pace all around the world. Huge plastic dead zones are increasing in size and number. Plankton, coral and plant-life is diminishing as plastic eventually erodes into particals.We do not have 20 years to deal with this. When do we start the weaning We start now! No Fracking, No new wells. We demand that the Oil Industry must solve this problem with their products now. Ben Lovejoy 7400 Cortez Ave. Atascadero, Ca. 93422	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12602	Opinion - opposed to hydraulic fracturing	One need only read Eliza Goldstein's "Amity and Propsperity" to grasp the incredible dangers to human health, environmental health, and species degradation of hydraulic fracturing. In my view, approval of fracking is tantamount to serving some local people and other species with a death sentence. In addition, we know full well that burning of more fracked fossil fuels will hasten the destruction of the earth's climate. Therefore, I strongly oppose approval of fracking in Kern County, CA, and everywhere else on the planet.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
16969		Hello, BLM has not addressed our concerns as per the attached previously submitted letter that I attach again. Thank you! Best, Brian Sweeney La Purisima Conservation Bank 116 11th Street, Manhattan Beach, CA 90266	
16969	T&E Species	Surface disturbance to the above-referenced parcels, including access road construction, well pad construction, pipeline development, and other infrastructure improvements required for oil and gas development and hydraulic fracturing, is incompatible with the conservation of sensitive ecosystems and would have significant, negative impacts on Critical Habitat for the California tiger salamander. For this reason, we urge the BLM to permanently remove the above-referenced parcels from consideration for future mineral leasing and hydraulic fracturing.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
12561	Opinion - opposed to hydraulic fracturing	The proposed fracking plan:undermines the health of California residents with toxic chemical emissions, like methane, into our clean air threatens critical water supplies for rural and coastal communities increases the potential of more oil spills endangers wildlife and their habitatsDo not allow fracking in California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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22401	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	It is imperative that the Federak government not be allowed to issue permits for drilling off the California shoreline, It is a delicate invironmental ecology and must be protected at all costs. There should be no fracking in California, It has too many hazzards associated with it.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
14703	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I oppose any fracking on public land in ventura county as I live in simi. The geology of california, with its many faults and fractures, allows gasses and toxic fluids into the water table and air. Fracking, with its injection methods, almost assures the cancer causing toxins will wind up in our water. There is no safe method of fracking in california. The escape of toxic gases will worsen our air. Further, any toxic cleanup is always pushed onto tax payers like me. So, I stronly oppose fracking in ventura county in particular and california in general.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12276	Opinion - opposed to hydraulic fracturing	To whom it may concern, I am writing today in opposition to opening new public lands to fossil fuel extraction, as detailed in the supplemental EIS. Many parcels proposed for auctioning are in areas are of critical environmental concern. Neighboring communities and agricultural land will also be impacted. The cost of potential ecological damage could far outway any benefit gained from oil extration. Allowing fracking and other fossil fuel extraction methods on public lands is contrary to California's statutory commitment to reducing greenhouse gas emissions and the accompanying fossil fuels consumption by 2030. As a state at the forefront of providing clean water and healthy wildlands for its citizens, extraction methods such as fracking are antithetical to our public health and outdoor economy. In addition the continued additction to fossil fuels is changing the climate and destroying ecosystems around the world. While energy consumsion is necessary for human existance, it is obvious that we have the technology to develop clean, carbon nuetral sources of energy to minimize the damage we are doing to the environment for the benefit of future generations. Thank you for considering my input, and and I hope that our leaders have the fortitude to fight the greed of the oil companies, Craig Lovell	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
11318	Opinion - opposed to hydraulic fracturing	I am writing to oppose Hydraulic Fracturing in the State of California, as it is detrimental to the environment, the landscape, it is poisonous, and leaves toxic waste. It is not good for the State of California and Californians. Atached is the complaint filed by the Attorney General of the State of California. Thank you for allowing my comment. Daniel Rothman Los Angeles, CA	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11800	Opinion - opposed to hydraulic fracturing	No Fracking anywhere.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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17357	Opinion - Alternatives	I urge you to not to proceed with your proposal to open federal public lands and mineral estate to oil and gas drilling and fracking. [Climate] The carbon emissions from burning the oil, gas, and coal in the world's currently operating fields and mines would take us far beyond 1.5°C of warming. Each new oil or gas lease locks us into decades of carbon pollution that our climate can't afford. Scientists agree that we must stop fossil fuel expansion immediately and phase out both the use and production of fossil fuels. [Health] Oil and gas production, including fracking, poses such serious health risks that scientists and public health officials have recommended that, in the absence of an outright ban, there should be safety buffers around where people live, work and go to school. Oil drilling relies on large volumes of toxic chemicals—many are found on the EPA's list of Hazardous Air Pollutants known to cause cancer and other serious health impacts. [Water Pollution] Fracking in California poses unique risks to our groundwater. Fracking in California occurs at shallower depths than in other parts of the country, meaning it occurs closer to groundwater, increasing the risk of contamination. Fracking in California uses toxic and cancer-causing chemicals at stronger concentrations. [Earthquakes] California is seismically active with countless fault lines. Fracking and underground injection of oil and gas waste fluids are known to cause seismic events. Waste fluid injection has been linked to an earthquake swarm including two earthquakes of magnitudes 4.7 within the Bakersfield Planning Area itself. Yet many oil waste disposal wells within California are within a mile of an active fault. The seismic risks are too great to allow any more oil drilling and fracking in the Bakersfield Planning Area. Keep the moratorium on leasing in place. Make it permanent by amending the DEIS to include and adopt a “no leasing” alternative as the preferred alternative. Thanks for providing the opportunity to comment on this critical environmental issue.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement. Neither a state-wide leasing moratorium, nor the choice of a “no leasing” alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.
12751	Opinion - opposed to hydraulic fracturing	We have seen enough problems with franking in the past. The toxic mix of chemicals used to extract oil easily finds its way into our water supplies. You're looking at a short term gain, for a very long term health problem; all to satisfy the oil industry It is not what we need to deal with, and you can put an end to it now. Thank you David	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12078	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I understand that the federal government, under Donald Trump, has proposed to open wild and pristine federal lands to oil exploitation via fracking, in California. I further understand that the proposed parcels of public land Trump's government is attempting to sell off to private interests include some of the most wild, pristine, and untouched places left in the United States. I further understand that these proposed drilling and fracking sites abut many of the California's and the world's most treasured National Parks, places that are literally one of a kind and irreplaceable. This is not only disheartening, it is vile. We know that California is a leader in moving to sustainable energy sources with clear goals to lower dependence on fossil fuels - entertaining the inclusion of more fossil fuels into the state's or country's energy portfolio works against our collective best interest. Further, it would be wholly irresponsible and shameful to sell off rights for private interests to profit off and permanently damage public lands, putting some of the most cherished and iconic wild and natural places in the world in very real risk. Shame on Trump's administration for even considering such things and abdicating their sworn responsibility to preserve our natural resources and public lands. I implore you, as much more forward thinking stewards of our public lands, to keep private profit interests out of California's public lands and do everything you can to protect these places that we all enjoy and benefit from.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
13739	Opinion - opposed to hydraulic fracturing	There is no need for the process of tracking that will only serve to undermine the structural integrity of the land mass involved.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12607	Opinion - opposed to hydraulic fracturing	Fracking is bad for the environment both short term and long term. For the health of our environment and for the sake of our health, our children's health, the health of future generations and the sustainability of the planet as we know it, this is a bad plan. We need no more fracking. We should have no more fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12691	Opinion - opposed to hydraulic fracturing	I object to hydraulic fracturing in any populated area of California because of the danger of water table poisoning.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
18704	Opinion - opposed to hydraulic fracturing		Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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12338	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	1 million acres of land and natural resources. That's what's at stake if the Trump Administration moves its plan forward to expand fracking in Central and Southern California. I opposed Bernhardt's nomination as Interior Secretary and hold him accountable to his numerous conflicts of interest and attacks on our environment. Now, Secretary Bernhardt is attacking California with a dangerous fracking plan that threatens our health, our environment, and our safety. The proposed fracking plan: undermines our health with toxic chemical emissions, like methane, into our clean air threatens critical water supplies for rural and coastal communities increases the potential of more oil spills endangers wildlife and their habitats Time and time again, Secretary Bernhardt proves he simply wants to roll back our progress -- instead of moving forward towards greater protection of our open lands and nature.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
18835	Opinion - opposed to hydraulic fracturing	Fracking continues a reliance of polluting fossil fuel technology and should be curtailed in favor of renewables such as solar and wind power. If fracking is to be done, then a full environmental impact statement needs to happen along with disclosure of exactly what is being injected into the well to ensure that ground water supplies are not affected.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
8927	Opinion - opposed to hydraulic fracturing	Destroying our environment for short term profit in light of global warming is disgraceful. The extraction industries have no consideration for long term consequences of the environmental degradation they perpetrate in the name of short term profit. NO FRACKING!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
21617		Exhibits 1-9	
12754	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	As a regular backpacker, hiker, and tourist in the magnificent national parks of California (particularly Sequoia and Yosemite), I am dismayed that the BLM is considering allowing oil and gas extraction using hydraulic fracturing ("fracking") near these national parks and nearby national forests. Just as we don't allow drilling next to our children's schools and playgrounds, we need to assure that areas adjacent to some of our most iconic national parks act as a buffer to the extraction economy which already dominates across much of the rest of the country. We need to maintain the ethic that we save some areas for posterity, and reject the notion that every square foot of exploitable land should be exploited and extracted. I and my family have valued the spiritual peace and presence of God in the quiet places of our national lands. As a taxpayer and proud American, I strongly implore the BLM to respect the sacred benefits of The Lord's natural creation.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11923	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Dear Acting State Director Joe Stout, I am a resident of the Santa Cruz County and I am here to show my concern with the Trump Administration's proposal of pro-drilling in 11 different counties. The Sierra Club came to the Bureau of Land Management in 2013 with a request to understand the effects of fracking and I believe this new SEIS report does show the full extent of the damage already done. From my understanding, over 30 new oil and gas wells will be created to the thousands already existing and claiming the effects on the environment and water will be minimal. California is also on the San Andreas fault and I am concerned for the safety of the Californians with the likelihood of fracking-related earthquakes, which I hope becomes a bigger priority. Sincerely, Mr. Gurvinder Toor 1156 High St Santa Cruz, CA 95064-1077	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11960	Opinion - opposed to hydraulic fracturing	Dear Acting State Director Joe Stout, Don't frack please Sincerely, Mr. Holden Jurisich 1156 High St Santa Cruz, CA 95064-1077	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12236	Opinion - opposed to hydraulic fracturing	Hydraulic fracturing endangers our precious water resources and threatens community health and safety. Given California's recent status of extreme drought, we should not be using our limited water resources for continued fracking. Additionally, given the lack of oversight in terms of the treatment or disposal of waste water -- and whether or not it is used to irrigate crops -- hydraulic fracturing poses risks from water contamination to toxic exposure to killing wildlife and perpetuating climate change. For these reasons and more, we should not be expanding fracking in Central and Southern California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
21796	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	There should be no additional fracking in the state, not to mention across the United States. It is an unsafe practice that negatively affects the environment. It harms plant life, wild life, the hydrology of the land that is fracked, and people. The resulting natural gas or oil further leads to environmental and health problems when used for energy. To proceed with fracking would be a travesty. Efforts and money should instead be put into renewable energy sources, not polluting fossil fuels. As a lifetime California resident and citizen I strongly condemn any efforts to increase fracking in the state of California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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12303	Opinion - opposed to hydraulic fracturing	I strongly oppose hydraulic fracturing. It threatens our water supply, wildlife, environment and emits toxins into the air. We are already in a climate crisis, continuing to explore for oil in lieu of clean energy is a huge mistake for our planet. Favoring oil companies over the common good is not what our country should be about.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12715	Opinion - opposed to hydraulic fracturing	Hydraulic fracturing - Endangers drinking water supplies and threaten to pollute lakes, rivers, and coastal waters - Emits gases, including methane that are directly harmful to human health and are potent causes of detrimental climate change. The only effective way to curb human-produced climate change is to leave fossil fuels in the ground. Climate change is the most serious environmental impact the human race has faced. We count on the bureau of land management to put the public good first rather than serve those commercial interests that would benefit financial from fossil fuel extraction. Jeff Byers 80 Craggs Court San Francisco, CA 94131	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12811	Opinion - opposed to hydraulic fracturing	Fracking will Destroy California's fragile water supply	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12295	Opinion - opposed to hydraulic fracturing	Re: Bakersfield Field Office Hydraulic Fracturing Draft Supplemental EIS Big Oil and proponents of fracking have caused irreversible damage that have destroyed precious habitats, killed wildlife, and devastated rural communities in our state. We care about our environment, clean air and precious water resources, climate change, and community health and safety. JM	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12549	Opinion - opposed to hydraulic fracturing	As to the proposed fracking in southern and central California, where I reside, the current science and observed consequences of fracking activities do not support such a proposal at all. Indeed, comprehensive reviews of scientific data and observations on fracking results have led to an outright fracking ban in four European countries--France, Germany, Bulgaria, and Ireland. California should note these conscientious bans and take them as cause to review California's own previous assessments permitting fracking at all. It seems if we were to ban fracking today in California, we will have been slow in doing so. Yes, fracking has increased U.S. fossil fuel production, but considering the extreme risks and long-term costs to health and environment, the advent of fracking in the U.S. has been the proverbial "deal with the devil." California, the richest, most populace state of our union and hot-bed of innovation, should be a true leader in environmental stewardship and the development of green, renewable energy--especially in light of our current fossil-fuel driven climate crisis. As a citizen and resident of California, I urge those concerned to reject any further fracking in California for the good of the State, its people, its animals, its flora, and the environment at large.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12710	Opinion - opposed to hydraulic fracturing	To the Bureau of Land Management, As a citizen of the state of California, I am strongly opposed to any attempts to extract resources through fracking in our state. Time and time again fracking has proven to be highly damaging to the communities where it is performed, with unforeseen and dangerous consequences. The companies that perform fracking cannot guarantee us perfection, and we know from experience that fracking can pollute ground water supplies, cause fatal gas leaks, lubricate fault lines leading to earthquakes, create lakes of toxic brine, and generate road hazards from the quantity of heavy machinery and trucks required to keep a well operational. Furthermore, I do not believe that we can trust the companies that engage in fracking to see beyond their short-sighted profit motives. There are scores of examples of companies flouting requirements for fracking, from dumping toxic brine into delicate watersheds, to inadequately casing the wells that they drill. These companies will drill and move on in a matter of years. However, the residents of the state of California will have to deal with the risks and failings of these wells, quite literally, forever. Why not use this land to fund a sustainable venture that we could then use to fund research, or profitable activity, that supports sustainable energy? California already teeters from one water crisis to the next. Don't hamstring our future because there are powerful interests that want to exploit our great state to get rich quick. Do not sell us out. Say no to fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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12265	Opinion - opposed to hydraulic fracturing	The southwestern United States, particularly California, is an arid climate, aridity that extends for thousands of years. European contact with the Southwest came in 1542 when Juan Cabrillo sailed past Carmel and wrote about snow covered mountains soon after the Little Ice Age began. My grandmother grew up a gold miner's daughter off Henness Pass Rd 130 years ago, the main wagon road into California north of Donner Pass. They had at least 6-8 feet of permanent winter snow on the heels of the Little Ice Age at 4,500 foot elevation, snow totals we never see today. I attached an old family photo of her house above a 2,000 year graph showing the historical aridity of California that scientists have proven extends at least another 6,000 years. The other graphic is a magazine cover from 1880 when greedy timber and mining interests tried to drain our rivers. Any policy that diverts millions of gallons of water from agricultural or urban uses in our arid climate is not sustainable. Californians mandated we regulate our aquifers and surface water as a public resource not a private trophy, and the water requirements for fracking will further deplete our aquifers and ground water. Please reject the proposal to seize millions of gallons of water in our arid climate that must be available for agriculture and drinking, water that will be lost forever.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12532	Opinion - opposed to hydraulic fracturing	The environmental hazards presented by "Fracking" far exceed any potential benefit. We need to turn to clean energy or our children are doomed. Thank you	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11857	Opinion - opposed to hydraulic fracturing	Dear BLM Staff, My wife and I reside in Arroyo Grande, CA, and we would like to respectfully express our concern and voice our objection over the potential expansion of the use of Hydraulic Fracturing in the county of San Luis Obispo. We have successfully fought the efforts to use such development practices for new oil exploration in the Huasna Valley, just east of Arroyo Grande, and we found tremendous support among our neighbors in expressing the concerns we have. In the late 1980s I was employed by the Los Angeles Department of Water and Power as a Mechanical Engineer in the Power Design and Construction Division. One of my assignments was to serve as a well engineer for a geothermal development we were pursuing within the Coso Naval Weapons Center. As part of the training for that project, I completed a well drilling and completion program at Halliburton in Tulsa, OK. I also currently work for the Electric Power Research Institute, performing research on Water and Ecosystems Issues for their Environment Sector. As part of that research, we perform research on surface and groundwater systems as they relate to power company needs and their customer needs. From this experience, I can assert that I would NOT want to see hydraulic fracturing used in this county for many reasons. These include the following: Potential for Groundwater Contamination – By its very definition, hydraulic fracturing is a process used to pressurize and fracture potential oil bearing seams that would otherwise be hard to produce. The fracture fluids are typically a blend of water with many chemical additives, including ones that the fracturing can hold secret as “confidential or proprietary business information.” These chemicals will often include substances such as muds or clays (for viscosity), diesel fuel or other petrochemicals (as a lubricant), sand or other proppants (to hold formation cracks open after pressure is removed) and other potentially hazardous chemicals. The fracturing fluid is then pumped down the well bore and through a perforated casing to “expand” the formation and crack it to form a network of fissures from which to flow the oil. The problem that has been documented in more than one case is that there are occasions when this fracturing has penetrated into overlying freshwater aquifers, that can then be contaminated with the fracturing fluid. This contamination can continue from the native oil and gas long after the fracturing has ended and can permanently contaminate a freshwater aquifer, rendering it unusable for drinking, agriculture or other purposes. San Luis Obispo County has a rich agricultural heritage and many people living in rural communities. Most of our water supplies are dependent on groundwater wells, and the potential economic harm is not warranted given the relatively small contribution our oil resources could provide to meet national demand. Limited Water for Fracking – Our county already has a shortage of freshwater resources. Many communities were forced into severe rationing and have been investigating desalination options since the most recent multi-year drought. Hydraulic fracturing is a process that requires tremendous amounts of freshwater (researchers are studying the use of brines and other non-potable water sources for use in fracturing fluids, but the difficulty in managing fluid properties with varying brine concentrations and constituents makes this practice difficult, and it has yet to see commercial adoption. The only alternative is to use local freshwater resources, and this creates a large competitive demand for water. I do not believe, given the choice, that our county residents would support using our limited freshwater resources for this purpose vs the other resource demands we already have. Subsequent Pollution and Potential Contamination – After a well has been fractured, the well is flowed to “produce” water from the formation. The initial flowback will be dominated by the fracturing fluid, and must be contained in tanks or open pits for treatment	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; and Water Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.

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		and disposal. It is not practical or economical to transport this water long distances to dispose of it, so the typical process would be to treat the wastewater to a given standard, then discharge it into a surface water system or pump it back into a disposal well. Both of these pathways offer additional opportunities for contamination of our freshwater resources. In addition, most formations will contain a mix of oil and water, and this “produced water” that is pumped from the formation must also be treated and discharged or injected. This water will be contaminated with organic chemicals from the oil formation, and is another large potential risk to our freshwater quality. In some formations, wells may produce 10 or more barrels of produced water for each barrel of oil produced. One need only visit other oil developments to see the potential environmental impacts of these types of operations. Oil Quality and Production. Many of our county oil deposits (such as the ones in Price Canyon and Huasna Valley) are tar-grade oils, which often require stimulation (hot water or steam) to produce the oil, even after the fracturing is complete. Transportation would be another issue. With the pipeline rupture 2 years ago in Santa Barbara County, and the subsequent environmental damage, it is easy to see why coastal communities fear new pipeline for oil and gas. This would likely mean that all the product from such oil development would be moved to refineries by tanker trucks – another environmental and safety risk. This type of development simply does not fit with the economic vitality of this community, which is largely dependent on tourism and agriculture. Additional oil production fields, as you can see in Price Canyon and San Ardo, would likely have a significantly negative impact on the quality of life and economic health of our community. In summary, we have many valuable resources in San Luis Obispo County and our freshwater is one of the most valuable. We believe that further oil development in this county is not warranted because of the associated risks, including hydraulic fracturing. We also believe that our county and state are moving in the correct direction by encouraging and funding the development of renewable energy resources (such as the new rooftop solar requirements for houses, and the broader adoption of electric powered vehicles) to replace our dependence on oil. One need only study the science behind our changing climate and recent firestorms in this state to know that we need to choose a different path. Kent and Sue Zammit 3880 Santa Domingo Road Arroyo Grande, CA 93420-6115	
10499	Opinion - opposed to hydraulic fracturing	Hydraulic Fracturing irreversibly pollutes ground and surface water resources for the short term goals of energy extraction. Diluents move within aquifers poisoning large underground resources. I strongly urge you to reject the use of hydraulic fracturing on public lands.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
13028	Opinion - opposed to hydraulic fracturing	Dear Madam/Sir, I strongly oppose the expansion and development of fracking in the state of CA. We are facing a severe water shortage now, and it's only predicted to get much worse. As you know, the fracking process uses tremendous quantities of fresh water mixed with very toxic chemicals, and it risks contaminating groundwater sources that we may or may not know exist. There is no hole deep enough to prevent this contamination, nor is any injection pipe leak proof. We don't need more natural gas right now when there is already a ng glut and prices are low. If the USA needed this gas, we would not sell it for export to other countries. Simply put there are cheaper and safer forms of energy available in this state. Renewables exist, and they are compatible with this state's needs. Furthermore they don't contribute to climate change, unlike fracking and all petroleum products. It's time to agree that fracking is an old dirty form of extracting dirty energy. It's time to evolve and move on to safer energy production NOW. Thank you. Kevin Mazzocco	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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20439	Opinion - opposed to hydraulic fracturing	I am writing to state my opposition to the Trump Administration plan to expand fracking in Central and Southern California. I oppose this dangerous fracking plan that threatens our health, our environment, and our safety. The proposed fracking plan:undermines our health with toxic chemical emissions, like methane, into our clean air threatens critical water supplies for rural and coastal communities increases the potential of more oil spills endangers wildlife and their habitatsThe proposed plan simply seeks to roll back recent progress toward reasonable and responsible environmental protection -- instead of moving forward towards greater protection of our open lands and nature.The proposed fracking plan would effectively surrender our land, our water, and our communities to corporate polluters.Big Oil and proponents of fracking have caused irreversible damage that have destroyed precious habitats, killed wildlife, and devastated rural communities in our state. I care about our environment, clean air and precious water resources, climate change, and community health and safety, and therefore must oppose the proposed plan in the strongest possible terms. Sincerely, Kevin Jensen	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
22743	Opinion - opposed to hydraulic fracturing	I am concerned with hydraulic fracturing moving forward in this area of California because this area already suffers from some of the worst air quality and water scarcity in the country. Fracking releases air and water pollutants and this community does not need more of it. For the sake of the health of people and the environment nearby, I urge you to not move forward with this proposal.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12755	Opinion - opposed to hydraulic fracturing	The proposed fracking plan:1. undermines our health with toxic chemical emissions, like methane, into our clean air 2. threatens the aquifer supplying water for rural and coastal communities. Extracting and injecting groundwater from this already stressed and depleted aquifer will render its water unusable for the nearby communities due to the toxins present in the injected water and the aquifer's historic low level. 3. increases the potential of more oil spills 4. endangers wildlife and their habitats	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12324	Opinion - In favor of oil and gas exploration and development	Fracking is the perfect way to increase oil production without drilling more wells. It is economically advantage to do so and the demand for oil will only increase. Foreign countries alike will have an increased demand especially if we can take Iran out of the picture or the oil producing picture at least. Those countries that depend of importing oil and are now dependent on Iran or Russia will need to find new sources and behoves us, The USA, to be able to supply those countries and draw them into our corner. Fracking will also create jobs and resources in our county and state as well as allow us to hold prices on oil as supply will increase.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12344	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Secretary Bernhardt is attacking California with a dangerous fracking plan that threatens our health, our environment, and our safety. The proposed fracking plan will undermine our health with toxic chemical emissions, like methane, into our clean air, and also threatens critical water supplies for rural and coastal communities. This misguided plan increases the potential of more oil spills, and endangers wildlife and their habitats. This plan should be opposed and fracking should not be used going forward at all.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12894	Opinion - opposed to hydraulic fracturing	Do NOT expand or begin fracking in this important region! Fracking would lead to a permanent poisoning of the groundwater in the region, fouling important water supplies. There would also be a huge threat to the air quality, as methane and other harmful chemicals would be repeatedly released into the air. It would also increase the likelihood of more oil spills in an industry already beset by such incidents, further endangering wildlife and their habitat. Please, do NOT expand or begin ANY fracking operations in this area. Thank you, Martin A. Horwitz	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
10673	Opinion - opposed to hydraulic fracturing	I am writing to ask please look at the science fracking damage is apparent in every place people Live and has shown how environmental long term the damage remains,	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12666	Opinion - opposed to hydraulic fracturing	We should not be fracking in California AT ALL, and should be moving toward renewal energies and away from fossil fuels. Fracking has been scientifically proven to cause earthquakes in areas they did not exist before and to increase the multitude and severity of earthquakes in already earthquake prone areas like CALIFORNIA. Do we really need to be embarking on activities that will increase earthquake activity in our state? I think not! On top of that fracking typically impacts drinking water in aquifers, and the action itself is highly polluting to land and water systems above ground. I can't believe that I'm even having to write this - the science and research is there. Protect our state and our land and water. Say no to fracking, and stop relying on fossil fuels. Renewable energy is the only way to preserve our land and water for future generations, let alone will not exacerbate earthquake activity.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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12675	Opinion - opposed to hydraulic fracturing	I believe the plan of the Bakersfield Hydraulic Fracturing Draft plan is a attrocity to what makes Califronia who we are as a state. Though, Fracking is already being implemented in California, this is a leap backward and not forward. We as a state, country, and global civilization have seen the ramifications which fracking has on the citizens living in the area that is being fracked. So I ask you to stop this absurd plan to set up more fracking in california and work towards a more sustainable and affective way to provide energy for our citizens in a less environmentalall unistanable manor	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12472	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I don't believe there is any such thing as environmentally responsible development of oil and gas on public lands. All oil and gas development on public lands is enviromentally destructive and irresponsible. Oil and gas development causes wildlife habitat destruction, putting undue stress on the local wildlife. Oil and gas development causes pollution of local water sources putting undue stress on local communities. Oil and gas development is counter to avoiding further climate change, which is environmentally destructive. I am completely opposed to any oil and gas development on public lands in California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11969	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	What you're doing is terrible. You're going to ruin the environment.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
23993	Opinion - opposed to hydraulic fracturing	I do not believe that the development of additional oil and gas wells and fracking technology on federal lands in California is in the best interest of Americans. Fracking, particularly, presents dangers to the public. A 2015 report from the California Council on Science and Technology concluded that fracking in California happens at unusually shallow depths, dangerously close to underground drinking water supplies, with unusually high concentrations of toxic chemicals that are harmful to human health and the environment. Additional oil and gas development will present further impairment in air quality in the Central Valley, particularly in the southern San Joaquin Valley, already an area plagued by extremely high childhood asthma rates and other respiratory conditions. Additional oil and gas development will also present us with the release of more GHG emissions, including methane, leading to further impacts on our climate. Thank you for considering these comments. Patrick Carr 1704 Virginia Way Arcata, CA 95521	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12731	Opinion - opposed to hydraulic fracturing	In an already earthquake prone state, the last thing we need is fracking which has already been shown to cause earthquakes in states not prone to earthquakes. This is a totally amoral and misguided proposal based on greed with no regard for public welfare.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12847	Opinion - opposed to hydraulic fracturing	I am adamantly opposed to the continued use of natural gas. Period. According to the IPCC's Special Report on Global Warming of 1.5 deg C (released October 2018), The Fourth National Climate Assessment (released November 2018), California's Fourth Climate Change Assessment (released August 2018), Governor Brown's Executive Order B-55-18 To Achieve Carbon Neutrality (signed September 12, 2018), it is the consensus opinion of all the governments of the world that we are facing a climate crisis of unspeakable magnitude. In order to avoid the worst catastrophic impacts, it is essential that we immediately transition away from our dependence on fossil fuel use -- including our use of natural gas. The first step in this transition is a stop to development of new fossil fuel resouces. Intentionally omitted from most discussions of natural gas use is the fact that the primary component of natural gas is methane (CH4), a highly potent but relatively short-lived greenhouse gas that is at least 84 times as damaging to the earth's atmosphere as CO2 over a 20-year time period. If you love your children and grandchildren, you will put a quick end to the development of natural gas. Period. Respectfully submitted, Pete Gang 707-765-2236	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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12547	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am a resident of Santa Barbara, and I urge BLM not to open more federal public lands to oil and gas drilling and fracking in the Bakersfield Planning Area, for the following reasons: 1) threat to public health from toxic chemicals used in oil drilling, especially near sensitive areas such as schools, as well as potential pollution of drinking water; 2) heightened risk of earthquakes, due to fracking and underground injection of waste fluids, as these have been linked to increased seismic events (for example, dramatic increase in "earthquake swarms" in Oklahoma caused by pumping waste fluids into the ground). 3) contribution to climate degradation from exploitation of carbon-intensive oil fields in this area.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
13996	Opinion - opposed to hydraulic fracturing	Kern County is the biggest oil producing county in the nation. It is obvious that more oil and natural gas production will occur there. However, expanding production beyond Kern County should be curtailed. In reference to the new plan, I feel that:The proposed fracking plan:undermines our health with toxic chemical emissions, like methane, into our clean air threatens critical water supplies for rural and coastal communities increases the potential of more oil spills endangers wildlife and their habitatsTime and time again, Interior Secretary Bernhardt proves he simply wants to roll back our progress -- instead of moving forward towards greater protection of our open lands, nature and clean air..	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
17053	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am not an engineer or geologist: therefore, I am not commenting on any of the technical aspects of the fracturing process. And just because your agency has the power to give permits to allow fracturing, does not make it justifiable. Continuing to extract fossil fuels supports the acceleration of the climate crisis. This is not conjecture. It is supported by the majority of reputable climate scientists of the world. There is a limited amount of time available to those who make the laws to respond to the reality of the circumstances we face in ameliorating the most destructive impacts of the climate crisis. You may think you are simply doing your job by following the procedures of the BLM. However, in the not to distant future, it will be obvious that the BLM has been complicit with the Trump Administration and the fossil fuel corporations, that you hid behind procedure and policy when you had the opportunity to make a difference.....and then it will be too late. I urge you to use common sense and rather than continue with the status quo, move towards the real opportunity of supporting and creating a sustainable energy system.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
22494	Opinion - In favor of oil and gas exploration and development	For national security, we need fracking and all the oil we can get. It's critical that we remain oil independent until fusion or some other green and efficient energy solution arises.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

Comment Number	Issue	Comment	Response
12815	Opinion - opposed to hydraulic fracturing	I was a bioscience researcher for 30+ years and I have been studying science and technology all my life. I do not need to explain Hydraulic Fracturing to you but I want to comment about conversation of resources which will be desperately needed in the future by our children and grandchildren. Fracking uses a lot of water which is becoming an ever more difficult resource to have enough of for growing food here in California which accounts for ~15% of the total U.S. sales and in addition California is basically the sole producer for at least 13 food crops consumed in the U.S.. Then we have ~40 Million people living here who need water and many other businesses that use water to sustain millions of jobs. All this water needs to be potable and free from any toxic contaminants and Fracking even done with steam is not even close to nontoxic. Fracking around our underground aquifers which are being drained faster than they are refilling is like playing Russian roulette, at some point that Fracking round will fire and pollute the water. It is not if it does it is when will it and then we are in serious trouble as most of our aquifers are connected to each other in some manner underground. Oil is not just fuel and if we extract every barrel of oil we can get our hands on now then our grandchildren will not have any to make the fertilizer, plastics, lubricants and millions of other things besides gasoline we use oil for. And we would be adding all the greenhouse gases produced by burning all this oil to the global warming problem accelerating Climate Change. Climate Change is real and happening right now and it will bring longer droughts to California and rising sea levels forcing saltwater into our aquifers making the ever growing potable water issue worse. We need to be very careful with our water Now not when it is too late to do anything about it. Climate Change will cause drastic changes in our environment across the country and we need to conserve the critical resources we have now for the future not use them up as fast as we can now and to hell with our grandchildren. Thank You	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9679	Opinion - opposed to hydraulic fracturing	I find the administration's decision to proceed in this direction to be misguided and reckless. I stand with rep. Carbajal in his efforts.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
23962	Opinion - opposed to hydraulic fracturing	It has been demonstrated that fracking consumes and renders useless for human and animal consumption more water than any other oil product extraction method. Our surface reservoirs may have recovered recently from draught here in California but our aquifers have not. Nor will they. Particularly in Santa Barbara County. It is irresponsible to plunge ahead with these technologies rather than spending the same will, money and thought on less harmful energy sources.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12783	Opinion - opposed to hydraulic fracturing	Secretary Bernhardt is attacking California with a dangerous fracking plan that threatens the health, environment, and safety of California citizens. It is my understanding that the proposed fracking plan:undermines health with toxic chemical emissions, like methane, into California's clean air threatens critical water supplies for rural and coastal communities increases the potential of more oil spills endangers wildlife and their habitats in California and sets a dangerous precedent.Time and time again, Secretary Bernhardt proves he simply wants to roll back environmental progress -- instead of moving forward towards greater protection of our open lands and nature.I am totally opposed to the proposed fracking plan.Thank you for your consideration of the above comments.Richard KodaRidgefield, CT 06877	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

Comment Number	Issue	Comment	Response
11974	Opinion - opposed to hydraulic fracturing	Dear Acting State Director Joe Stout, I believe that it is in the best interest of the residents of California to prevent the construction of new fracking sites. Hydraulic fracking is a dangerous practice that has negative consequences that far outweighs the possible economic 'benefits.' One of the most deleterious results of fracking is the contamination of water. Already in California, our water is being contaminated by waste water produced by fracking. The water that becomes polluted by the materials left over from fracking make the water less than useless for anything that can be deemed beneficial for our state, our country, and our world. I strongly urge our Elected Officials to put the public interest above specialized, private interests that do nothing but harm our water, our wildlife, and our air. Instead of creating policies that are oil and gas friendly, we should be cracking down on the oil industry, and instead use our resources to invest in green energy and policies that benefit the environment rather than harm it. California should be a leader within the United States for tackling Climate Change. This is a step backwards and does nothing to help the State. Approving more fracking only benefits the oil and gas lobby. For the benefit of the people, we must say no to fracking. Sincerely, Mr. Richard Liberty 710 College Ten Rd # 293 Santa Cruz, CA 95064-1101	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Soil Resources; Water Resources; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
11147	Opinion - opposed to hydraulic fracturing	I am opposed to any hydraulic fracturing on the Central Coast. The economy of the Central Coast is almost entirely reliant tourism and agriculture, especially wine, and there have been too many instances of water table contamination. If, and when, there is a leak it will almost certainly cause the complete ruin of our local economy and way of life.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12687	Opinion - opposed to hydraulic fracturing	Please do not add to environmental degradation by promoting the generation of fracking fluids that cannot be safely disp[osed of.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12481	Opinion - opposed to hydraulic fracturing	The proposed fracking plan:undermines our health with toxic chemical emissions, like methane, into our clean air threatens critical water supplies for rural and coastal communities increases the potential of more oil spills endangers wildlife and their habitatsBig Oil and proponents of fracking have already caused irreversible damage that have destroyed precious habitats, killed wildlife, and devastated rural communities in the state of California. This plan must not be permitted to proceed forward and I strong urge for reconsideration. Long term sustainability must be preserved over this corporate venture that will do nothing but hurt the state of California in the long term. Thank you for your time.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12738	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Fracking has proven itself to be a dangerous and unwise practice that undermines public health with toxic chemical emissions, like methane, into the air that the public breathes and causes climate crisis. It also threatens critical water supplies for rural and coastal communities and increases the potential for more oil spills. And, fracking endangers wildlife and their habitats. Time and time again, we hear about people's water getting contaminated to point that it is grossly undrinkable due to fracking. We see and hear about irreversible damage that is caused by fracking, which has destroyed precious habitats, killed wildlife, and devastated rural communities in our state. We need to move forward towards greater protection of our open lands and nature. Please do not roll back the progress that has been made to protect our air, land, and water. Please do not surrender our land, our water, or our air to corporate polluters. Leave fossil fuels in the ground where Mother Nature wisely sequestered the carbon that is causing a climate crisis.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
10538	Opinion - opposed to hydraulic fracturing	California is known for seismic events. What is being done to mitigate the dangers fracking poses to California's pristine areas. BLM must take into consideration the dangers posed. See the attached link: https://news.nationalgeographic.com/2017/10/human-induced-earthquakes-fracking-mining-video-spd/ What measures are being taken and guarantees are being made to ensure no environmental damage will be done if BLM approves the lease of lands for fracking? Are there any mitigation arrangements from oil companies? See the attached link. https://www.scientificamerican.com/article/north-dakotas-oil-environmental-damage-economic-prosperity/ In California water is more precious than gold and oil. Fracking uses millions of gallons of water with questionable chemicals added. That water is seriously contaminated during the fracking process and disposed of by injecting back into the ground. How is the potential of contaminating aquifers' relied on by communities for drinking water going to be protected? There are many communities in California that do not have safe drinking water. It would seem reasonable that our precious public resource should go to those communities rather than contaminating it for the extraction of fossil fuels. See the attached link: https://www.ecowatch.com/epa-fracking-water-contamination-2144968213.html	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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12453	Opinion - opposed to hydraulic fracturing	I am firmly opposed to Hydrolic Fracturing anywhere in California. As stated in the EIS report, hydrolic fracturing uses 4,200 gallons of water per day and emits more pollutants than conventional wells. Please do not proceed with Hydrolic Fractuing in Californis.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11958	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am writing to let you know that I absolutely oppose the opening of public lands for the purposes of fracking. We need to find alternatives means of energy and stop destroying our lands just for oil corporations to make more money. Fracking affects are irreversable. Fracking contiminates our water supply and drains our water resources. Even in the draft it estimates that hydraulic fracturing of 400 wells would use up to an estimated 80.0 million gallons (246 acre-feet) of water per year. California, specifically, the central valley is vulnerable to a drought again, we cannot afford to use this fresh water for fracking nor contiminate any more water. We cannot move forward with this plan.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
17165	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I oppose any/all new permits for hydralic fracturing and for fracking wastewater injection wells in Santa Barbara and Kern Counties. Two major earthquake fault lines run through Santa Barbara County and three major earthquake fault lines run through Kern County, and seismologists predict a 70% likelihood of a magnitude 7.0 earthquake in both Santa Barbara County and Kern County within the next 30 years. Hydraulic fracturing and fracking wastewater disposal wells are known to destabilize the earth. Indeed, U.S. Geological Survey studies "have shown a strong connection" between hydraulic fracturing and fracking wastewater injection wells and the dramatic increase in earthquakes in Oklahoma, Texas, Alabama and other parts of the country. In southern California, millions of people live and work in very close proximity to wastewater injection wells that operate near active earthquake fault lines. It is both short-sighted and foolish to ignore the grave risks that hydraulic fracturing and fracking wastewater injection wells pose to the safety of groundwater, agriculture, and public health. In the strongest possible terms, I urge the Bureau of Land Management to to deny approval of any/all new permits for hydralic fracturing and for fracking wastewater injection wells in Santa Barbara and Kern Counties. Thank you very much for your consideration and your time.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
19242	Opinion - opposed to hydraulic fracturing	Allowing fracking operations near public parks, residential areas, and upon geologically unstable areas is unsafe and not ecologically sustainable. Oil companies have refused to disclose the ingredients of formulations injected into wells during fracking and there is substantial evidence that these formulations contaminate water sources causing significant health impacts to humans and wildlife. In addition, the process of fracking is likely to further destabilize already unstable faults causing damage to property and injury to people from destructive earthquake activity.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12227	Opinion - opposed to hydraulic fracturing	In addition to all of the environmental degradation that would result if this project were to be executed, there would be a further stain on the reputation of the BLM. We don't need any resulting oil from this land but we do need clean water for drinking and agriculture... and it would be put at risk for the short-term profit of oil companies.Seth Steiner has been an environmental consultant, with a graduate degree in air and water pollution, and is a member of the Advisory Committee of the San Antonio Basin Groundwater Sustainability Agency, a member of the Los Alamos Planning Advisory Committee, a founding board member of Safe Energy Now! North County, a board member of his homeowners association, and a resident of Los Alamos.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12699	Opinion - opposed to hydraulic fracturing	Under no circumstances will we stand for fracking in pristine SLO County! My family will march, protest and donate if necessary!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12430	Opinion - opposed to hydraulic fracturing	No fracking! Too damaging!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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19786	Opinion - opposed to hydraulic fracturing	Hello Donald Trump, Man to man here. And Republican to Republican. Tell me. You like prostate cancer? What about colon cancer? You like some guy reaching up your ass with a sharp needle to poke around on that prostate? And what about the women too? Do you think they like some doctor fiddling around inside their bodies to understand what is wrong? I know you east coast folks have California Grown food products on your store shelves. I know that you Donald feed that food to your family. And you my friend want to screw around and risk poisoning the water supply to the finest food resource regions of the entire world? A real man would not poison such a fine asset that feeds his own family. Nor would a real man want to risk poisoning his prostate. I have some respect for ya possibly screwing around and putting your dick in Stormy Daniels. However, poisoning the water and my prostate and possibly yours and even worse poisoning my son's and your fine son's prostate is pure bullshit. And that is something that you Donald and all the BLM men ought to understand. In my humble opinion whoever came up with the bright idea of fracking in CA needs a swift kick in the ass for that concept Donald. Seriously. No women should ever sleep with that guy for such a bogus concept. Man to man here. If my daughter or son are injured from such ignorant ideas then of course I will dream of cutting the balls of the asshole that does such a thing. If a nuke from North Korea or some asshole fracks and poisons my water it's all the same bullshit. Donald Trump, this is a fight that is not worth fighting. Frack in California only pisses a Republican like myself off. A Republican that in spite of being in a liberal state that you cannot afford to piss off. Donald Trump, you need to call off this concept. Fracking in California is a fucked up and beyond stupid thing to do. And what comes around goes around. Yes your own grandkids may indeed eat some toxic produce that resulted from such behavior. And those kids will have food reactions and may even die from it quickly or perhaps slowly and painfully from cancer. I am the man. I am all man Donald. Yes I am without doubt more man then you at all stages of life. And this man is doing you a favor. I am watching out for your kids and my kids. Don't be a jackass on this one. Call off this concept of fracking in California and do the right thing for your kids and my kids long into the future. Got that!!! Good. Call it off!! Your fracking idea is fucked up!!! Can't say things any better then that. It's a perfect description. Tim Delaney	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
8837	Opinion - opposed to hydraulic fracturing	There has got to be some of you who work for the BLM who deep down know that this proposal is wrong. Please stand up for the environment. As good stewards we will be able to leave something of great value to our children and grandchildren; massive tracts of land, unspoiled by oil fields, that will be cherished and enjoyed for generations to come	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12616	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	The EPA study concluded fracking does contaminate drinking water. The current administration has changed the webiste information to hide these conclusions. The BLM's own report also states that the fracking process can contaminate our water but believe the dangers can be mitigated by those in charge of the operations. Once these companies are granted permission to frack our lands, the government does very little to monitor the operations and once the damage is done, there is no way to reverse the poisoning of our water, land and air. The EPA and BLM are entrusted with the management of our lands and protection of our natural resources for the people. Now the BLM is considering opeing up pulbic lands in SLO County to fracking with no consideration to the potential negative impact on our commuities. 58,000 people in SLO County voted to oppose fracking last November. The oil companies spent 8 million dollars to defeat the measure while claiming there is no fracking in our county nor any plans for any fracking in the near future and yet now we are presented with the very threat by the BLM. The people in SLO County take great pride and joy in the clean air, water, land and natural beauty of our area and the BLM should abandon this reckless proposal until they can guarantee the safety and health of people who live in this county.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11932	Opinion	Have a good day	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11989	Other	Have a good day	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12032	Opinion	Have a good day	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12150	Opinion - Other	Have a good day	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12178	Opinion - Other	Have a good day	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11553	Opinion - Other	comment	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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12202	Opinion - opposed to hydraulic fracturing	Hello, Do not frack here. Period. Oil and Gas is an industry that needs to be reduced for the welfare of us all in the state of California. Air quality in the valley is already low and the proposed environmental damage should not be imposed on the landscape. Fracking will continue to fuel low air quality and will threaten animal and plant species in the area as well as livability and land quality for human enjoyment. The threat to drinking water and potential increases in seismic activity should also be factors when considering the consequences of fracking. We need to take our cues from what is happening in Oklahoma. California lies entirely within the 2 highest threat areas for earthquakes. We do not need to encourage additional man-made threats to add to the seismic unrest.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
23408	Opinion - opposed to hydraulic fracturing	I am vigorously opposed to fracking in California and elsewhere.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12330	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	To whom it may concern, As a life long SLO resident I adamantly oppose any fracking on our public lands. Firstly because of ground water pollution due to fracking and it's infrastructure. Secondly, because of it's contribution to accelerating global warming. Please do not allow fracking on our public lands! Thank you, William Tickell	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12583	Opinion - opposed to hydraulic fracturing	With the climate crisis ever more clearly impacting our world, there is NO 'environmentally responsible' development of oil and gas possible on any land, public or private. We all need to do our part to get off fossil unless someone comes up with an economic technological sequestration fix for carbon or some other means to offset the damage done by carbon and other fossil gases. I implore you not to proceed with fracking in CA. We have suffered drought. Fracking uses billions of gallons of water that we should not be contaminating and dumping willy-nilly into the ocean or in underground aquifers. Locking our country in to decades more of fossil use is unconscionable under present circumstances. Where is your consideration for future generations? NO to fracking!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
13684	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Many of the proposed fracking sites will likely impact cultural areas important to the Chumash and other native nations as well as threaten our already over-taxed water resources. Please do not allow any further fracking on our publicly owned lands.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
13500	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Santa Maria communities depend heavily on groundwater—more so than other cities with bigger budgets. Much of the area's drinkable and usable water comes from an underground water basin (aquifer), where just a single spill or leak could potentially contaminate drinking water for over 100,000 residents in the Santa Maria Valley—affecting already disadvantaged community members disproportionately. Federal laws are meant to protect our aquifer because of its potential as a drinking water source. But big oil and gas companies are requesting an exemption from the law and have asked California to consider a proposal to allow the injection of waste associated with hundreds of new oil and gas wells directly into the Santa Maria aquifer. NO EXEMPTIONS!!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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12852	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am opposed to fracking on any lands in California, public or private. The fracking industry has a track record of devastating environmental damage such as contaminated groundwater. California should be moving to 100% non fossil fuels as an energy source, not more.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12749	Opinion - opposed to hydraulic fracturing	Respectfully, while you think all of our worries have been answered by your report, in reality our concerns for public safety, the concerns for environmental effect and pollution, and the concerns for the damages that are YET UNKNOWN cannot be reasoned away for the people who live on the Central Coast. Big oil, we do not believe you and we do not trust you. The environmental harm outweighs any of the oil companies' desire to keep national production increasing against our wishes. All new oil production needs to be halted and efforts to decrease dependency on oil and gas products should be mandated. Big oil has a history of big mistakes right here in our area. We do not trust this will be any different and the unknown public costs are not worth the money that can be made by oil companies on a nonrenewable resource. Think smarter and better solutions to energy issues. And be careful of the persuasive rhetoric of those who will benefit on the back of the citizens whose grandchildren are the real stakeholders.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
13833	Opinion - opposed to hydraulic fracturing	I am writing about drilling and fracking in my state of California. On your site I see you say "Outdoor recreation is vital to the American economy " Who is going to want to recreate where there are oil wells? Does California need more earthquakes? Clean drinking water is a necessity in life . Why can't we be progressive in getting energy from the wind? Seawater? Solar? Please ,help save the earth , not destroy it . Thank you for your time	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
16714	Opinion - opposed to hydraulic fracturing	That Fracking can be ramrodded through in the face of all reason and facts, I have no doubt. That Fracking contaminates ground water and uses copious amounts water vital to municipalities and agriculture, increases likelihood of Earthquakes, , and dangerously pollutes the surrounding air in its operation, is also beyond doubt. Viable technologies exist to much more safely create energy for mankind. I urge you, beg of you to stop the madness. The newspaper reports yesterday that groundwater for Orcutt has been contaminated by the extraction of oil. Thank you, Arden Day	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
8868	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	I agree with this statement: "The Trump administration's plan to open public lands to fracking and oil development, despite grave warnings on climate change from our scientific community, is a step backward that we simply cannot afford." Instead, put money toward research for alternatives and encouragement to companies and the public to use other methods of energy so we don't need the oil!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9955	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Our public lands need to be off limits to destructive practies of fracking and oil extraction!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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12494	Opinion - opposed to hydraulic fracturing	The United Nations Environment's sixth Global Environment Outlook (2019) calls on decision makers to take immediate action to address pressing environmental issues. A healthy planet and population is necessary for the advancement of humanity. There is no greater responsibility at this point in time than to protect our environment. Fracking undermines our health with toxic chemical emissions, like methane, into our clean air. Table 4.1 shows the increase in emissions when hydraulic fracturing is used versus conventional wells and pads. Fracking threatens critical water supplies for rural and coastal communities. Table 4.1 also shows how much more water is used in fracking. California can not afford to waste 200,000 gallons of water. It was only a few years ago we suffered a terrifying drought. We rationed water and farmer's lost their crops, our food supply. Additionally, I live at the beach and there is no sight sadder than oil on our beaches and dead sea life washed up on our shore. Fracking increases the potential of more oil spills as well as earthquakes. A large number of magnitude 2.5 (Richter scale) and greater earthquakes have been recorded in California (CCST 2016). The locations and magnitudes of earthquakes that have occurred in the supplemental hydraulic fracturing analysis areas are shown on Figure 3.10.1. California is very likely to have future earthquakes and we do not need to increase the risk. Fracking endangers wildlife and their habitats. We need to protect our beautiful land and all its inhabitants. We need renewable energy, solar and wind, not more fossil fuels.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12570	Opinion - opposed to hydraulic fracturing	I am a resident of Los Osos. We depend on ground water as our only source of water. The chemicals they use in fracking could ruin our ground water. We already have the problem of salt water incursion and a drought. The area at Montana De Oro is a state park for everyone to enjoy. It is not for the oil company to destroy. We also have fault lines all through the area and a nuclear power plant near by. This is insane. I will not sit by and watch one of the most beautiful places in the world be destroyed. There is enough crude oil reserves to last for years. If our ground water is ruined then our homes are worthless and our town is ruined.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
17550	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I do not support the use of and/or expansion of public lands for oil & gas drilling, mining, and fracking in Central California or the California Central Coast. There are many, many documented studies stating the risk to public health which these processes produce. The rate of well failures is high. There are enormous contamination risks to our ground waters Especially with the use of shallow fracking. We cannot expand unsafe techniques and procedures. These threatening procedures MUST be prohibited until and unless they can be proven totally safe. Our water supplies in Central California and within the Central Coastal areas continue to be in a grave situation. Your primary concern must be to protect and expand safe, clean, waters for our population, wildlife, and environment. Follow your own mission statement and protect our public lands for future generations. Do not endanger us further with with additional and new drilling and fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12604	Opinion - opposed to hydraulic fracturing	From my own experience, carrots grown in Kern county taste like petroleum. The area is sinking and fracking destabilizes the area for more frequent earthquakes. Oil wells are ugly and stink to holy hell: That I remember well. I was born in Wasco CA living there until my family moved to San Mateo. I have been reluctant to drive through the area because now that I am old, I might need to drink or wash in the water if we stop at restaurants or motels. So I have to fly past that area.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12260	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I oppose hydraulic fracking on public land.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12501	Opinion - opposed to hydraulic fracturing	Please do not allow drilling for oil or hydraulic fracking in the central Coast and valley.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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20809	Opinion - opposed to hydraulic fracturing	we enjoy high property values in Morro Bay and generate our money through tourism, fracking will negatively impact both. Also our roads are already impact by tourists, we don't need trucks or workers. We have limited ground water and the risk of salt water intrusion. We won't make any money by taking on the risk of fracking, but we will pay a big price if an earth quake or something shifts the equation that was outside the parameters you used...just think of the nuclear reactor in Japan...according to the simulations, that would never happen. Our area grows organic food, we do not need to introduce the chemicals used in fracking into our air and water. The balm went from protecting our lands to selling out the environment for a buck for big companies. As a resident and home owner, I will take all the risk and not get any of the profits...plus if the unthinkable happens, as a tax payer, I am sure I will pay for the cleanup in so many ways as the company that profited weasels their way out of it...	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12810	Opinion - opposed to hydraulic fracturing	I am solidly against the proposed plan by Interior Secretary Bernhard to expand fracking in California. This dangerous idea would threaten our health, our environment, and our safety. We already know that the chemical emissions from this nasty practice get into our air and our rural and coastal water supplies. There is increasing danger of oil spills. Our wildlife and their habitats would also be affected. Instead of promoting this dangerous practice, we should be discouraging it. It's time to get away from fossil fuels and begin to use renewable, sustainable, and non-polluting fuel and energy sources. Please do not let big business get away with causing such terrible pollution! Sincerely, Nancy Oliver 147 Belvedere Ave. San Carlos, CA. 94070	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
22190	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am an RN and I have personally treated workers on the fracking plant, as well as, have seen the side effects of contaminated water our communities drink. Seeing that California is an earthquake capital, fracking is also another perfect reason why we shouldn't be drilling deep within our state!! There are so many downside to implement this into our beautiful state of California. The polluted water and damage to our Earth's crust is something we should never take for granted and we should maintain and preserve what we have currently. Please STOP this from being implemented!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
20601	Opinion - opposed to hydraulic fracturing	I disagree with fracking. Fracking has been done in Kern County for decades. The process uses too much water, causes pollution, and devastates the environment and the creatures living in it. No to Fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
18206	Opinion - opposed to hydraulic fracturing	Hi, I have several concerns, including that fracking produces air and water pollution, and the Central Valley already struggles with some of the worst air pollution in the country. Fracking is highly water intensive, and this areas already struggles with water supply.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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13310	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	<p>As a biologist and parent deeply concerned about the accelerating destruction of the environmental systems and climate on which my family, and all life on our planet, is dependent for survival (let alone our quality of life), on May 23rd I drove from Thousand Oaks to Santa Barbara to voice my OPPOSITION to BLM's proposal to open more than 1.6 million acres of public federal lands and mineral estate in California to new oil and gas drilling and hydraulic fracturing (aka fracking) - a disaster for our shared climate, as well as for California's air quality, clean water resources, public health, and wildlife. As I listened to the public testimony, I tallied 50 public comments on the proposal, of which 49 (98%) were in opposition and only 1 was supportive. Those speaking against fracking California's federal lands included students, longtime state residents, professors, scientists, veterans, veterinarians (including the CA Veterinary Association), schools, neighbors (from Santa Barbara, Goleta, and as far away as Long Beach, Manhattan Beach, etc.), First Nations peoples (including the Chumash & Mistek?), staff for Representatives Salud Carbajal and Hannah-Beth Jackson, environmental and citizen advocacy organizations (including 350.org Santa Barbara, Stop Fracking Long Beach, Stop Fracking California, Sierra Club, Food & Water Watch, The Center for Biological Diversity, Los Padres Forest Watch, & the National Parks Conservation Association), faith and humanitarian groups (including Clergy United for Economic Justice & The Humane Society), and others. I also spoke in opposition to BLM's proposal. I am the parent of a child who loves to run; because running makes her feel alive, and free. My daughter was twice elected to be captain of her high school cross country team, as a Junior and again as a Senior. Like too many children in California & across America, she also suffers from asthma. My daughter's asthma attacks are triggered by air pollution from producing and burning oil and gas. I have looked on helplessly, watching panic spread across my child's face, as she struggled to breathe ... and could not. Like 295,000 other residents of Ventura County, I am also a Woolsey Fire survivor. My family was evacuated in the middle of the night, with NO WARNING. The sky outside my bathroom window glowed red-orange as I fled my home. While making my escape, I was terrified to see an expansive wall of towering flames, stretching the full length of the local hilltops, bearing down on my community ... and on my husband, who'd refused to leave. He stayed to defend our house. He had an up-close view of those flames as they consumed the hillside opposite our property. He felt the fire's intense heat. He heard its thunderous, explosive roar as it raged toward him, destroying EVERYTHING in its path. Ultimately only two properties separated ours from the scorched black landscape the fire left behind. I studied biology in college, and I've learned that water contamination, risky air quality, poor health, unaffordable healthcare costs, historic drought, depleted and collapsing aquifers, water scarcity, climate destabilization, superstorms, wildfire risk and ballooning government deficits are ALL interconnected ... and the common link is fossil fuel POLLUTION. FRACKING for natural gas is POISONING American's air and water, and it's one of the biggest drivers of our Climate Emergency and failing health. Natural gas is a FOSSIL FUEL. Contrary to ubiquitous fossil fuel misinformation campaigns, natural gas is NOT clean. Methane from natural gas ACCELERATES Global Heating. Over 20 years, ONE pound of methane (the main component of natural gas) traps as much heat as EIGHTY pounds of carbon. 100 years after its release into our atmosphere unburned (from the fracking process, pipeline leaks & intentional venting), methane remains 25 times more potent than carbon as a greenhouse gas. In an era of ACCELERATING Climate Catastrophe and wildfire danger, BLM should NOT be approving ANY new fossil fuel infrastructure or development. BLM MUST rapidly phase out these toxic, polluting activities in favor of 100% clean, renewable energy. Our world's scientists warn we have only 11 years left to get that transition fully underway to have ANY hope of meeting targets set in the Paris Climate Agreement ... targets which are already insufficient to prevent the worst consequences of Global Warming. PLEASE, keep California's leasing moratorium in place, and make it PERMANENT by amending the DEIS to include and adopt "no leasing" as the preferred alternative.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>
12536	Opinion - opposed to hydraulic fracturing	<p>I oppose any hydraulic fracturing in Central and coastal California. I am a resident of Riverside County, and my husband and I spend several weeks a year enjoying the BLM areas of our state and other states as well. We appreciate the peace and quiet and the natural beauty of these areas. Please do not destroy this for us and the next generations. NO MORE FOSSIL FUEL EXTRACTION!</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.</p>

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14630	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Dear Sirs, As a lifelong resident, parent, business owner & outdoor enthusiast I am greatly distressed at even the thought of allowing increased exploration, fracking or further development of fossil fuels on our public lands. As a taxpayer I see this as the worst case of mismanagement to give away our most precious openspace, clean air, clean water & thriving ecosystems to backwards corporate destruction in the name of energy developement. We now have far better, cleaner & sustainable means of meeting our energy needs. Please let's move forwards and preserve our public lands for our future. Thank you. Sincerely, Simone Smith, Santa Margarita, CA	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11879	Opinion - opposed to hydraulic fracturing	Do we really not care about our environment, clean air and clean water? Why despoil our environment to extract a resource we have decided to move away from? We need environmentally and economically sound energy strategies focused on the development of renewable energy sources.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12586	Opinion - opposed to hydraulic fracturing	Fracking puts toxic cemicals in our air and water and endangers wildlife. No fracking in California!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12650	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Hi - wanted to voice my serious frustration, anger, and disagreement towards the potential fracking about to take place in Bakersfield. As a Bakersfield resident, I would like to officially submit a public comment voicing my distress, disappointment and severe discontent with the proposed resolution. I am adamantly against this effort by the Trump administration. Thank you Alix Smith If you require any additional info please let me know	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11909	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	To whom it may concern: I am very alarmed at the Trump Adminstration's plan to open up new public lands to fracking and other fossil fuel extraction methods. This is contrary to California's commitment to building a sustainable future without reliance on fossil fuels. For the reasons listed below, I urge you to NOT allow the expansion of fracking or drilling in California: . As you are probably aware, California has a statutory target of reducing greenhouse gas emissions to 40 percent below 1990 levels by 2030, and a plan to reduce petroleum consumption by 45 percent by 2030 to meet this target. We need environmentally and economically sound energy strategies focused on the development of renewable energy sources.To that end, why despoil our environment to extract a resource we have decided to move away from? Especially since most of the areas targeted for fracking are located in lands that are sensitive, fragile, and biologically diverse. Fracking involves the use of toxic and poorly understood chemicals.These toxic chemicals get into the groundwater, especially in California, where fracking operations are dangerously shallow. Our communities, waterways, wildlife, and outdoor economy will all be put at risk. Given we recently recovered from a prolonged, painful drought and we certainly will experience another given drought is a way of life here, why imperial such a precious, limited resource? In a state where water is so precious — to agriculture, human populations, and wildlife — clean water is worth much more than oil. I urge you to not open up our beautiful public lands to fracking and drilling. Let's not sacrifice our health, wildlife and climate to profit the oil and gas industry. Perhaps you are not aware that California is one of the world's biodiversity hotspots. Given the recent UN report that one million species face extinction, is fracking California truly necessary? Thank you for your time.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
16120	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Please don't open Central California public lands to oil drilling and fracking. I'd like to see more solar and wind energy, clean energy for California. My children and grandchildren live in Ventura. My husband and I live in Santa Barbara. We want to move towards a clean energy future. We are doing our part with solar power on our roof, and driving an electric car. Fracking and oil drilling is a step backwards.	

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20740	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Opening more than a million acres of public land to oil and gas drilling, mining and fracking will be a disaster for our health, environment and atmosphere. Once the damage is done it can never be undone.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
20197	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	To the Trump Bureau of Land and People Mismanagement: The total disregard for the preservation of life as we know it seems to be the goal of the BLM. Oil and the extraction of which as a threat to our environment has little or no regard from the oil industry which primary motivation is profit in spite of the harm created for both humans, animals, the environment in general. At risk are air and water quality, the damage to both documented by science and environmentalists. What does this matter to the BLM. The assault by the Trump administration on so many aspects of previously responsible governance is abhorrent. California values its environment and resources and as the most populous state in the country will fight this latest assault on our five year moratorium. Health, the environment, our precious planet need protection from those with no compunction to the same and whose only motivation is profit. A citizen on California's beautiful Central Coast.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9172	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	It seems to me that, with all the evidence that fossil fuels are a major contributor to climate change, it is the height of irresponsibility to allow more oil and gas production. Fracking has been shown to contaminate groundwater. There is no reason to continue on this dangerous path and I certainly object to fracking on public lands. These lands belong to all Americans. They are "public" and should not be used to enrich private interests and endanger American's health. Put these lands to use producing clean, renewable energy that will not endanger our health or exacerbate climate change. We must put a stop to oil and gas production for our daily energy needs. There will always be a need for some petroleum products such as plastic tubing in medicine but we do not need fossil fuels to heat or power our homes. No more fracking in California!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12555	Opinion - opposed to hydraulic fracturing	As a resident in one of the effected counties I am totally opposed to any expansion of fracking. There is a body of science that demonstrates the extreme risk to the environment. In a location where solar and wind are viable investments, it smacks of capitulation to gas and oil lobbying. Putting counties in such jeopardy of spills, water contamination, air pollution in a state that needs to save water and keep the agriculture sector and tourism vibrant is a reckless and selfish idea that is only for enriching the few in the short term. I urge you to look with a wider lens and stop denying science and stop contributing to the degradation of the environment and the climate.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12658	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am opposed to the Trump admin consideration to open up fracking in Bakersfield Ca.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12658	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	i am writing to OPPOSE the Trump administration/EPA consideration of hydrolic fracking in Bakersfield, Ca.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12522	Opinion - opposed to hydraulic fracturing	I am writing in opposition to the fracking plan. It has several factors that ensures it should not be expanded or adopted: It endangers wildlife and their habitats It increases the potential of more oil spills It threatens critical water supplies for rural and coast communities It undermines our health with toxic chemical emissions, such as methane into our air. Here is the one factor that would determine whether we should proceed with fracking. Would you put it in Washington DC or in the vicinity of Mar A Lago? I doubt it. So keep it out of central and southern CA.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

Comment Number	Issue	Comment	Response
12669	Opinion - opposed to hydraulic fracturing	I oppose fracking in CAifornia (or any place for that matter) for the following reasons:Fracking: undermines our health with toxic chemical emissions, like methane, into our clean air threatens critical water supplies for rural and coastal communities increases the potential of more oil spills endangers wildlife and their habitats	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
13858	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	Dear Bakersfield Field Office Re: Hydraulic Fracturing Draft Supplement EIS: ?It is imperative for you to know that natural resources protection is more important to millions of citizens as well as residents of California than is the tearing down and erecting of industrial complexes on millions of acres of our land.Your efforts to open one million acres of Federal (and private) land in Central California - including the taking of private land by "split estate" - makes it important to picture the results:The results would be: Polluted air of which Bakersfield is made "unlivable"; permanent disturbance of beautiful lands, such as those around Carrizo Plain National Monument, and climate change which it appears you do not believe in. Ask the victims of California's terrible wildfires.The proposal for opening a million acres of land to oil and gas extraction and fracking is, to put it professionally, ridiculous. Does California have the water for all of these industrial changes? I fear maybe not.In your Draft Supplemental Environmental Impact Statement prepared by the BLM's Bakersfield Field Office - you could consider/include/adopt BLM Alternative C or D. Alt. C that "emphasizes conserving cultural and natural resource."California is known for its beauty. Millions appreciate this. Is following the President's proposal the right thing to do - it is not.I am writing at the request of Californians for Western Wilderness in the May 2019 newsletter today.It makes little sense to go over point for point what President Trump proposes in the Central Valley, not to mention getting to our national monuments at some point.Payback to the state of California for "majority" environmentalists is unacceptable. You should see through these efforts and carefully decide where you will drill; and where you will not. Aesthetic reasoning would enhance our state's image.Thank you for your interest.Sincerely,Carolyn StraubStephen McHenry	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
14486	Opinion - opposed to hydraulic fracturing	Stop the excess use of toxic waste into our Earth ruining our already limited drinking water and creating greater possibility of earthquakes. The fault lines in California where this is proposed are already risky to the population. There is a Nuclear Power Plant near the area, which is dangerous as well. Stop the greed of corporate America to exploite at all levels for pure profit. For once, think about this.....do what is right and fair for the general population. Protect the land and use other methods to produce green energy resources, such as solar and wind. Get out of the dark age thinking and do what is positive for the general population and the planet.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
9073	Opinion - opposed to hydraulic fracturing	Dear Sirs and Madams, I own property in Kern County. Hydraulic fracturing is hazardous to health. According to Breast Cancer Action (www.bcaction.org) in San Franciso, CA, there are at least nine chemicals used in the fracturing process that have a link to breast cancer. They are: benzene, toluene, ethylbenzene, naphthalene, DEHP, methane, radon and radium, lead, and formaldehyde. This information alone would cause pause to any rational citizen who doesn't allow the profit motive to control their life. Please do the right thing and cancel hydraulic fracturing projects.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9088	Opinion - opposed to hydraulic fracturing	The fact that this issue is coming up again is crazy! OK, so now there's an EIS, but the same concerns exist about air quality and especially about water quality. We barely have enough drinking and irrigation water in dry years. Our fish populations often lack sufficient stream flow to move upstream to spawn. And instead we're supposed to accept that billions of gallons of water will be used for fracking. And still there's no acceptable way to get rid of the waste! I'm reminded of nuclear waste! somebody had the bright idea to inject the waste into unused aquifers - who deemed that that was safe, that the aquifers aren't connected, that we won't need every drop of clean water some day?? This insane quest to exploit and destroy every last resource when our oil reserves are at their highest makes no sense. Americans value their country and its resources. They need a safe and healthy place to live, so just say NO!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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10072	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	The Central Coast is already facing grave impacts from climate change, including rising sea levels, drought, and a nearly year-round fire season. The administration's plan to open public lands to fracking and oil development is a step backward given the increasingly urgent warnings from our scientific community on the unchecked effects of climate change. The Central Coast has a long history of environmental stewardship and we must continue speaking out to protect our clean air, open spaces, and wildlife habitat. As a taxpayer and citizen I am herewith submitting my strong objections to fracking in the state of California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12246	Opinion - opposed to hydraulic fracturing	Fracking is a short sighted, appalling way to generate "economic growth". It is idiotic to poison the earth and waste water for oil. I support green jobs! I am a native Californian, and I vote.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12454	Opinion - opposed to hydraulic fracturing	The proposed fracking plan:undermines our health with toxic chemical emissions, like methane, into our clean air threatens critical water supplies for rural and coastal communities increases the potential of more oil spills endangers wildlife and their habitatsFor these reasons, I oppose any plan that allows fracking. As a person of faith, I pray you will use your authority to protect Creation by not allowing fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
14962	Opinion - opposed to hydraulic fracturing	To whom it may concern, We definitely do not need to increase or continue fracking. We do not need to continue use our finite water source or jepordize it's potability through the use of the toxic chemicals. It is not part of being a responible steward of the land for the generations to come. I am asking you to consider the negtive environmental impacts on all the plants and animals that depend on the well being of the ecosystem. Sincerely, Diane Dolen	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
12924	Opinion - opposed to hydraulic fracturing	The California Central Valley is critical to the world's food source. Fracking is a bad idea under the best of conditions. Please, jut NO!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12804	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I'm writing to express my strong opposition to the Bureau of Land Management's proposed opening up of 1,011,470 acres of public land and federal mineral estate in Fresno, Kern, Kings, Madera, San Luis Obispo, Santa Barbara, Tulare and Ventura counties to fossil fuel extraction. fracking and drilling. The proposed plan would put California's people and wildlife in harm's way. It targets some of our region's most precious resources, including state parks, nature reserves, recreation areas and national parks, forests and monuments. My family and I live in Santa Barbara. We've enjoyed these natural lands for decades. I write nature books for children, and have described the animals and plants that inhabit these special landscapes in some of my books. I urge you to protect these resources so that future generations can be inspired by them as I've been.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12601	Opinion - opposed to hydraulic fracturing	None of this makes any sense to me. Have no idea why we are hellbent on our destruction. Californian's don't want fracking!!!! Let's stand up for clean energy and set an example to the rest of the United States and the World. NO!!!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12159	Opinion - opposed to hydraulic fracturing	The news reports of the effects of fracking on water resources alone are sufficient to make us pause any new permits. Until we we can assure the public that fracking is completely safe, we need to keep that oil in the ground. California is ideal for for solar panels and wind turbines. We should never allow fracking here. It's too dangerous.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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18347	Opinion - opposed to hydraulic fracturing	To whom it may concern,As a Californian, I am appalled that the BLM would consider introducing the extreme environmentally destructive practices of fracking on public lands in our beautiful state.In these times of intense humanly generated natural disasters, including fire, flood and drought the mere suggestion of fracking is a criminal act. Fracking involves the use of toxic and poorly understood chemicals.These toxic chemicals get into the groundwater, especially in California, where fracking operations are dangerously shallow. When children are exposed to these carcinogens, their potential for developing cancer, such as leukemia and lymphoma, increases precipitously. For this reason alone, fracking is undeniably cruel and inhumane. Moreover, our communities, waterways, wildlife, and outdoor economy will all be put at risk.Additionally, opening up new public lands to fracking and other fossil fuel extraction methods is contrary to California's commitment to building a sustainable future without reliance on fossil fuels. California has a statutory target of reducing greenhouse gas emissions to 40 percent below 1990 levels by 2030, and a plan to reduce petroleum consumption by 45 percent by 2030 to meet this target. We need environmentally and economically sound energy strategies focused on the development of renewable energy sources.We desperately need to move away from fossil fuels and toward sustainable clean energy to avoid globally catastrophic demise associated with climate change.As a citizen who cares deeply about the future of our planet I ask that you do everything in your power to avoid fracking on BLM lands.Let's not sacrifice our health, wildlife and climate to profit the oil and gas industry.Sincerely,Erin O'Bryan	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12781	Opinion - opposed to hydraulic fracturing	I am extremely concerned about your proposed fracking plan. Fracking undermines our health with toxic chemical emissions, like methane, emitting it into our clean air. Additionally fracking threatens critical water supplies for rural and coastal communities and increases the potential of more oil spills. Fracking endangers wildlife and their habitats. Big Oil and proponents of fracking have caused irreversible damage that have destroyed precious habitats, killed wildlife, and devastated rural communities in our state. I beg you to reconsider the plans to begin fracturing in the Bakersfield area and further destroy our precious planet we all want to preserve for our kids and their kids and their futures. If this is allowed in Bakersfield, it is only the first step in the proliferation of future projects just like this one. It is scary to say the very least.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12609	Opinion - opposed to hydraulic fracturing	BAN FRACKING!! The proposed plan will DESTROY Animal habitats, poison our WATER supplies and RUIN the Earth. In case that causes some confusion, THOSE ARE TERRIBLE THINGS. BAN ALL FRACKING!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12713	Opinion - opposed to hydraulic fracturing	BLM, As an ordinary citizen of California I urge you to ban all fracking. Time and again I hear reports of contaminated water supplies, increased earthquakes, and loss of property value, all due to fracking in the affected area. I know the industry reps, and lobbyists will have well rehearsed rebuttals to my concerns, yet again, we often find that such reassurances are inded not worth the breath they were spoken with. California has a history of earthquakes. If fracking will exacerbate a seismically active region, or area, why frack there? California has limited water resources. If fracking operations have the risk of contaminateating such a resource, why frack there? This drive to extract every last ounce of profit from our lands is reckless and dangerous, and also unwanted, and un-neccessary. We have the technology to replace all fossil fuels with a renewable source. Why risk the loss of resources we depend on to survive just to pump up the profits of some shareholders? I urge you to re-consider your proposal to frack in southern California, and indeed the entirety of California. Help me, us our state retain it's wonderful natural places and quality of life. Please don't frack California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12235	Opinion - opposed to hydraulic fracturing	FRACKING IS JUST BAD FOR THE PLANET, BAD FOR THE WATER TABLE BAD FOR PEOPLE IN GENERAL. WHO WANTS TO TURN ON THEIR FAUCET AND HAVE FIRE COME OUT? NOT ME. WHO WANTS WATER THAT IS POISONOUS? NOT ME JUST SAY NO TO FRACKING.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
9106	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	The Central Coast is already facing grave impacts from climate change, including rising sea levels, drought, and a nearly year-round fire season. Any plans to open public lands to fracking and oil development is a step backward given the increasingly urgent warnings from our scientific community on the unchecked effects of climate change. The Central Coast has a long history of environmental stewardship and we must continue speaking out to protect our clean air, open spaces, and wildlife habitat.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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8457	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	I oppose any attempt to open new public lands to fracking and other fossil fuel extraction methods. This would be in direct conflict with California's commitment to building a sustainable future without reliance on fossil fuels. California has a statutory target of reducing greenhouse gas emissions to 40 percent below 1990 levels by 2030, and a plan to reduce petroleum consumption by 45 percent by 2030 to meet this target. We need environmentally and economically sound energy strategies focused on the development of renewable energy sources, not further investment in backward, antiquated resources that can only despoil our environment. Let's not sacrifice our health, wildlife and climate to profit the oil and gas industry. In a state where water is so precious — to agriculture, human populations, and wildlife — clean water is worth more than oil.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11849	Opinion - opposed to hydraulic fracturing	I am horrified to read about your fracking plans in the high desert and coastal regions of Southern California. Considering we live in an active earthquake zone, and also have some of the most beautiful open spaces in the continental United States, I find it reprehensible that you think this is a good plan. Have you not seen the reports from Pennsylvania and Oklahoma?, earthquakes, poisoned water, fire coming from faucets?, beautiful riparian habitats, forests and farmlands polluted for generations? I have no more words for your greed and stupidity.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12310	Opinion - opposed to hydraulic fracturing	Hydraulic fracking in the proposed areas, if approved, will undermine our health with toxic chemical emissions, like methane, threaten critical water supplies for rural and coastal communities, increase the potential of more oil spills, and endanger wildlife.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
17711	Opinion - opposed to hydraulic fracturing	Based on what has been studied in ample detail, it is clear that hydrolic fracturing is WRONG for the environment, and dangerous for the survival of planet. Please, stop. No more!! Janet Harrison 415-563-7489 pepperadamsjh@gmail.com	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
18504	Opinion - opposed to hydraulic fracturing	I am writing to state my opposition to the proposed BLM plan to lease land for fracking development. Such development will lead to an increase in already poor air quality, water quality and quantity, and diseases such as asthma. When I first moved to the Central Valley, I did not know about the poor quality of the air. I needed only one medication to control my asthma. Now I need three to control it and I still rely on my rescue inhaler when I shouldn't have to. The additional polution caused by fracking will exacerbate health problems for vulnerable populations. The Central Valley receives more than 200 days of sunshine a year. Rather than extracting a finite resource, why not create solar farms on the proposed locations? This would create jobs! This would help improve the air! This would make the Central Valley a national leader in renewable energy. Thank you. Janice Ledgerwood	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12741	Opinion - opposed to hydraulic fracturing	I urge you NOT to pursue hydraulic fracturing in California. Hydraulic fracturing requires huge amounts of water--water that becomes polluted with numerous toxic and carcinogenic substances. These are substances that no wastewater treatment plant can remove. Pumping it underground is not an acceptable solution because it taints the entire water table making it unfit for people or animals. Water pumped underground also has negative effects on the geological structures causing sink holes and triggering seismic activity. California has serious issues with both the water supply and seismic activity. In addition, hydraulic fracturing extracts fossil fuels which, when burned, add to the carbon dioxide levels responsible for climate change/global warming. The effects are most clearly seen at the poles but they are starting to impact the rest of the globe, too. Already the endangered right whales are unable to feed in the Gulf of Maine because the ocean water is too warm for the tiny aquatic creatures they feed on whose numbers have fallen off sharply. We need to stop extracting fossil fuels and develop renewable energy sources. It can be done. The rest of the planet is signed on to do the necessary work. If Americans don't participate in this development we will be buying our solutions from other countries. This is our chance to become truly energy independent while making profits for American businesses. Please--don't blow this opportunity. Climate scientists have reached a consensus that we have 10-12 years to get our act together. We only have one planet. Don't make it unlivable for humans and all other life on earth.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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12526	Opinion - opposed to hydraulic fracturing	This is a dangerous fracking plan that threatens our health, our environment, and our safety in California. The proposed fracking plan threatens water supplies for rural and coastal communities and threaten the health of residents with toxic chemical emissions, such as methane, into our air. It increases the potential of more oil spills. It endangers the habitat of wildlife and humans. i Instead of moving forward towards greater protection of our open lands and nature, we are moving backward to more harmful actions.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
14495	Opinion - opposed to hydraulic fracturing	Dear BLM, There is no need to expand wells and drilling in San Luis Obispo. The current amount of wells and drilling should be downsized, in fact, to fall in line with California's sustainable energy plan goals, our local needs and tourist economy. First, Drilling for oil and gas does not fit with our goals for sustainable energy production and a greener economy. Solar and wind are quickly adding to meet our total energy needs. Nuclear, oil and gas are dirty fuels, and these are not products that help our green economy. Next, No state parks such as Montana de Oro, reserves like Irish Hills or even areas of interest near the Carrizo Plains should be included in any future planning of wells or drilling. These special places must be conserved for our future generations to enjoy. The visual impacts of drilling sites would negatively affect our tourist industry not to mention affect the people and wildlife that currently enjoy these resources. Thirdly, it's not worth drilling to potentially upset our water aquifer balance and disrupt our water resources, We have very limited resources on the central coast, in San Luis Obispo specifically, and contamination of our aquifers would be a huge impact to our current lifestyle. In summary, no more wells or drilling platforms are welcome in this county. They don't serve us or our states current or future needs. sincerely, jennifer jozwiak	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12482	Opinion - opposed to hydraulic fracturing	To Whom It May Concern, Our planet is burning up: we need to be supporting existing clean technologies, and continue to develop new, carbon-free strategies that are not going to increase the heat. As "environmentally sensitive" as David Bernhardt says fracking is, that's a lie, and fracking will only continue to add to the heating of the planet. Please drop this idea, and come up with a renewable and carbon-free plan to generate energy. Thank you. Jennifer Nelson	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12216	Opinion - opposed to hydraulic fracturing	We should be investing in clean energy, not going to extreme lengths to extract fossil fuels. Hydraulic fracturing has been shown to cause earthquakes, and more earthquakes are the last thing California needs.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12575	Opinion - opposed to hydraulic fracturing	The proposed fracking plan:undermines our health with toxic chemical emissions, like methane, into our clean air threatens critical water supplies for rural and coastal communities increases the potential of more oil spills endangers wildlife and their habitatsThis plan should not be approved.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12483	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Please do not do fracking on any of our public lands. It has been shown to poison groundwater. We cannot allow our precious groundwater to be poisoned - it becomes a very long term problem, especially when done for a short term profit. The few jobs that become available are also short term. Keep the health of our children in mind, and do not undertake this unfortunate project. Thank you, Jo Carson	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11244	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I'm very concerned about allowing fracking in California on public land. Fracking can contaminate ground water and increase the risk of seismic activity. The public lands in question sit over groundwater that supplies neighboring areas with water for agriculture and human use. Please think of the health of children, local agricultural workers, and native plants and animals in these areas. Geologic conditions in California also make fracking practices extremely hazardous. Fracking should not be allowed on our precious lands! No fracking in California!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12574	Opinion - opposed to hydraulic fracturing	Prior to authorizing fracking in California, the potential impact on earthquake hazards needs to be addressed. Fracking has been linked to earthquakes in Oklahoma and other areas. California's geology is much more susceptible to earthquakes. Therefore, fracking could induce much larger and damaging earthquakes.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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12225	Opinion - opposed to hydraulic fracturing	Our Earth is our only home We must be engaged in managing our precious resources with all the intelligence and wisdom that we have inherited. Fracking is a toxic and aggressive assault on our land and our water systems - using good, decent clean/fresh water and making it unusable and rendering it useless in a process that is truly a horror to the very essence of life. It must not be allowed or permitted to be pursued. In California or anywhere. Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12774	Opinion - opposed to hydraulic fracturing	I write in strong opposition to the proposed fracking plan. The proposed fracking plan:—undermines our health with toxic chemical emissions, like methane, into our clean air —threatens critical water supplies for rural and coastal communities —increases the potential of more oil spills —endangers wildlife and their habitatsTime and time again, Secretary Bernhardt proves he simply wants to roll back our progress -- instead of moving forward towards greater protection of our open lands and nature. Big Oil and proponents of fracking have caused irreversible damage that have destroyed precious habitats, killed wildlife, and devastated rural communities in our state. This practice must not continue and certainly not in my name.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
14700	Opinion - opposed to hydraulic fracturing	The Long Beach Gray Panthers, a nonprofit organization in Long Beach, CA with over 100 members, oppose the allowance of any fracking to increase oil extraction. Oil extraction through tracking uses resources that become polluted from the process and can never be returned to their original condition, creates unstable conditions in the fracked geology, and damages ecology beyond repair. We endorse a shift to green renewable energy that does far less damage to the environment and creates more value for communitites. Sincerely, Karen Reside Secretary Long Beach Gray Panthers	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
14343	Opinion - opposed to hydraulic fracturing	I would like to address the Trump administration's proposal to open up over one million acres of federal land in California to new fracking sites.I was born in the San Joaquin Valley and have lived here and in other parts of California my entire life. In the years since 1944, business interests have brought the San Joaquin Valley to its knees, environmentally speaking. They have done this through excessive agricultural acreage, over-drafting of our aquifer and rivers, destruction of wild habitat through urban sprawl, and poisoning of our air, land and water with petrochemicals. Yes, population growth underlies much of this, because we need the basics of life and a supporting economy, but the citizens of our state are becoming aware that environmental exploitation and forever types of destruction are anything but supportive of life.I dream of helping the Valley re-invent itself for coming generations. What form its economy might take to be both environmentally friendly and aesthetically appealing I do not pretend to know, but I do know that some present-day practices, if they continue, will make any good future unrealizable. Fossil fuel extraction, fracking in particular, is one of those. Some of the chemicals used in fracking will be in our land and water for eons. Some are known to cause cancer, others to interrupt hormone cycles. The methane and CO2 released through site leakage and as a by-product of natural gas as a fuel contribute to the most perilous situation ever faced by the human race, climate change. We face possible extinction because of it.Much of the federal land proposed to be opened up for fracking is not very appealing, should that matter to some deciders (it shouldn't). Other areas are among the most beautiful places on earth, and I refer to Yosemite, Kings County, and some unspoiled parts of our Coastal counties. But all are home to living things that are part of the web of life, and none should be poisoned, the least reparable of the many harms we do to our planet.In short, I am adamantly opposed to fossil fuel extraction, and fracking in particular. Rather than open new sites, we should ban fracking now. Our future depends on doing the right thing.Sincerely,Kathleen Miles	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12714	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I oppose hydraulic fracturing associated with oil and gas development on public lands within the Bakersfield Field Office planning area, which includes Fresno, Kern, Kings, Madera, San Luis Obispo, Santa Barbara, Tulare and Ventura counties. The proposed fracking plan: -- Undermines our health by emitting chemicals like methane into our clean air. -- Threatens critical water supplies for rural and coastal communities. -- Increases the potential of more oil spills. -- Endangers wildlife and their habitats. We are guardians of the Earth and must protect our environment and the health and safety of all who live here.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Comment Number	Issue	Comment	Response
10536	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Opening up new public lands to fracking and other fossil fuel extraction methods is contrary to California's commitment to building a sustainable future without reliance on fossil fuels. California has a statutory target of reducing greenhouse gas emissions to 40 percent below 1990 levels by 2030, and a plan to reduce petroleum consumption by 45 percent by 2030 to meet this target. We need environmentally and economically sound energy strategies focused on the development of renewable energy sources. Why despoil our environment to extract a resource we have decided to move away from? Fracking involves the use of toxic and poorly understood chemicals. These toxic chemicals get into the groundwater, especially in California, where fracking operations are dangerously shallow. Our communities, waterways, wildlife, and outdoor economy will all be put at risk. Let's not open our beautiful public lands to fracking and drilling. Let's not sacrifice our health, wildlife and climate to profit the oil and gas industry. In a state where water is so precious — to agriculture, human populations, and wildlife — clean water is worth more than oil. I was born and raised in this state and whoheartedly believe we need to value the natural resources that benefit people and animals. Underground oil, particularly fracked oil, doe snot benefit us. Don't do it!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
20596	Water Resources	I am concerned about water quality. There is a correlation between well density and the locations where TDS exceeds the Maximum Concentration Level and nitrates are high. Hydraulic conductivity of well casings are orders of magnitude greater than sediment. VOCs can move horizontally under the soil into wells and come out of wells (from article: Potential Impact of Legacy Well Constructions on Water Quality in Supply Wells by Robert M. Gailey) So don't drill in high density well areas found in parts of the Sierra Foothills. Leaking fracking wastewater There is a layer of granite usually containing uranium and arsenic deposits in the Sierra Foothills. SafeCast Organization's air monitoring data showed radioactive fine PM 2.5 dust on many roads in the Sierra Foothills, east of Bakersfield, and north of LA maybe due to past application of oil wastewater brine. In Fresno, tap water wells exceeded the maximum level of radioactivity & were shut down. There is no threshold under which there is no harm from radiation. With radium exposure, there is a 50 year lag time before becoming ill. (from Univ. of Pennsylvania Superfund Research Program. In Lost Hills where fracking occurred, there was an increased incidence of thyroid disease, skin rashes, and respiratory problems (from a study by Clean Water Action.org). A gold mine in Sierra County is releasing more arsenic than legally allowed and could not reduce its arsenic. East of Fresno, there is copper linked to schizophrenia. The higher amounts of Barium & Strontium in oil wastewater in Bakersfield have long term health impacts. Manganese found in fracking wastewater was linked to a Parkinson's like Disease in Latvia. Also, closed-down fracking wells can act as vacuums and draw up wastewater & VOCS (from As You Sow .org webinar). Some of the groundwater wells in California near oil & gas wells or their wastewater ponds were contaminated with VOC's, thermogenic gases, or radium (from USGS Scientists' presentations in CA Water Board's Oil & Gas Stakeholder's Meeting). Most of the water wells near fracking wells in PA, were contaminated with methane (from Sierra Club Frack Facts).	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
15500	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I write to plead with you to say "No." to the people who want to frack for gas in 11 counties in our state. This scheme would allow fracking under Yosemite. It would create absolute havoc to the plant and wildlife in All the areas effected. Nothing good can come of this. Land that has been fracked has shown the consistant damage that fracking has done to the it and the people. There is no legitimate debate about that. How they could think that the people of CA would go for this, would ignore this, would let it slide by I can't fathom. In fact the bill AB 342 will prevent any transportation of fracked gas. I am very confident that it will pass. But, on the off chance that something goes wrong we need you to step up and ensure that this idea never gets off the ground. Thank you. Most Sincerely, Lee St. John	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12801	Opinion - opposed to hydraulic fracturing	We must make tracking illegal. It ruins our water supply. It threatens our health. Tracking is dangerous to the environment and safety! STOP FRACKING, NOW!!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12167	Opinion - opposed to hydraulic fracturing	Dear Acting State Director Joe Stout, Fracking is an abomination. It destroys the environment by polluting our earth and air. Do not approve new wells anywhere. Climate crisis is real and fracking exacerbates the degradation of our environment. Sincerely, Ms. Linda Busek 240 Aspen St Arroyo Grande, CA 93420-3068	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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19894	Opinion - opposed to hydraulic fracturing	California's carbon emissions must be reduced or offset by a total of 5.6 billion MTCO ₂ e over the next 25 years under Governor Brown's Executive Order B-55-18 of 2018; if burned in California the end use emissions from oil produced by the proposed 400 new conventional and fracked wells could consume as much as 20% — 1.1 trillion MTCO ₂ e — of that total budget. USEPA reference listed in Table 4.1.5 (pages 57 and 58 of the SEIS), you arrive at 138,000 MMTCO ₂ e end use emissions from oil combustion per well, per year — 3,700% more than the annual per-well estimate listed. This is SUICIDE. Keep it in the ground!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12576	Opinion - opposed to hydraulic fracturing	The idea of fracking in a state that has some sort of seismic jiggle every few minutes is appalling. Please review what data there is covering the problems brought by fracking and how California is such a poor candidate for the drastic process.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
22336	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Fracking is the process of drilling into the earth followed by the injection of a high-pressure water, sand, and chemical mixture to release natural gas or oil. The mixture contains chemicals such as iodine-131 and radioactive isotopes of elements. Studies have found that fracking has an insignificant environmental impact, and fracking was exempted from regulation under the Safe Drinking Water Act. The impact of fracking is controversial. Research shows that fracking impacts drinking water and air quality, and human health. The impact of fracking is ignored because of political influences and pressure from the fracking industry. Fracking should be discontinued. Spills of harmful chemicals can occur that pollute surface water resources and ground water resources. The 2016 EPA evaluation of the impacts from hydraulic fracturing concluded "Spills of hydraulic fracturing fluids and additives during the chemical mixing stage of the hydraulic fracturing water cycle have reached surface water resources in some cases and have the potential to reach groundwater resources." The EPA provides guidance for preventing chemical spills, but they still occur frequently. Between 2006 and 2011 in 11 states, 151 cases of chemical spills on or near a well pad were recorded. Clean drinking water is a limited resource that a privileged portion of the global population enjoys. With renewable technology taking a growing role in energy and power production, fracking for natural gas and oil should be phased out and not developed further. Fracking is a major source of methane emissions. Methane is a greenhouse gas that is thirty times more potent as a heat-trapping gas than carbon dioxide. The total methane in the atmosphere has been rising by 27.5 million US tons per year. NASA performed a study on the three major sources of methane emissions: microbial production in wet, tropical environments, leaks from oil and gas production, and global fires. NASA found that global fires have been declining and that seventy percent of the annual increase in methane is due to fossil fuel production. Methane emissions are responsible for approximately one quarter of human-caused global warming. Global warming is projected to raise Earth's temperature by two to six degrees Celsius by the end of the 21st century. This will have unprecedented effects on the expansion of the ocean, the destruction of oxygen producing phytoplankton, and the extinction of animal species. Reducing methane gas emissions is dependent on the discontinuation of fracking for oil and gas. Many low-income communities in California and other states are being disproportionately affected by fracking. Drilling and fracking sites tend to be located close to low-income areas. This happens because low-income areas lack representation and more wealthy policy makers don't wish to have pollution in their own communities. A recent study near Bakersfield, California found that black and Hispanic Americans tend to live in communities that are exposed to more pollution. The study also found chemicals linked to cancer and weakened immune systems in those communities. The Bureau of Land Management plans to open a large section of public lands to drilling and hydraulic fracking. This will create an even greater environmental injustice on low-income communities. New well sites and fracking would further threaten air and water quality for these groups. Fracking pollutes the air and the water. Fracking impacts human health and the lives of all species on this planet. Fracking creates environmental injustice. New fracking projects cannot be allowed. The BLM should not move forward with its plans. Sources https://www.sourcewatch.org/index.php/Environmental_impacts_of_fracking https://www.epa.gov/sites/production/files/2016-12/documents/hfdwa_executive_summary.pdf https://thinkprogress.org/nasa-study-fracking-global-warming-0fa0c5b5f5c7/ https://insideclimatenews.org/news/05062015/fracking-has-contaminated-drinking-water-epa-now-concludes https://www.wilderness.org/articles/blog/new-drilling-and-fracking-california-will-hurt-latino-communities	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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11855	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	More fracking on California land is not acceptable. California is committed to using less fossil fuel not more. We are committed to a green infrastructure not one that causes more pollution and contaminates our ground water. I am against any move by the federal government to increase fracking or exploration for oil or minerals on our public land in California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
22213	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	As a resident of the Southern Sierra Nevada and a family heritage that encompasses activities and residence in the Tulare County region of the Sierra Nevada for over 140 years, I have been deeply involved in the preservation and careful planning for the environmental health, long-term financial benefits and historic preservation of our human activities and structures in the region. It is of great concern to me that your present plan to institute hydraulic fracturing appears both extremely short-term and lacking in defined safeguards, procedures and implementation of the process. Without definitive, easily accessed and public disclosure of the effects on the vast wilderness and recreational areas that have been carefully preserved for so many decades, the current incomplete, inconclusive proposal has little validity as an Environmental Impact Statement. Plans for the destruction caused by construction, roadways, already compromised air quality in the area, and especially groundwater and surface water contamination, for short-term, profit -motive industry purposes, needs to establish without any doubt or equivocation that it is absolutely necessary for the health of the Southern Sierra Nevada and Tulare and Inyo Counties. T In my experience as a Southern Sierra historian, writer, public contributor to various plans regarding environmental plans for the Southern Sierra Nevada (Sequoia National Monument, Sequoia National Park, Sequoia National Forest) I find this proposed environmental state to be lacking in validity. It needs to go back to the drawing board! Louise A. Jackson	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
19569	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	BLM Bakersfield Field Office 3801 Pegasus Drive Bakersfield, CA 93308attn: Carly SummersRe: Hydraulic fracturing Draft SEISDear Carly,It was a pleasure seeing you again at the Bakersfield Hearing, and I so appreciated your information on granite versus valley soils. I should have thought of that myself.I am most concerned with climate chaos that the United States has experienced in the last several years. Each new oil and gas lease the BLM offers brings us years of carbon pollution that we cannot afford. The droughts, insect invasions, fires, floods, tornadoes and hurricanes are examples of climate chaos produced by CO2 in our atmosphere. Scientists agree that we have to stop fossil fuel extraction, and immediately phase out the production and use of fossil fuels. Four new wells a year is too many, considering how many new ones are drilled along Granite Road every year.I am next concerned about the health of San Joaquin Valley residents. I moved to Delano in 1974. Thirty years later, I developed Adult On-set Asthma that required many doctor visits over several years to diagnose and determine a helpful treatment. This disease cannot be cured, only kept in check by twice a day inhalation of extremely expensive steroid medication. Cause: poor air quality.As a retired Child Development professor at Bakersfield College, I had participated with joy in volunteering to work with the youngest children at the one room school house in Woody, near which I had moved. Unfortunately, the steroids make a person highly likely to catch any and everything lung related. After two very expensive bouts with pneumonia, I had to give up my volunteering in Woody, where I had learned to love those children, helping in the school, and getting to know the parents. I also had to give up a 35 year run of backpacking in the high Sierras, which was my main activity in the summer, with friends and/or family.Oil companies, with their air polluting extraction or manufacturing, have never had to reimburse me or Medicare for my many doctor visits, medications, or hospitalization. Nor have they been required to aid the children growing up near their operations, or in the Valley as a whole. Our children have extremely high rates of Asthma, due to our poor air quality. Asthma may affect their lungs throughout their lives, a horrifying idea to consider.In conclusion, I am asking you to make permanent the Moratorium on oil and gas leasing on our BLM lands. BLM must help save the planet from rapidly increasing temperatures. Our children and their children will suffer greatly if each of us does not do our part in stopping climate chaos. BLM's part is in not offering more oil and gas leases for drilling or fracking.Sincerely,Lucy Clark HC 3 Box 88 Granite Station Bakersfield, CA 93301-9124	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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12636	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	<p>The Supplemental EIS for the Bakersfield Field Office Resource Management Plan (RMP) responds to a May 2017 settlement agreement with the U.S. District Court for the Central District of California to analyze issues and potential environmental effects of hydraulic fracturing. Decisions made by this analysis will not affect valid existing rights or the authority of private landowners or other surface management agencies. The 2014 Bakersfield Field Office RMP determined areas available for oil and gas development on BLM-administered public land and mineral estate in the Bakersfield Field Office planning area, which encompasses approximately 400,000 acres of public land and an additional 1.2 million acres of federal mineral estate. In August 2018, the BLM published in the Federal Register a Notice of Intent (NOI) to prepare a Supplemental EIS and potential RMP Amendment. The BLM received approximately 8,400 comments during the NOI's 30-day public scoping period, of which 211 comments were unique and substantive. Public scoping during the NOI helped identify issues to be analyzed, including air and atmosphere, water quality and quantity, seismicity, special status plants and animals, minerals management, visual resources, fossils and soils, Native American and cultural values, livestock grazing and socioeconomics. Based on the analysis and public feedback, changes to the existing RMP would not have been proposed at this time. Now, Secretary Bernhardt is attacking California with a dangerous fracking plan that threatens people's health, environment, and safety. The proposed fracking plan will cause conditions that will undermine the health of the area with toxic chemical emissions, like methane, that would be released into the air. It would threaten critical water supplies for rural and coastal communities and increases the potential of more oil spills. Worst of all, this plan endangers wildlife and their habitats at a time when we can least afford to cause more damage, given the existing climate crisis. Time and time again, Secretary Bernhardt has proven he simply wants to roll back environmental progress -- instead of moving forward towards greater protection of our open lands and nature. It is your task as the BLM to see to it that he does not have carte blanche to destroy wilderness for short-sighted profiteering. Big Oil and proponents of fracking have caused irreversible damage that have destroyed precious habitats, killed wildlife, and devastated rural communities in our state. Please don't give them a license to do even more damage.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>
12729	Opinion - opposed to hydraulic fracturing	<p>I oppose the Bureau of Land Management's (BLM) draft supplemental environmental impact statement that would open up 1,011,470 acres of public land and federal mineral estate in Fresno, Kern, Kings, Madera, San Luis Obispo, Santa Barbara, Tulare and Ventura counties to fossil fuel extraction. According to the BLM, about 90 percent of new oil and gas wells on public lands are fracked. Fracking is an extreme oil-extraction process that blasts toxic chemicals mixed with water underground to crack rocks. Expanding extraction of dirty fossil fuels on our public lands threatens the health of our communities and the future of our climate. In the name of our health, wildlife, and climate, I urge you to prevent oil companies from threatening California lands with new leases, drilling, and fracking for the following reason: Fracking presents unacceptable risks to our health and safety. A 2015 report from the California Council on Science and Technology concluded that fracking in California happens at unusually shallow depths, dangerously close to underground drinking water supplies, with unusually high concentrations of toxic chemicals that are harmful to human health and the environment. Take for example the town of Lindsay. Lindsay is a small town in the San Joaquin Valley, with an economy highly dependent on citrus, olives and other agricultural products. In the 1980's Lindsay was hit with two severe freezes having devastating effects on the community and then the Lindsay Olive Plant closed and the company went bankrupt. The olive plant was designed (the company promised safety) so that the lye used in the making of olives would not leach in any way into the ground. As is often the case, the lye and other harmful chemicals did leach into the underground water wells and contaminated them. The City of Lindsay had to shut down those wells and develop new sources of water. New wells and pipelines are all very costly, along with the continued monitoring of those old wells, new wells, and the Lindsay Olive plant conditions, etc. These costs have been and continue to be the burden of the City of Lindsay and its residents. Not the olive plant officials, not the designers of the "safe containment system", but the people in the community. Time and time again the people of this valley have been burdened with costs of schemes to make money and always we are promised they will be safe. Always. It is time to change. Time for the federal government officials to respect the people of this valley, the serious water quality and water management issues we face, and not add to them by allowing additional harmful environmental impacts such as opening lands for fossil fuel extraction. For these reasons, I urge you not to open federal lands for oil and gas drilling and fracking. Our people's health, wildlife, and climate cannot afford the grave threat of new fossil fuel development on California's beautiful public lands.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>

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12653	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	The proposal to extract fossil fuels from public lands, using fracking, is both absurd and vile on many levels. Destroying public lands and the surrounding environment, including polluting the air with all the equipment and vehicles, polluting the aquifer forever with poisonous chemicals, potentially creating earthquakes that impact stability for miles surrounding the site, and destroying wildlife habitat... all to extract fuels which we already know are destroying the earth via global warming.....gee, what a plan! At least some of you at the BLM have the education and common sense to understand that there is nothing positive about this plan. The only possible excuse is that it will continue to enrich the fossil fuel/ pollution industry....but as public servants you will never see a dime of that money....and your children will pay dearly with their health and safety.. Margaret Gallagher	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12657	Opinion - opposed to hydraulic fracturing	I urge you to ban fracking anywhere in CA. I lived in NY until 2016 and saw first hand the damage to the water and quality of life where fracking was done. The additional risk of earthquakes makes this an extremely poor idea. Do not frack.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
15277	Opinion - opposed to hydraulic fracturing	I am writing to protest the plan to allow fracking in central and southern CA. I object to this proposed CA fracking plan for the same reason that I have objected to the Jordan Cove fracked gas terminal and pipeline. The greenhouse gas emissions from fracked gas gently enhance rather than lessen the effects of climate change. Pipeline leaks contaminate the soil and water, two life supporters without which life in any form on this planet cannot sustain itself. Pipeline leaks or breakages increase the risk for more oil spills. Wildlife habitats in forest areas and marine species in estuaries, rivers and streams are also at risk from soil and water poisoning. Furthermore, fracking is part of fossil fuel production. Fossil fuel is a non sustainable, non renewable energy source that is a major environmental pollutant and which contributes to man made climate change. I cannot sport the continuation of such a myopic energy vision when renewable and sustainable energy has a much more promising and pollution free future, which would nurture and not threaten life as we know it. Respectfully submitted, Marilyn Costamagna 2401 Acorn Way Medford, OR 97504 5412453965 gypsywind55@gmail.com 6 June 2019	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
18948	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	To: Joe Stout, BLM Acting State Director Re: proposed fossil fuels projects on federal lands in California Our use of fossil fuels must be curtailed over the next twelve years to curb the effects of climate change, according to the scientific consensus that few of us disagree with. Therefore, drilling and fracking for oil and gas must be curtailed. To open federal lands for this purpose at this point makes absolutely no sense. California cannot go forward as one of the global leaders in the battle against climate change while also allowing our environment to be polluted by new drilling and fracking. Our groundwater resources are incredibly precious and already scarce as we head into a hotter and dryer future. We must get our priorities straight. Oil and gas production also imperils air quality and our health. No one seriously disputes any of these negative effects, and the risk of ignoring them is increasing exponentially. Protecting our federal lands is the least we can do. Thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12479	Opinion - opposed to hydraulic fracturing	This is a general comment in opposition to the proposal by the federal government to increase fracking in the State of California. The federal government must not frack any land in California, as all fossil fuels are now required to stay in the ground, to prevent further damage by global warming. We must not emit any more of the pollution that causes global warming and global climate change. I am deeply concerned about the wildfires we've had here in California, and about increased flooding and also increased droughts. All these climate dangers are occurring with higher intensity and frequency. We must stop emitting methane, CO2 and other climate warming pollutants. Fracking always involves big leaks of methane gas, and we just cannot afford any more such pollution, if we are to survive as a society for the next 50 - 100 years. The climate changes are now a crisis, and we must stop them.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

Comment Number	Issue	Comment	Response
11796	Opinion - opposed to hydraulic fracturing	Re Hydraulic Fracturing Draft Supplemental EIS. Considering California's history of earthquakes, it is a no brainer not to do fracking which has been documented to cause te earth to quake. In addition, the Central Coast is already facing grave impacts from climate change, including rising sea levels, drought, and a nearly year-round fire season. The administration's plan to open public lands to fracking and oil development is a step backward given the increasingly urgent warnings from our scientific community on the unchecked effects of climate change. The Central Coast has a long history of environmental stewardship and we must continue speaking out to protect our clean air, open spaces, and wildlife habitat. Our community and me specifically is whole heartedly against this fracturing plan. Lee Perkins Atascadero	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
17999	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	I am opposed to oil and gas drilling on or off shore in California, as well as fracking for the purpose of fossil fuel production. We have little time left to reduce the effects of climate change, and further fuel production is taking us in the wrong direction. California has already shown the benefits of moving toward renewable sources of energy in reducing air, land and water pollution, as well as job creation. The state needs to continue to lead the nation in doing the right thing for our country and planet, not the thing we've always done.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12615	Opinion - opposed to hydraulic fracturing	Oil is going to be less in demand and the ruination of our earth should not help those greedy oil companies any more. The oil from fracturing is didrty and costs ore to clean. The fracturing pollutes the water supply. The fracturing oil pipes can leak and destroy life. You know all that. Please take a moral and ethical stand against a project that harms life more than more dirty oil can help. Lives ruined are foreve. Oil is temporary. Stop the fracturing!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
19068	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Dear California BLM Acting State Director Joe Stout I oppose fracking and oil and gas development on federal lands in California. I realize that under the current administration it is not always wise to use the term climate change or climate crisis in any argument. However,I will. There is virtually total agreement among scientists that human beings are wrecking havoc upon our plantet by increasing the load of CO2 and methane in our atmosphere. I want my children and my grandchildren AND the millions of people living in coastal areas and drought prone areas not to have to experience the ravages that climate change will bring, (and is bringing). It is totally unacceptable to open federal lands for oil and gas drilling and fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12264	Opinion - opposed to hydraulic fracturing	A terrible idea. Fraking is very destructive and w now know that a lot of methane is released at each well head.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12747	Opinion - opposed to hydraulic fracturing	Please protect the real needs for clean air and water of people and wildlife. Ensure we have a habitable future!! am concerned that the proposed fracking plan undermines our health with toxic chemical emissions, like methane, into our clean air, threatens critical water supplies for rural and coastal communities, increases the potential of more oil spills, and endangers wildlife and their habitats.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
11878	Opinion - opposed to hydraulic fracturing	Fracking is dangerous for their workers, dangerous to people living near fracking sites due to fires and explosions. Fracking causes water pollution and does not have enough environmental controls. Due to the nature of the business there is not long term commitment from fracking companies to invest in the communities they might affect. Fracking affects the flora and fauna in the area where they do business. We need to move on from this dirty unsafe way to find oil and need to invest in green solutions instead. Please to not allow fracking in my beautiful state.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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12696	Opinion - opposed to hydraulic fracturing	Secretary Bernhardt is attacking California with a dangerous fracking plan that threatens our health, our environment, and our safety. The proposed fracking plan: 1. undermines our health with toxic chemical emissions, like methane, into our clean air- GREENHOUSE GASES 2. threatens critical water supplies for rural and coastal communities= YOU CAN LIGHT THE WATER WITH A MATCH! 3. increases the potential of more oil spills- ENDANGERS EVERY LIVING BEING 4. endangers wildlife and their habitats- ENDANGERS ARE NOT WORTH THE RISK WHEN CLEAN ENERGY IS READILY AVAILABLE. Time and time again, Secretary Bernhardt proves he simply wants to roll back our progress -- instead of moving forward towards greater protection of our open lands and nature. Big Oil and proponents of fracking have caused irreversible damage that have destroyed precious habitats, killed wildlife, and devastated rural communities in our state. We need safe renewable energy sources that do not pollute and do not increase greenhouse gases. Please stop this insanity in favor of a responsible safe future for all generations- not the immediate corporate greed we see here promoted over our concerns above. Pinch yourself- do you feel pain? If so, then do not allow this to happen, as the pain will be unbearable knowing that you did nothing to prevent this disaster from happening to our environment. Thank you for your honest consideration. Nina LeBaron	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
12829	Opinion - opposed to hydraulic fracturing	Big Oil and proponents of fracking have caused irreversible damage that have destroyed precious habitats, killed wildlife, and devastated rural communities. It undermines our health with toxic chemical emissions, like methane, into our clean air. It threatens critical water supplies for rural and coastal communities. It increases the potential of more oil spills and endangers wildlife and their habitats. Please say no to this horrible idea.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12321	Opinion - opposed to hydraulic fracturing	Drilling into the earth to inject toxic materials with water to try to get out fossil fuel? Now what could possibly go wrong? • Spilling the toxics aboveground • Fouling subsurface water • Causing earthquakes • Actually finding and releasing natural gas, a climate changer • Producing fossil fuels to burn, an atmospheric disaster in the long run Therefore, I urge all fracking be ended and future plans to frack be denied!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12591	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	As a resident of San Luis Obispo County, Ca., I strongly oppose the projected plan by the U.S. Bureau of Land Management to drill oil and gas from our public lands on the Central Coast of California. Following through with this project would pollute our ground water making it unsafe to drink or use for irrigation. Fracking destabilizes the layers of earth in the vicinity, thereby causing earthquakes, as has happened in many areas of Oklahoma and Texas. People should not have to buy water from outside sources for drinking and daily household uses because their tap water has become polluted and is unfit for consumption for humans and animals. The unsightly drilling equipment is not wanted in our beautiful area, and we will not tolerate our water and soil being polluted in this manner ! We will fight this in District Courts if it is pursued !!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24637	Opinion - opposed to hydraulic fracturing	It contaminates groundwater... It destabilizes the layers of earth and has caused earthquakes... the oil is impure and would be dangerous.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Comment Number	Issue	Comment	Response
12816	Opinion - opposed to hydraulic fracturing	<p>This world is messed up! As a daughter of a green activist mom, I know how important it is to be aware of our environment; especially how the elements—earth, air, fire, and water—work together. When you mess with one thing, you mess with everything. Sadly, I have been born into a world that is systematically trashed and polluted by corporations that care more about profits than life. Our air is polluted by cars, coal, chemicals and factory farms. Fire is channeled into weapons that murder and keep killing for centuries to come thanks to depleted uranium. The earth is a toxic waste dump. Oceans are dying from acidification, oil spills and radioactive releases while tons of plastic clog sea currents. Fresh water is scarce and people go thirsty all over the planet while nuke plants, factory farms and industrial manufacturers use and abuse it daily. I know these things to be true. I know that the combined consequence of corporate pollution, toxic business-as-usual political corruption, public apathy/stupidity and consumer-driven resource wars is making our home here on Earth uninhabitable. Where is the outrage? I attended Salmon Creek Middle School in Occidental, California and studying the environment is a big part of our curriculum. In my last year there, I was required to focus on one subject to share with my 8th grade class. I chose hydraulic fracturing, or fracking, a process invented in the 1940s by Halliburton that involves injecting millions of gallons of fresh water laced with 750 or so undisclosed chemicals into the ground at high pressures (up to 15,000 pounds/sq. inch) to blast apart rock and shale bedrock (up to 10,000 feet down) in order to force natural gases and fossil fuels from the earth. It takes up to ten million gallons of water just to frack one well and there's more than 45,000 wells already drilled in the USA with half a million more planned. Unbelievably, the fracking companies don't have to tell anyone what chemicals they are using as good old Vice-President Cheney made sure the EPA had no oversight on fracking by making the process proprietary (i.e., the company's secret recipe for disaster). The truth is that at least 65 probable fracking chemicals are federally listed as hazardous and these toxins are now flowing into our aquifers, groundwater, reservoirs, and residential wells destroying people's water sources without any oversight or protection. A recent EPA study detailed more than 1,000 complaints about tainted water, severe illness, and death of livestock and fish from people living near fracked gas wells. People complained of respiratory ailments, skin lesions, nerve damage, asthma, heart troubles, oozing blood from the eyes, and cancer. Water near wells has been found to be laced with methane, diesel fuel, toxic metals, radioactive elements, and a host of cancer-causing chemicals including benzene, toluene, ethylbenzene, xylene and selenium. Residents say their well water is slimy, brown, frothy, flammable and unusable (not to mention the small earthquakes fracking sets off). Imagine being able to light the water from your own tap on fire! . The EPA sent letters to 9 major corporations asking them to voluntarily release their fracking chemicals list. (The key word here is "voluntary.")The letter went on to say, "To the extent that EPA does not receive sufficient data in response to this letter, EPA will be exploring legal alternatives to compel submission of the needed information." Great, if I do anything wrong my mom takes my phone away while fracking corporations get empty threats, government subsidies, and politicians willing to sell their souls to protect them in exchange for election contributions. This is not democracy; it's fascism. Why isn't fracking illegal? Well, only 4 out of 31 states have passed any fracking regulations at all. Meanwhile, two terrible bills just passed in Pennsylvania. One makes it illegal for local towns/municipalities to block the oil and gas companies from fracking them to death and the other forbids doctors from sharing information about fracking chemicals, illnesses and treatments—a complete disregard of their Hippocratic oath. Why do polluters get a free pass while the rest of us get polluted drinking water? If there's nothing wrong with fracking then why pass legislation that stops anyone from knowing anything about it? Why is everything so secretive? Why are people nationwide losing their right to clean water while corporations are subsidized by our tax dollars to make billions off our shared resources? What will be left for my generation but a polluted Earth and resource wars? Admittedly, my generation is not very aware of the approaching nightmare to come because the corporate-owned media lies to us and distracts us with meaningless crap in the form of cell phones, iPods, televisions, computers, and video games. How are we supposed to survive if we are all sitting on our butts texting the person right next to us? Cuts in education are dumbing us down, making us illiterate, unaware, selfish narcissists. This has to stop! Continuous consumption of the planet's resources is a dead end for every living thing on the planet. To build a sustainable future, the bozos running this world have to leave us with something to work with. Every well that is fracked diminishes our ability to survive. I want a future that includes clean air, wild rivers, gorgeous trees, diverse wildlife and children born with 10 fingers, 10 toes and 2 eyes. I want a new America – one that is willing to look at the truth and do the right thing, like ending the fracking nightmare and defending our planet. Our survival depends on it.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.</p>

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12461	Opinion - opposed to hydraulic fracturing	In the interest of protecting the environment for us, and future generations, please do not allow fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12461	Opinion - opposed to hydraulic fracturing	Please, in the interest of protecting our environment a clean environmental legacy for future generations, do not allow fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12849	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I oppose any Hydraulic Fracturing (fracking) in the State of California, and specifically in the Bakersfield BLM region. Hydraulic Fracturing is a highly intensive and an ecologically damaging process. Valuable water is wasted to process this product. Our water is better used elsewhere (sustaining people by growing crops, providing clean water, and water in our natural environment). Fracking is an old technology, and it is long overdue for us as a State, Country and Human Race to move beyond this archaic and intensive fuel. Oil extraction is short sighted and must end. Fossil Fuel extractions are literally limited, and we are smart enough people to come up with other methods to fuel our society. Please only pursue "green" technologies that will help improve our local and global society, while preserving our local environments. We can't replace the creeks we swim in or the hills full of wildflowers in Spring. Our intact environments are so much more valuable to our greater society. Fossil fuel extraction projects like this Hydraulic Fracturing will only benefit & profit very few (already wealthy) people. It is the responsibility and obligation of the BLM & the United States government to protect the public resources for the public - not private profits. I do not support further damage our beautiful California for futile fossil fuel extractions. Please do not approve this Hydraulic Fracturing project. The public demands better fuels for a sustainable future.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12502	Opinion - opposed to hydraulic fracturing	The Central Valley of California already has some of the worst air quality in the nation. There are communities with no potable water available due to agricultural chemical contamination and damage to the aquifer from oil extraction methods. The hard working people of this region deserve better. Also, as a leader of the Elders Climate Action national organization, I know that the future of our planet, of my grandchildren and all life depends on halting fossil fuel extraction. There are now clean, renewable energy sources that are cheaper to use than fossil fuels. Building wind and solar in this area makes much more sense- economically and for the health of it's residents. Thank you for considering my comments.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12717	Opinion - opposed to hydraulic fracturing	To Whom it May Concern; May 22,2019 I wanted to state my abhorrence to fracking in my state. As Californians, we are under constant threat to our safety and infrastructure in regards to earthquakes. There are too many concerns to elucidate here but I believe it would be reckless and fool hardy to allow fracking at all. We all know what happened in Oklahoma since fracking began there. My cousin lives there and has reported to me that it is true Oklahoma now has more earthquakes per year then we do here. Can you imagine that? I find it incredulous and reprehensible that this scientifically questionable practice is being entertained at all! We must quickly move toward clean and renewable energy just as if our very lives dependant on it because they DO. It has also come to my attention that private land owners have sold their property to the fracking companies for an obscene amount of money. I call that blood money because in the end in may be the populace of the L.A. basin who suffer because of greed and avarice. Please do not allow this practice to get a foothold here, you have the power to stop it. Sincerely, Sally Jo West R.N.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12787	Opinion - opposed to hydraulic fracturing	The problems caused by fracking are already well known. Why the public has to point them out again, I don't know. Government says its principal job is to work on behalf of the nation and its citizenry. But proposals like this hydraulic fracturing draft supplemental EIS teach us otherwise. Except in rainy years like this one, CA has a problem with water. So much has been withdrawn from aquifers that there is a subsidence problem in some places in the Central Valley. Chemically-contaminated fracking water doesn't stay in one place--it follows the route of all ground water and thus threatens the meager ground water supply CA will need in future dry years. It is insanity to threaten that resource. It is also insanity to infuse earthquake prone land with doses of water. Just ask the people who live near the thermal area The Geysers who experience constant rumbles and cracked walls from the pumping of waste water into the thermal system. Then there is the question of emissions that foul the air. Any one of these and other reasons is enough to make wisdom opt for a ban on hydraulic fracturing. I sincerely hope wisdom works at the BLM.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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12600	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	The proposed fracking plan:undermines our health with toxic chemical emissions, like methane, into our clean airthreatens critical water supplies for rural and coastal communities increases the potential of more oil spills and endangers wildlife and their habitats. Thus, I heartily oppose the Interior Dept.'s plan to introduce fracking to these regions.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
20659	Opinion - opposed to hydraulic fracturing	We DO NOT want fracking in California. Period. Fracking wastes scarce water and pollutes groundwater. Fracking pollutes the air and causes illness in adjacent communities. Fracking causes earthquakes. Stop ALL fracking in California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12350	Opinion - opposed to hydraulic fracturing	I am writing to state my objection to allowing hydraulic fracturing in these California locations. The process is way too risky as it has the potential to destroy the geologic system and possibly to contaminate the area's drinking water!. These health and environmental concerns should be considered more important than letting a company generate revenue!!!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12538	Opinion - opposed to hydraulic fracturing	The process of hydraulic Fracking relases methane which is 20% more harmful to the ozone then fossil fuels. The chemicals used in the process seap into natural waterways because the concrete breaks or disintegrates. These are facts, not opinions. The chemicals used in the water during hydraulic fracking are not disclosed and the companies are not subject to the rules and regualtions of the Clean Water Act. The storage of chemicals used in fracking are volitale and have caused a number of dangerous accidents. In addition, states like Okalahoma that have been practising fracking, have had an earthquakes and sinkholes as one of the unforeseen consequence from fracking. Fracking contaminates our scarce water supply, destroys the ozone during the rpocess, and makes earthquakles happen more frequently. I am against fracking and belive we should invest in green energy such as wind and solar. If you don't have the humanity to Ban Fracking, at least don't expand it. What you do today will impact future generations. Thank you Susan Newman 895 61st street Oakland, CA 94608 510.985.1914	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12758	Opinion - opposed to hydraulic fracturing	I am writing to oppose the proposed fracking plan. Catastrophic climate change is already causing havoc, habitat destruction and loss of life around the globe. We must immediately focus on alternatives to fossil fuels. In addition, it has already been factually demonstrated that hydraulic fracking undermines our health with toxic chemical emissions, like methane, into our clean air; threatens critical water supplies for rural and coastal communities, a particularly dangerous threat for water dependent agricultrue in California; increases the potential of more oil spills; and endangers wildlife and their habitats. We must not continue to imperil life on our planet.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
18741	Opinion - opposed to hydraulic fracturing	Fracking pollutes the ground water, and creates more air pollution as well as has environmental impact. Why is this a good idea when there are other clean energy sources that would create jobs. Let's spend our money on training the next generation. Sincerely, Tara Bernstein Seattle WA	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
15092	Opinion - opposed to hydraulic fracturing	As a citizen of California and an environmentalist, I ask the Bureau to reject the proposal to open these lands to fracking due to environmental degradation, potential for groundwater contamination, and risk of increased geological events.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.

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12588	Opinion - opposed to hydraulic fracturing	1. I am a resident of Los Osos. We are dependent on ground water as our only water source. The chemicals used in fracking could easily get into our underground supply. Our water is already at risk due to salt water incursion, especially in times of drought. 2. Another concern is the location at/near Montana de Oro. It is a pristine piece of land that has been set aside for the enjoyment of all; possible pollution risks are not worth the risk. 3. Another main risk is this area is riddled with fault lines. The Diablo Canyon power plant is extremely near to this proposed fracking site. If there is the slightest risk that fracking can disturb these fault lines, the project should be reconsidered. 4. According to the internet, there is enough crude oil reserves to last for years. We do not need this small reserve. We need to spend time and resources developing new sources of energy/power.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12822	Opinion - opposed to hydraulic fracturing	we need to protect our environment from the destructive irreversible damage from fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12771	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	We need to protect our lands not demolish them. Please stop the secretary's fracking plans in California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24574	Opinion - opposed to hydraulic fracturing	Fracking in California is hazardous to the groundwater due to the shallow water depths.. has contaminated water sources in other areas of North America.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24638	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am opposed to BLM's proposal to open California public land to oil and gas drilling and fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24571	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	Oil and gas production has a negative affect on our wildlife and contributes to air pollution.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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24627	Opinion - opposed to hydraulic fracturing	There are many well researched reasons to not allow fracturing in or near a town like Los Osos, California... to mention a few: potential for further reductions of water requirements and chemical toxicity; potential for contamination of surface and ground waters from drilling and spills, factors that could cause large earthquakes (afterall, we are very near or on the San Andreas fault), consequences of greenhouse gasses and air pollution with would effect ecosystems and human health.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24487	Opinion - opposed to hydraulic fracturing	We say no, and we say keep it in the ground.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12872	Opinion - opposed to hydraulic fracturing	Very well established peer-reviewed science agrees that we have to stop all fossil fuel expansion immediately.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24477	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	ABOUT THE POTENTIAL FRACKING FROM OIL WELLS ON FEDERAL LANDS IN TULARE AND KERN COUNTIES, AS WELL AS OTHER CENTRAL VALLEY COUNTIES:FRACKING HERE IS A TERRIBLE IDEA.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24490	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	At a time when our country needs to be doing everything it can to cut down our fossil fuel consumption, the Bureau of Land Management (BLM) has released a plan to open up over one million new acres to fracking — right up to the edge of some of our most pristine National Parks.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24559	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am extremely opposed to the BLM proposal to allow hydraulic fracturing within the Bakersfield Field Office planning area.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24472	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	NO fracking and oil & gas development on federal lands in CA.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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24633	Opinion - opposed to hydraulic fracturing	Convinced that potential negative impacts on water supply have been underestimated... fracturing is also associated with increased earthquake activity.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24607	Opinion - opposed to hydraulic fracturing	I'm not in favor of oil wells being added to our forest recreation area. our forest area can not be an oil well because they would be polluting our air put those dregs and destroy our forest where we go for a walk with our children.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24488	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	As a believer in local government, I am writing to oppose the "development of oil and gas on public lands," whether by fracking or other kinds of wells.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12867	Opinion - opposed to hydraulic fracturing	Studies of fracking projects in the United States have conclusively demonstrated that the process threatens the health and quality of life of communities situated near drilling sites.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Soil Resources; Water Resources; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24592	Opinion - opposed to hydraulic fracturing	We need to protect our lands from the damage of fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24619	Opinion - opposed to hydraulic fracturing	I would not want to see any of this kind of pollution.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24455	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Thacher is responding to again inform you that our school would be materially and adversely affected by any mineral extraction or other industrial activity on or near our campus.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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24620		I am opposed to open more oil drilling because they pollute many things by weighing the air and water. We run many risks to all people because we suffer more diseases, and health is very important to all citizens of California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24584	Opinion - opposed to hydraulic fracturing	I am at the center of opening wells.. concerned because of the health of people. It is very harmful because it pollutes the air and affects the environment. More people become sick of different diseases because of the toxins that it contains.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24461	Opinion - In favor of oil and gas exploration and development	Please note that we, along with many others in the San Luis County are totally in favor of increased oil drilling and fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24616	Opinion - opposed to hydraulic fracturing	I am against hydraulic fracturing in our public lands. It will cause increases in pollution and will damage our public parks. It will ruin our air, water, and may cause earthquakes.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24537	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I'm writing today as I am vehemently opposed to all fracking, and, as a native California, the thought of tacking on any of our state's public lands is absolutely sickening to me.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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24634	Opinion - opposed to hydraulic fracturing	Oil drilling and fracking threatens our groundwater, pollutes our air, increases earthquakes risk, and harms our climate.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24629	Opinion - opposed to hydraulic fracturing	Expansion of oil and gas fracking goes against the scientific findings of the effect of our air, water, and climate. Putting these fields near schools, water sources, animal refuges, threatens health and the ecology. California is at high risk for increased seismic activity.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12877	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	We need to keep dirty fuels in the ground.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24646	Opinion - opposed to hydraulic fracturing	We do not want oil wells. We do not want to pollute our forests or water we have many allergies or waste water.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24447	Opinion - opposed to hydraulic fracturing	NOOOO NOOOO NOOO We don't need our water sources polluted or disturbed or corrupted Pleaseeeeeeeee.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24549	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am deeply disturbed by the news to that a "plan" to allow [further] "fracking" to be perpetrated upon [more] public lands!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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12864	Water Resources	Stop the BLM from Leasing Public Land Near Parks to Oil Companies	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24628	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Do not put oil wells in our public parks. These parks are the lungs of the earth, where there is fresh air and uncontaminated water. These parks should be where we spend time with our families, not where we put oil wells. Very bad idea to put oil wells.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24601	Opinion - opposed to hydraulic fracturing	Hydraulic fracturing can be extremely dangerous to the surrounding farmlands, with the explosions being used during the process resulting in millions of gallons of oils and chemicals being spilled, leaked, or misted into the surrounding environments.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24605	Opinion - opposed to hydraulic fracturing	By asking if we should open up public land for potential fracking you are asking if we want polluted air, contaminated water, and climate/habitat destruction. The answer is no!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24567	Opinion - opposed to hydraulic fracturing	I am opposed to the proposal to open BLM land in California for the use of fracking and oil drilling... risk to water being contaminated, air polluted, and would affect wildlife.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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24645		In my opinion this proposal is very bad and affects our environmental system besides that it would affect the by wasting enough water that would cause drought and when those waters are with treatments we would have impacts that would contaminate the earth and make us sick.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24613	Opinion - opposed to hydraulic fracturing	want to come and destroy the parks when they are very important for the families since our most beautiful toristicos parks are lands where I can pay more time with our children.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24579	Opinion - opposed to hydraulic fracturing	My comment is environmental justice. This plan is a total problem to all human health, wildlife, climate, water pollution and the pollution of the oceans.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24458	NEPA Process	I want for you to be aware that the opportunity for public comment that was scheduled ion May 21, 2019 in Bakersfield Field office Planning Area was a farce and an insult. You insulted all communities that had residence from as far as 6 hours in travel time by not have a person of influence in decision making on this issue be present. You didn't have the decency to have a representative other than a person from BLM to conduct the meeting to be present. ft says that you realty don't have any. intention of knowing what ow- concerns are in our comments.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24577	Alternatives	** CONCLUSION: Keep the moratorium on leasing in place. Make it permanent by amending the DEIS to include and adopt a "no leasing" alternative as the preferred alternative. **	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement. Neither a state-wide leasing moratorium, nor the choice of a "no leasing" alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.
24492	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	We want to express our strong opposition to the Bureau of Land Management's decision to open more than a million acres of California's public lands, mainly on the Central Coast and Central Valley, to oil drilling and fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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12870	Opinion - opposed to hydraulic fracturing	Being that fracking is known to be risky and results in contaminating ground and water, I urge protecting the most populated state, California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Soil Resources; Visual Resources; Water Resources; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24621	Opinion - opposed to hydraulic fracturing	Frakcing and waste fluid injection has been linked to earthquake swarms	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24581	Opinion - opposed to hydraulic fracturing	Waste fluid injection has been linked to earthquake swarms in many areas drilling has ocured. Active faults under the areas proposed are excessively risky.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24630	Opinion - opposed to hydraulic fracturing	earthquakes, water wuality and drought, agriculture areas, tourism, public lands.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24649	Opinion - opposed to hydraulic fracturing	I think it is not a good idea to put their wells here. Pollutes the emptiness. I do not want to go to the parks and look at them instead of forest. We want clean air and water. I want them to leave the natural beauty of our forests. President Trump take your construction ideas to another part. You have your land in Florida. You can do what you want. We do not want fracking in the land of California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

Comment Number	Issue	Comment	Response
20744	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I implore you to withdraw your ecologically and socially malign proposal to lease over a million acres of BLM land and mineral estate for oil and gas extraction in central California. At a juncture in American history when our intact lands and ecosystems are increasingly scarce, while an excess of carbon dioxide is drowning our climate, this BLM idea to trade the former for the latter is gross ecological malpractice. Californians themselves overwhelming regard the BLM oil and gas obsession as an unwelcome menace, frustrating their efforts to efforts to lead America toward a climate-compatible economy and preserve their remaining ecosystems. The states residents also understand the importance of protecting groundwater from the notorious pollution of hydraulic fracturing, as climate change bears down upon its water budget, yet BLM proposes jeopardizing its groundwater and exacerbating climate change in one flamboyant spasm of hydrocarbon extraction. The terrifying wildfires that have claimed lives and property in California in the past few years would guaranteed deadly sequels by the accelerated heat and drought caused by BLMs carbon bombs. As if to taunt and troll the people of California, BLM proposes even leasing adjacent to Sequoia and Yosemite National Parks, indicating its complete repudiation of Americas past conservation efforts, and its abject subservience to the cult of fossil fuels now sitting atop the politicized agency headquarters. Los Padres National Forest, Carrizo Plain National Monument, Wind Wolves Preserve also stand to be affronted with drilling on their borders. Even the Pacific Crest Trail is fair game for vandalism, according to the potential lease list .To compare any economic return from seizing more hydrocarbons with the degradation to these utterly priceless National Parks from industrializing their immediate vicinity is madness of a breathtaking scale. BLM also proposes leasing its mineral rights over state and private lands, including public and private schools, adding a further element of coercion upon state agencies and landowners who do not wish such a sacrifice of surface uses. The reckless, extremist political leadership of the Interior Department has plainly corrupted its decision process. Some of America's most renowned treasures, of every landscape and ecosystem type, are under imminent threat of dynamite and bulldozer from an industry of single-minded obsession with immediate sale of fossil fuels. Californians who have consistently expressed a desire to maintain some semblance of a physically and biologically intact landscape deserve to have their wishes honored. While BLM often justifies such leasing on the grounds of 'local economic benefits,' the unpopularity of this leasing within California, where such economic benefits would mainly occur, should make clear their meager significance.I urge you to withdraw this reckless, ecologically illiterate leasing plan, to select the 'No Action Alternative,' In the future, please conform future management of BLM's vast Califonia surface and mineral estate to residents' wishes to preserve their remaining landscape, their scarce water supplies, and the need of all humanity to keep remaining fossil fuels underground. Thank you for your attention to this urgent issue.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24459	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I implore you to withdraw your ecologically and socially malign proposal to lease over a million acres of BLM land and mineral estate for oil and gas extraction in central California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24485	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am writing to express my opposition to the Bureau of Land Management (BLM)'s move to open California public land and mineral estate to fracking and oil drilling.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.

Comment Number	Issue	Comment	Response
24576	Opinion - opposed to hydraulic fracturing	Fracking is a costly and dangerous method of extracting... causes earthquakes. And these are pristine natural areas of great beauty.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24463	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Since attending the May 22" Public Meeting in San Luis Obispo, and looking at the maps of the proposed lease sites around the central portion of California, covering several counties, I am very concerned about the potential overturn of the current Moratorium on such lease sales of Public Land because: 1) Most are in foothill areas where much needed forest land is currently threatened by increasing wildfires, and where headwaters of rivers and streams would be at great risk of contamination, and where increased risk of flash flooding would pose new threats to agricultural and residential land. 2) Some proposed lease sites are proximal to residential areas where Oil, Gas, or Mineral extraction operations would be devastating.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24545	Opinion - opposed to hydraulic fracturing	I am greatly opposed to more fracking in Kern County.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24583	Opinion - opposed to hydraulic fracturing	Already severe drought conditidions alone should preclude more fracking... Injecting high pressured water into faults or fractures in an already earthquake prone area is too dangerous.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12862	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I implore the BLM to stop fracking on public lands and consider the environmental impacts of our communities and our health.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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24600	Opinion - opposed to hydraulic fracturing	It will negatively impact our water, soil, crops, health and eventually our economy.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24479	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am writing to express my opposition to the Bureau of Land Management (BLM)'s move to open California public land and mineral estate to fracking and oil drilling.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24562	Opinion - opposed to hydraulic fracturing	I am against hydraulic fracturing due to the contamination of the water and air pollution and by that a lot of illness and by the impact of the hydraulic fracturing is going to affect the wild animals due to environmenal impact...	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24585	Opinion - opposed to hydraulic fracturing	I am against hydraulic fracturing for the reason being it effects human health and contaminates our drinking water.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Comment Number	Issue	Comment	Response
24566	Opinion - opposed to hydraulic fracturing	The problem with the extraction of oil is the cost to the environment, land, water and air. We have to try to be more careful and set up more oil purification plants (extraction) that avoid leaks to rivers and sea and land (forests and fauna) terrestrial and marine.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24641	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I urge you not to proceed with your proposal to open federal public lands and mineral estates to oil and gas drilling and fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24456	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	I am writing to urge you not to approve fracturing on public lands in San Luis Obispo area.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24482	NEPA Process	Public scoping during the NOI helped identify issues to be analyzed, including air and atmosphere, water quality and quantity, seismicity, special status plants and animals, minerals management, visual resources, fossils and soils, Native American and cultural values, livestock grazing and socioeconomics. Based on the analysis and public feedback, changes should be made to the existing RMP.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24625	Alternatives	Please stop squeezing anymore carbon out of the earth by adopting a "no leasing" alternative on our beautiful public lands.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement. Neither a state-wide leasing moratorium, nor the choice of a "no leasing" alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.

Comment Number	Issue	Comment	Response
24529	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Please, stop. Preserve our public lands for the public.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
12866	Opinion - opposed to hydraulic fracturing	There are numerous reasons my family strongly opposes opening our public lands to drilling and fracking.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24506	Opinion - opposed to hydraulic fracturing	The oil and gas activities that would occur on these lands include allegedly environmentally harmful techniques like fracking, which wilt negatively impact the land, air quality, water resources, plant life, and wildlife. Toxic drinking water. Air pollution. Man-made earthquakes. This could all happen near land right on the edge of Yosemite and Sequoia National Parks. Fracking in these places would irreversibly damage some of the most iconic national parks, it would degrade air quality, it would increase exposure to toxic chemicals. It would threaten cultural resources in the area and it would scar some of the nation's most beautiful landscapes. The new plan could threaten the roaring waterfalls and endangered Giant Sequoia trees that create Sequoia National Park's vibrant ecosystem. It could also damage special places like El Capitan and Half Dome in Yosemite National Park. These parks support communities living nearby who depend on them for tourism.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24597	Opinion - opposed to hydraulic fracturing	Fracturing causes unnecessary pollution. The air and water quality in Bakersfield are bad enough now.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24494	Opinion - opposed to hydraulic fracturing	I am opposed to any type of fracking by any oil company.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

Comment Number	Issue	Comment	Response
24603	Opinion - opposed to hydraulic fracturing	I am concerned about the effect that fracking will have on our country's air quality.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24570	Alternatives	Please keep California's leasing moratorium in place, and make it permanent by amending the DEIS to include and adopt 'no leasing' as the preferred alternative.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement. Neither a state-wide leasing moratorium, nor the choice of a "no leasing" alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.
12874	Opinion - opposed to hydraulic fracturing	We are just coming out of a 7 year drought + cannot afford to risk our groundwater with toxic fracking chemicals.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24617	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Most of the land BLM proposes opening is near communities that are already unfairly burdened by pollution. The planning area suffers severe ozone and particulate matter air pollution, and new oil drilling and fracking will make that pollution worse. Fracking in California poses unique risks to our groundwater. Fracking occurs at shallower depths than in other parts of the country, meaning it occurs closer to groundwater, increasing the risk of contamination. Fracking uses toxic cancer causing chemicals at stronger concentrations.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; and Water Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
20060	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	Please see the attached petition from over 17,000 Food & Water Watch supporters in opposition to the proposed Bakersfield Field Office Hydraulic Fracturing Draft Supplemental EIS. I oppose the Bureau of Land Management's plan (Docket #2019-08282) to open public lands in California to oil and gas development projects. I urge you to halt the proposed plan and protect our public lands. We must put the brakes on fossil fuel development, including fracking. Fracking pollutes our air and drinking water, hurts communities, worsens climate change and is linked to earthquakes. The chemicals used in fracking are known to be toxic to humans and wildlife, and some are known to cause cancer.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Soil Resources; Water Resources; Social and Economic Resources; and Seismicity. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
23846		Please see the attached petition from over 17,000 Food & Water Watch supporters in opposition to this proposed rule - Docket #2019-08282.	

Comment Number	Issue	Comment	Response
20643	Opinion - opposed to hydraulic fracturing	Greetings, Attached please find over 50,000 comments collected and submitted on behalf of the Sierra Club throughout California and the United States regarding the Bureau of Land Management (BLM) supplemental environmental impact statement (EIS) that proposes 1,011,470 acres of public lands and federal mineral estate in California be opened up for the extraction of fossil fuels. These comments are the result of the Sierra Club's large-scale effort over the 45 day public comment period to educate and mobilize our members of the dangers that this proposal poses to public health, the environment, and the future of our climate. Each of these comments represents the resounding view that our public lands are a cherished and instrumental shared resource for people, wildlife, and planet and our collective voices urge you to not put our well-being at risk with new fossil fuel development on these beloved lands. Please feel free to contact me for additional inquiries regarding this submission, Jenny Binstock Senior Campaign Representative Sierra Club	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24507	Alternatives	We are opposed to Alternatives A, B, C, D, and E presented in this document. We feel our BLM has failed to follow the directions of the US District Court of California to take a "hard look" at the short and long term impacts of hydraulic fracturing which could occur in eastern Fresno, western Kern, Madera, San Luis Obispo, Santa Barbara, Tulare, and Ventura Counties by opening new leases.	The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted.
24507	Climate and Air Quality	Our BLM has failed to perform a true accounting of the actual impacts both hydraulic fracturing and extreme oil extraction well development will have on our air quality; instead you have chosen to use the "most conservative impact assumptions" (pages 11 & 40) as the standard.	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.
24507	Climate and Air Quality	Our BLM has not been responsible when it comes to the impacts this proposal will have on our air quality. The numbers of wells continually oscillate between 4 —100 per year up to 400 per year over the initial 10 year lease. How then can the impacts to our air quality be properly forecast without presenting a least and worst case scenario?	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
24507	Climate and Air Quality	Table 4.1.2 Typical Annual Emissions from Conventional & Hydraulic Fracturing Well Development on page 56 is misleading. The far right column "Projected Total Emissions Increase (tons/year) should read "Projected Total Emissions" (tons/year), adding the baseline conventional well and hydraulic well development emission figures (tons/year). It would then read in tons/year: NOx: 414.1; SOx: 74.21; (VOC) ROG 1340.96; PM2.5: 63.62; and PM10: 63.62. (Please reexamine the PM2.5 and PMIO emission values.) These tables do not indicate the number of hours per day and year they are in operation. They also are spurious because throughout the document our BLM uses 2 days as the time it takes to develop a hydraulically fractured well, while Kern County 2015 states 2 — 60 days, with the average being 23 days.	Table 4.1.2 shows the estimated annual increase in emissions from conventional and hydraulically fractured well development. The estimated emissions from conventional well development are taken from Table A-2 of the 2012 Final EIS. The total increase in annual emissions from both types of wells is minor, with the largest being in ROG at 7.56 tons per year.

Comment Number	Issue	Comment	Response
24507	NEPA Process	It is unable to provide "the exact locations of new wells on new leases that would be hydraulically fractured" and "assumes that drilling and completion practices would be similar in all of the supplemental hydraulic fracturing analysis areas" (pg. 83). Again an EIS should not be based on assumptions; moreso, this assumption could not be correct as fracturing wells in older sandier formations is very different than fracturing shale formations — like the Monterey Shale Formation.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24507	NEPA Process	On page 84 our BLM comments "hydraulic fracturing will be evaluated in the future for site-specific NEPA analyses." This should have already occurred.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24507	Other	Where are the figures for hydraulically fractured horizontal wells, which is especially relevant when on page 82 you state 99% of the permitted wells in the southern San Joaquin are horizontal.	As stated in Table 4.1, hydraulic fracturing in California is generally vertical as opposed to the horizontal drilling method that is employed in locations outside of California (California Department of Conservation 2015).
24507	Seismic Activity	On page 90 we find conflicting statements: "In California there are few studies that demonstrate a connection between earthquakes and hydraulic fracturing or between earthquakes and hydraulic fracturing wastewater disposal" and then "researchers have concluded that wastewater disposal is responsible for the majority of, and the most damaging, induced earthquakes associated with oil and gas development (Houton: 2012; Keranen et al: 2013; Froelich et al: 2014; Rubenstein et al: 2014). Our BLM then states "Induced earthquakes associated with wastewater disposal related to hydraulically fractured wells would be possible under all Action Alternatives."	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.

Comment Number	Issue	Comment	Response
			The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.
24507	Water Resources	On page 82 our BLM states "Hydraulic fracturing consists of the following activities that are part of the water life cycle: water acquisition, constituent mixing & handling, injection of fluids through wells into subsurface formations during hydraulic fracturing operations, and fracturing flowback and disposal." It never mentions transport of water to well sites, and transport of wastewater from well sites.	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p>
22162		<p>The Supplemental Environmental Impact Statement (SEIS) needs to compare the construction and operational phase criteria pollutant impacts within each Air District to significance thresholds set by each Air Pollution Control District. Impacts in excess of significance thresholds need to be mitigated based on Air District guidance. The San Luis Obispo County Air Pollution Control District's (SLO County APCD) guidance document that includes land use air pollutant thresholds and mitigation can be found here: www.slocleanair.org/rules-regulations/land-use-ceqa.php Table 4.1.2 in the SEIS show typical annual emissions from conventional and hydraulic fracturing well development. The second column of numbers in the table represent the emissions from the sum of all of the conventional well developments in the three groupings of Air Pollution Control District. It appears that the third column of numbers represent the annual increase in direct and indirect emissions due to hydraulic fracturing of an average of four wells per year in the Planning Area. SLO County APCD is concerned that this may not represent a worst-case impact evaluation. If it is, then the SEIR should constrain the project to a maximum of four wells of development per year in the Planning Area. If four per year is not the maximum, then SLO County APCD recommends that the SEIR identify the maximum number of hydraulic fracturing wells per year that can be developed and include a table that summarizes worst case emissions impacts from this maximum. Table 4.1.5 in the SEIS specifies the greenhouse gas (GHG) emission impacts are 58,114 metric tons (MT) of carbon dioxide equivalents per year (CO₂e/yr) from the operational phase production and transport for 40 proposed hydraulically fractured wells. SLO County APCD's industrial threshold operational phases of projects is 10,000 MT CO₂e/yr. The construction impacts are amortized over the life of the project and this annual value is added to the operational phase impacts. SLO County APCD recommends that the SEIS compare GHG impacts from the project in each Air District based on their significance thresholds. The SEIS also needs to define mitigation to reduce excess impacts to below applicable thresholds. SLO County APCD also recommends that the SEIS include an appendix that clearly shows how air quality impacts were calculated and the assumptions that were used. Further, we recommend that spreadsheet files that were used to generate the calculations and that include the assumptions be made publicly available for review. Operational Permit Requirements: Oil and gas production requires a SLO County APCD Permit to Operate. To minimize potential delays, prior to the start of the project, please contact the APCD Engineering & Compliance Division at 805-781-5912 for specific information regarding permitting requirements.</p>	<p>Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values was provided in Section 4.1.1 of the Draft SEIS.</p>

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16002		On page 30, the document states that "Impacts to groundwater due to spills of fracturing fluids would be negligible. Injection of hydraulic fracturing fluids/flowback management and disposal – groundwater impacts from loss of well integrity or out-of-zone migration of fracturing fluids from an average of zero to four wells/year would be negligible." I disagree with your characterization of this assessment. If contaminated water spoils even one well, it's too much. Also, the document continues, saying: "If present trends continue, the drilling up to of 40 wells over the 10-year planning period would also have negligible impact." The document dismisses real impacts as "negligible," then goes on to say that if the risk is multiplied the effect will still be "negligible." A relatively small impact to ground water can become a big impact when multiplied. Our state depends on clean water to grow food as well as to support our population. I urge you to revise the plan to state the real risk, rather than dismissing it as negligible. Then, I urge you to adopt Alternative A	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>
23911	Opinion - opposed to hydraulic fracturing	The document states: " researchers have concluded that wastewater disposal is responsible for the majority of, and the most damaging, induced earthquakes associated with oil and gas development (Horton 2012; Keranen et al. 2013; Frohlich et al. 2014; Rubinstein et al. 2014). Increased fluid pressure is the probable driving mechanism for induced earthquakes, and wastewater disposal wells can raise fluid pressures higher over longer periods of time and over larger areas than hydraulic fracturing or enhanced oil recovery (Rubinstein and Mahani 2015). " Therefore, the document acknowledges that all oil well wastewater disposal increases the chance of an earthquake. Furthermore, the document states "To date, there have been no reported cases of induced seismicity associated with produced water injection or hydraulic fracturing wastewater in California (CCST 2015)" According to the Los Angeles Times, that statement is inaccurate. An article dated February 4, 2016 states:"A 2005 spate of quakes in California's Central Valley almost certainly was triggered by oilfield injection underground, a study published Thursday said, in the first such link in California between oil and gas operations and earthquakes.Researchers at the University of California at Santa Cruz, the University of Southern California and two French universities published their findings Thursday in a publication of the American Geophysical Union."I find no mention of this study in your document. I urge you to change it to account for recent research on the subject. The article I referenced can be found at the following URL https://www.latimes.com/local/lanow/la-me-ln-california-earthquakes-linked-to-oil-injections-study-finds-20160204-story.html	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.</p>
22876		Regarding the Bureau of Land Management proposal on oil & gas development and related hydraulic fracturing:This sweeping proposal must have a longer comment period. The 45-day comment period is inadequate and unfair because of a) the extensive area involved; b) the number and diversity of jurisdictions affected; c) the complexity of the proposal and its implications; and d) the need to translate materials and educate citizens who do not read English and would be disproportionately affected by leasing and fracturing.The BLM made the wrong decision in failing to update its now-outdated Resource Management Plan (RMP), which does not adequately address the impacts of increased oil and gas development and fracking on the sensitive landscapes, watersheds, and airsheds this proposal covers.The BLM states that conditions have not changed significantly since the RMP was released. This is false:• Recent years of drought have reduced the quantity and quality of water already relied upon by existing residents, agriculture, and industry. • Recent research from Tufts University indicates that fracking can indeed incite earthquakes both locally and a distance from the fracking site: "The practice of subsurface fluid injection used in 'fracking' and wastewater disposal for oil and gas exploration could cause significant, rapidly spreading earthquake activity beyond the fluid diffusion zone. Deep fluid injections -- greater than one kilometer deep -- are known to be associated with enhanced seismic activity—often thought to be limited to the areas of fluid diffusion. Yet the study, published today [May 3] in the journal Science,	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). In order to complete the supplemental analysis following the guidance of Secretarial Order 3355 (https://www.doi.gov/sites/doi.gov/files/uploads/3355_-_streamlining_national_environmental_policy_reviews_and_implementation.pdf), BLM is not able to accommodate requests to extend the public comment period on the Draft SEIS.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p>

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		<p>tests and strongly supports the hypothesis that fluid injections are causing potentially damaging earthquakes further afield by the slow slip of pre-existing fault fracture networks, in domino-like fashion.”(Bhattacharya, P. and Viesca, R.C. "Fluid-induced aseismic fault slip outpaces pore-fluid migration" Science, 364: 6439 DOI: 10.1126/science.aaw7354)• The climate crisis continues to worsen. Many changes caused by it are proceeding at paces much faster than predicted by the statistical models of even a few years ago. The local and global efforts to reduce carbon emissions and protect landscapes will not succeed if we continue to access and use hydrocarbons.• In the last two years, the current administration has reduced or removed many of the environmental protections that would have helped to mitigate the pollution caused by the proposed development.The DEIS assumption regarding the number of new wells (4) that would be drilled and/or fractured per year is ridiculously low, especially given the number of acres that it proposes to open. Some 3400 wells have been drilled in the past 6 or so years. Therefore, the DEIS is not honestly addressing the multiplication of impacts that are likely to result.The DEIS fails to adequately estimate the proposal's affect on air quality in an area that is already one of the very worst-polluted landscapes. Given the geography and meteorological conditions in this area, pollution does not remain localized; it circulates throughout the San Joaquin Valley. This includes problems with particulates (especially PM 2.5, the most dangerous to health) and ozone (very damaging of lungs and vegetation, including crops).The DEIS fails to address the impact on tourism caused by worsened air quality and damaged landscapes. Already, tourists arriving in our town are appalled by the lack of visibility and by the ugly, toxic landscapes through which they must travel when coming north from Bakersfield. They can, and will, continue to choose cleaner locales in which to spend their time and money. In addition, proposed leasing locations border important tourist destinations: national park areas (Sequoia, Kings Canyon, Yosemite, and Santa Monica NRA; national monuments (Cesar Chavez and Giant Sequoia National Monument); Carrizo Plain; national forests (Sequoia, Inyo, Sierra, and Los Padres; as well as state and regional parks and preserves. The DEIS does not adequately address the impact of such development on the tiny towns, such as mine, that would be affected. Many have one road in and out, often just one lane each way; the increased traffic and movement of large equipment would impact both resident and tourist safety and convenience. Many are low-income communities that would be affected by the influx of workers who could pay higher rents. Some, such as mine, are in canyons where noise and pollution in one location can affect the entire community. The DEIS does not adequately address the impacts on increasing water cost and reduced availability to residents, which is already dangerously affecting many communities. Water tables are being drawn down already in much of the San Joaquin Valley. Hydraulic fracking uses immense quantities of water, and leaves what it does use contaminated. The DEIS does not address the increased risk of wildfire that oil and gas operations pose to our communities. I have lived here for 30 years and plan to stay for another 30, unless proposals like this make it even healthier to stay. The large population of economically disadvantaged people in this affected area do not have the luxury to move away. The proposal is unjustified and just plain wrong on so many levels.</p>	
11887	Climate and Air Quality	<p>1. I find the estimated end use CO2 emissions from the 40 well senario in Table 4.1.5 to be wholly unacceptable most probably, a serious underestimation (given that DOGGR has already issued far more permits for fracking in more new wells this year). 2. Current levels of atmospheric GHG's and those from current fossil fuel operations will drive climate warming past 2 degrees celcius by 2100 and create massive social dislocation and suffering. The UN's IPPC estimates that contiued current levels of fossil fuel consumption would cause a 4-6 degree temperature rise which would result in widespread extinction. 3. Thus, we as a species are at the point where we can no longer put any MORE GHG's into the atmosphere and existing reserves of fossil fuels must be kept in the ground while the creation of a renewable, clean energy economy is created. 4. The copnclusion that "the estimated GHG emissions and associated....impacts would be minor" is not substantiated. Instead, it is stated that California's "regulatory setting" can handle the problem--which in not a factual statement. 4. For these reasons the entire project should be denied</p>	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS).This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values was provided in Section 4.1.1 of the Draft SEIS.</p>
16637	Water Resources	<p>This attempt to profit from public lands is extremely disturbing. The Environmental Consequences has not addressed spills of contaminatad water or other toxic fluids that will certainly be spilled from fracking. These spills will result in violations of the State and federal Clean Water Act. Self reporting by corporations has not been required by oil and gas corporations or their contractors. Evidence of this lack of reporting has been documented in Santa Barbara County. Groundwater contamination has also been recorded by Santa Barbara County and this is also lacking in the EIS. This impact is a significant impact to fracking and will need to be addressed.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.</p>

Comment Number	Issue	Comment	Response
22165		Paragraph 2, sentence1: The main source of the increase in recent decades of the most important and widely occurring GHG pollutant, CO2, is combustion of fossil fuels for energy. There are a number of areas in the report that are of concern, including 3.1.3 Current Conditions and Trends specifically relating to climate change in California. It is most alarming to read this report in that ultimately it promotes hydraulic fracturing to access tight oil extraction. I am concerned that in the introduction 1.5.6 as it relates to water use, it compares to using less water than agriculture. California is known for the foods it grows, including world renowned wines. This is a bias report in promoting open lease for oil and gas, and it is a concern that little was done in evaluating concerns that were brought forth from the 2012 EIS. I request that the moratorium on hydraulic fracturing stay in place, and there is too much at stake to open thousands of acres of Federal land to oil and gas at this current time. In addition, please note my request that the BLM kindly record public hearings as was not the case on May 23, 2019 in Santa Barbara, CA at the Santa Barbara City College.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
15499		Opening BLM lands for fracking is a dangerous and slippery slope for further opening of public lands to oil and gas activity. If oil or gas reserves are detected, developing wells and ancillary facilities follows. As activities on BLM and other public lands increase, so too will impacts to plant and wildlife species. These public lands belong to the people and not to private industry. Changes must be accepted by the oil and gas industry and the federal government as a necessary toward ensuring our future. Federal regulators must make immediate efforts to incentivize a shift toward renewable, greener options for energy production. The Environmental Impact Statement and the draft Supplement BLM has prepared does not sufficiently assess effects to sensitive biological resources, especially threatened and endangered species (T&E species). The draft EIS is inadequate because it fails to sufficiently evaluate the impact of the activity on the species and their habitat. The areas designated as SHF Analysis Areas lie directly on critical conservation areas for several T&E species in Kern County. It is not a matter of these T&E species happening to occur on these SHF Analysis Areas, in addition to several other geographic locations. Rather, these T&E species primarily occur in the proposed SHF Analysis Areas precisely because these lands are some of the last remaining open space available for these T&E species. Between 90-97 percent of the native lands (habitat) for Kern County's species has been eliminated due to urban, agricultural, and oil and gas development. Many of the species depending on these lands have a limited range due to the environmental conditions of the area. There simply is nowhere else for them to go or survive. Compensatory mitigation by way of designating conservation easements, while critical for the survival of T&E species, is not remotely sufficient compensation for the loss of critical conservation lands. All remaining areas where these T&E species persist must be preserved to ensure the survival of the species. Any further removal of habitat or fragmentation of the habitat is unacceptable and will have significant consequences for the environment we in California depend on. The concern for species extinction is not merely an aesthetic one and it would be grossly irresponsible to disregard it as such. While many do simply enjoy the aesthetic pleasure of seeing native plants and wildlife during their recreational outings, the necessity for preservation of these plants and wildlife has a far more dire basis. Humans depend intimately on their environment to survive. The water we drink, the weather we depend on for our food production, the air we breathe are all determined by and affected by the health of the environment. The environment is a complex and dynamic system we are still working to understand and know its nuances and the ways in which it survives and thrives. One fact we have observed is the effect of cascading loss of biodiversity (Chapin III, et al. 2000, Nature). As one thread pulled from a garment inevitably leads to the unraveling of the garment, so we have witnessed how one species extinction leads to cascading loss of biodiversity (Sodhi, et al. 2009, Conservation Biology) . We know biodiversity is key to the survival of environments. We have witnessed throughout history the effects of a collapse of biodiversity and subsequent human suffering that follows. We cannot take uncertain risks with the survival of California's biodiversity lest we pay the consequences in our own human health. At the conclusion of the analysis, I hope you will amend your management plan to exclude, or place restrictions on, parcels offered for oil leasing and fracking, reflective of the risks and impacts they pose to public health and the environment. In addition, I hope that you will close lands to leasing and fracking (adopt the 'no lease' option) that are on or adjacent to schools, national forests, monuments, lands of critical conservation concern for T&E species, and refuges to better protect California's people and the natural resources that make California such a treasured land. The San Joaquin Kit Fox is endemic to California with a core population located in the draft SEIS analysis area. If diligent effort is not made to preserve and recover the population in the analysis area it is probable the species will be driven to extinction in the next decade. The publicly available federal 5 year review states that there are no comprehensive range-wide surveys completed to determine the status of kit fox populations throughout its historic range. In this state of ignorance,	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.

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		<p>there is not adequate data to support the conclusion further oil and gas exploration and production will not transform the habitat in ways that preclude survival of the species. As an umbrella species, the 1998 recovery plan stipulates for the SJKF a higher priority and more conservative strategy to its regional recovery actions. Studies have shown that even moderate development of oil fields reduces the abundance and distribution of the species. This conclusion from a 2009 study is borne out by the 2008 CNDDDB reported SJKF numbers which are abysmal by any standard. The CNDDDB reports indicating that close to 50 percent of occurrences are in Kern County, largely within the analysis area, only justify treating the area as a redoubt for the protection and recovery of the species. This justification is further supported by evidence showing SJKF do not thrive on land developed for agriculture, which is the primary cause for loss of habitat in the San Joaquin Valley. The reason the analysis area contains a strong, core population of the species is because it also contains large areas of uncultivated land. Were oil and gas activities to expand in the analysis area, it would necessarily contribute pressure to the extinction of the species. Therefore, a policy of rollback in oil and gas activity is an even more appropriate interpretation of the data. The studies in the 5 year review emphasize the importance of large tracts of natural habitat with characteristics that are incompatible with oil and gas production. Fragmentation of habitat range, reduction in prey species populations and loss of plant communities necessary to SJKF habitat, all consistent concomitants of oil and gas activities, are primary factors in driving down the SJKF population and are preventable by denying leases in the analysis area. Further studies in the 5 year review found the possibility of decline or disappearance of Kit Fox in lands that have already been protected from development, demonstrating the urgency in protecting and preserving core populations like those in the analysis area. As a keystone species the Giant Kangaroo Rat is such a critical biological component of its ecosystem that extinction would entail disastrous yet unknown knock-on effects. The already extensive loss of habitat and plummeting population sizes should dispel any illusions that further neglect can be absorbed by this endangered species. According to the USFWS 2010 5 year review, since being listed as endangered in 1987, habitat conversion has slowed and losses have been mitigated for. However, any additional loss and fragmentation of habitat increases the risk of extinction considering the population is found on less than 5 percent of its historic range and is fragmented into six major geographic units. One of the six units is in the draft SEIS analysis area. This provides BLM an opportunity to guarantee protection for this critically endangered species by adopting the no lease option for oil and gas exploration and production. The sale of the Elk Hills Naval Petroleum Reserve-1 in 1998 represented a threat to one of the three largest regional populations of the Giant Kangaroo Rat due to the expansion of oil and gas exploration and production. The Elk Hills NPR-1 sale included a federal and state conservation management agreement to protect 90 percent of the Elks Hills including Giant Kangaroo Rat habitat. The 2010 5 year review figures indicate less than 20 percent of the designated Elk Hills area was protected. The failure to meet the conservation goals in this area adds greater urgency to compensate in other regions where the species remains extant. Also a keystone species, the Tipton Kangaroo Rat requires similar attention and effort for recovery as the Giant Kangaroo Rat. Considering the 5 year review, greater attention may even warranted. By 1985, the geographical range of TKR had been reduced to only about 4 percent of the historical acreage. Current occurrences are limited to scattered, isolated areas in Kings, Tulare, and Kern counties. In 2009 there were only 75 sightings reported in the California natural diversity database. Given that the draft SEIS analysis area includes important proposed restoration and conservation areas for the TKR, this is another chance to rescue a species from possible extinction and rebuild from a record of failure. As of the 2010 5 year review, the criteria for down-listing have not been met. The requirement to have three or more distinct areas, each with at least 2000 hectares of contiguous habitat for the TKR has not been met. Since 1998, still only half of the protected areas identified by CDFW as important to the continued survival of the sub-species had management plans. In general the population is decreasing or unstable throughout their range and may even be extirpated at some sites. While these three criteria are specified for down-listing, the failure to meet them and the continued deteriorating circumstances of the population should motivate only additional conservation efforts and deter any further loss of habitat due to oil and gas exploration and production.</p>	

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23096		<p>Opening BLM lands for fracking is a dangerous and slippery slope for further opening of public lands to oil and gas activity. If oil or gas reserves are detected, developing wells and ancillary facilities follows. As activities on BLM and other public lands increase, so too will impacts to plant and wildlife species. These public lands belong to the people and not to private industry. Changes must be accepted by the oil and gas industry and the federal government as a necessary toward ensuring our future. Federal regulators must make immediate efforts to incentivize a shift toward renewable, greener options for energy production. The Environmental Impact Statement and the draft Supplement BLM has prepared does not sufficiently assess effects to sensitive biological resources, especially threatened and endangered species (T&E species). The draft EIS is inadequate because it fails to sufficiently evaluate the impact of the activity on the species and their habitat. The areas designated as SHF Analysis Areas lie directly on critical conservation areas for several T&E species in Kern County. It is not a matter of these T&E species happening to occur on these SHF Analysis Areas, in addition to several other geographic locations. Rather, these T&E species primarily occur in the proposed SHF Analysis Areas precisely because these lands are some of the last remaining open space available for these T&E species. Between 90-97 percent of the native lands (habitat) for Kern County's species has been eliminated due to urban, agricultural, and oil and gas development. Many of the species depending on these lands have a limited range due to the environmental conditions of the area. There simply is nowhere else for them to go or survive. Compensatory mitigation by way of designating conservation easements, while critical for the survival of T&E species, is not remotely sufficient compensation for the loss of critical conservation lands. All remaining areas where these T&E species persist must be preserved to ensure the survival of the species. Any further removal of habitat or fragmentation of the habitat is unacceptable and will have significant consequences for the environment we in California depend on. The concern for species extinction is not merely an aesthetic one and it would be grossly irresponsible to disregard it as such. While many do simply enjoy the aesthetic pleasure of seeing native plants and wildlife during their recreational outings, the necessity for preservation of these plants and wildlife has a far more dire basis. Humans depend intimately on their environment to survive. The water we drink, the weather we depend on for our food production, the air we breath are all determined by and affected by the health of the environment. The environment is a complex and dynamic system we are still working to understand and know its nuances and the ways in which it survives and thrives. One fact we have observed is the effect of cascading loss of biodiversity (Chapin III, et al. 2000, Nature). As one thread pulled from a garment inevitably leads to the unraveling of the garment, so we have witnessed how one species extinction leads to cascading loss of biodiversity (Sodhi, et al. 2009, Conservation Biology) . We know biodiversity is key to the survival of environments. We have witnessed throughout history the effects of a collapse of biodiversity and subsequent human suffering that follows. We cannot take uncertain risks with the survival of California's biodiversity lest we pay the consequences in our own human health. At the conclusion of the analysis, I hope you will amend your management plan to exclude, or place restrictions on, parcels offered for oil leasing and fracking, reflective of the risks and impacts they pose to public health and the environment. In addition, I hope that you will close lands to leasing and fracking (adopt the 'no lease' option) that are on or adjacent to schools, national forests, monuments, lands of critical conservation concern for T&E species, and refuges to better protect California's people and the natural resources that make California such a treasured land. The San Joaquin Kit Fox is endemic to California with a core population located in the draft SEIS analysis area. If diligent effort is not made to preserve and recover the population in the analysis area it is probable the species will be driven to extinction in the next decade. The publicly available federal 5 year review states that there are no comprehensive range-wide surveys completed to determine the status of kit fox populations throughout its historic range. In this state of ignorance, there is not adequate data to support the conclusion further oil and gas exploration and production will not transform the habitat in ways that preclude survival of the species. As an umbrella species, the 1998 recovery plan stipulates for the SJKF a higher priority and more conservative strategy to its regional recovery actions. Studies have shown that even moderate development of oil fields reduces the abundance and distribution of the species. This conclusion from a 2009 study is borne out by the 2008 CNDDDB reported SJKF numbers which are abysmal by any standard. The CNDDDB reports indicating that close to 50 percent of occurrences are in Kern</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.</p>

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		<p>County, largely within the analysis area, only justify treating the area as a redoubt for the protection and recovery of the species. This justification is further supported by evidence showing SJKF do not thrive on land developed for agriculture, which is the primary cause for loss of habitat in the San Joaquin Valley. The reason the analysis area contains a strong, core population of the species is because it also contains large areas of uncultivated land. Were oil and gas activities to expand in the analysis area, it would necessarily contribute pressure to the extinction of the species. Therefore, a policy of rollback in oil and gas activity is an even more appropriate interpretation of the data. The studies in the 5 year review emphasize the importance of large tracts of natural habitat with characteristics that are incompatible with oil and gas production. Fragmentation of habitat range, reduction in prey species populations and loss of plant communities necessary to SJKF habitat, all consistent concomitants of oil and gas activities, are primary factors in driving down the SJKF population and are preventable by denying leases in the analysis area. Further studies in the 5 year review found the possibility of decline or disappearance of Kit Fox in lands that have already been protected from development, demonstrating the urgency in protecting and preserving core populations like those in the analysis area. As a keystone species the Giant Kangaroo Rat is such a critical biological component of its ecosystem that extinction would entail disastrous yet unknown knock-on effects. The already extensive loss of habitat and plummeting population sizes should dispel any illusions that further neglect can be absorbed by this endangered species. According to the USFWS 2010 5 year review, since being listed as endangered in 1987, habitat conversion has slowed and losses have been mitigated for. However, any additional loss and fragmentation of habitat increases the risk of extinction considering the population is found on less than 5 percent of its historic range and is fragmented into six major geographic units. One of the six units is in the draft SEIS analysis area. This provides BLM an opportunity to guarantee protection for this critically endangered species by adopting the no lease option for oil and gas exploration and production. The sale of the Elk Hills Naval Petroleum Reserve-1 in 1998 represented a threat to one of the three largest regional populations of the Giant Kangaroo Rat due to the expansion of oil and gas exploration and production. The Elk Hills NPR-1 sale included a federal and state conservation management agreement to protect 90 percent of the Elks Hills including Giant Kangaroo Rat habitat. The 2010 5 year review figures indicate less than 20 percent of the designated Elk Hills area was protected. The failure to meet the conservation goals in this area adds greater urgency to compensate in other regions where the species remains extant. Also a keystone species, the Tipton Kangaroo Rat requires similar attention and effort for recovery as the Giant Kangaroo Rat. Considering the 5 year review, greater attention may even warranted. By 1985, the geographical range of TKR had been reduced to only about 4 percent of the historical acreage. Current occurrences are limited to scattered, isolated areas in Kings, Tulare, and Kern counties. In 2009 there were only 75 sightings reported in the California natural diversity database. Given that the draft SEIS analysis area includes important proposed restoration and conservation areas for the TKR, this is another chance to rescue a species from possible extinction and rebuild from a record of failure. As of the 2010 5 year review, the criteria for down-listing have not been met. The requirement to have three or more distinct areas, each with at least 2000 hectares of contiguous habitat for the TKR has not been met. Since 1998, still only half of the protected areas identified by CDFW as important to the continued survival of the sub-species had management plans. In general the population is decreasing or unstable throughout their range and may even be extirpated at some sites. While these three criteria are specified for down-listing, the failure to meet them and the continued deteriorating circumstances of the population should motivate only additional conservation efforts and deter any further loss of habitat due to oil and gas exploration and production.</p>	
16902	Alternatives	<p>Climate Change: The greenhouse gas emissions from burning existing fossil fuels fields and mines around the world are more than can be burned if we are to keep climate change below 1.5C. We cannot afford to allow new oil and gas leasing or new wells. BLMs proposal to open up new areas of the state to oil and gas extraction is contrary to the course California has set to combat climate change and to meet its share of the goals outlined in the Paris Agreement. Six of the 10 most carbon-intensive oil fields in California are in the Bakersfield planning area. New leasing must not be allowed, and oil production in this region should be phased out as quickly as possible. III. Economic Impacts: Tourism and travel are important to communities in the Carrizo Plain region. A 2017 study by Headwaters economics shows that from 2001 to 2015, the regional population grew by 25 percent; jobs by 28 percent; real personal income by 55 percent; and real per capita income by 23 percent. Our national monuments are tremendous drivers of California's economy. Outdoor recreation in our state generates approximately 691,000 jobs and \$92 billion in consumer spending each year. Surrounding our protected lands with oil fields, hydraulic fracking equipment and the ugly externalities of extraction will impact visitor experiences.</p>	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.</p>

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		While this plan does not include the California Coastal National Monument and the Carrizo Plain National Monument, direct and indirect impacts to these protected areas should be considered during scoping.	<p>The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species.</p> <p>The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>
16902	Alternatives	In analyzing the no-action alternative, the BLM should consider the following: I. Landscape Level Protections and Connectivity: Allowing fracking and dangerous drilling would put the state's most iconic landscapes at risk. It threatens not only lands managed by the BLM, but risks polluting the air and water in eleven distinct national parks, monuments, forests, and recreation areas, including Yosemite and Sequoia National Parks, portions of the Pacific Crest Trail, Hopper Mountain National Wildlife Refuge, as well as numerous state and local parks, open space, and schools.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
16902	Alternatives	The Bureau of Land Management (BLM) should, during scoping, consider and put forth an alternative to continue the moratorium on leasing California's federal public lands to oil companies. This moratorium has been in effect for over five years and should be put forth as the "no action" alternative in the draft plan.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement. Neither a state-wide leasing moratorium, nor the choice of a "no leasing" alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.
20551	General	As a San Joaquin Valley resident who breathes the air, drinks the water and is concerned that poor communities most often bear the brunt of industrial pollution, I am writing to express concern about matters considered and not considered in the BLM's Supplemental EIS addressing questions about the impact of expanding oil and gas development, including the use of hydraulic fracturing (fracking), in the Valley. This report paves the way to opening a great swath of California lands to new fossil fuel drilling, apparently including traditional wells (with or without steam injection), fracking in the well-development stage, fracking in the production phase, acidizing and other new well-stimulation technologies. It does not address the crucial alternative of not moving forward at all with new leasing or establishing more meaningful protections in areas already under extreme stress. I strongly object to the overall conclusion of the Supplemental Report finding "negligible" the negative impacts of fracking (and presumably also the other newfangled oil and gas recovery techniques) which include use of large quantities of water and hazardous chemicals, creating and requiring disposal of polluted waste water; related seismic risks; emission of air pollutants and greenhouse gases; and harm to biologic, economic, social and visual resources. There is no "safe" level of benzene, and this air basin is already the most polluted in the nation. The real problem is the cumulative effect on people of all forms of pollution and environmental degradation.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
16566	Water Resources	The section states: "A typical hydraulically fractured well in California uses approximately 100,000 gallons of water on average per well (DOGGR 2015a, 2016, 2018c), as compared to an average of 4 to 8 million gallons for a typical well in the Marcellus Shale (STAC 2013)." Water is California's most precious natural resource, and using it for fracking is much less important than for human consumption or agriculture. Sunshine is a limitless resource in the area that is suggested for fracking, and investing in solar power development in this area is a more cost-effective and safe alternative to explore.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.

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20000	Water Resources	<p>I am a 30 year resident of Santa Barbara County. I love the Los Padres National Forest for the unique plants and animals it harbors and for the recreation opportunities it offers me and my community. I am deeply alarmed by the prospect of fracking and oil exploration on or near the Los Padres National Forest because it would add to air and water pollution levels that are already too high. Fracking is foolish and wrong for today's world. We need to STOP this destructive practice, which leads to more burning of fossil fuels that worsens the climate crisis. Fracking also harms scarce water resources, by wasting water and by contaminating ground water reserves. I would especially be saddened by fracking in and around the Los Padres National Forest, where I've spent so many happy hours hiking and watching wildlife. The draft Environmental Impact Statement prepared by BLM is irresponsible and will cause harm to the public and to our children's futures because it does not sufficiently assess those risks. Furthermore, the draft EIS is inadequate because no changes were made in response to overwhelming and well-justified public concerns over water contamination. I ask that you amend your management plan to close all lands to oil leasing and fracking that are in, or bordering on, national forests, national monuments, and wildlife refuges. Please also make amendments to the management plan to thoroughly assess ground water vulnerability and put in place monitoring systems to detect ground water contamination from fracking of ANY parcel.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>
12639		<p>Studies of fracking projects in the United States have conclusively demonstrated that the process threatens the health and quality of life of communities situated near drilling sites. The localities under consideration already suffer from serious air pollution, including 4 of the 10 US cities with the worst air pollution in 2018 (Merced, Fresno, Visalia, Bakersfield). Water contamination and usage is also a serious concern in our drought-stricken state. One well can use 2-8 million gallons of water per frack, requiring 400-600 tanker trucks to deliver, while generating another 200-300 tanker truckloads of waste, destroying roads and bridges in the process and leaving towns to clean up the mess. Each well can be fracked up to 18 times. Fracking has a firmly established track record for polluting local water sources with toxic effluent, and the situation in our area is particularly sensitive because (i) the unique geology of the Monterey shale make fracking and horizontal drilling especially challenging, and (ii) high levels of seismic activity increase the likelihood of well failure. Both of these factors pose greatly aggravate the threat of water contamination. There have been more than 1,000 documented cases of water contamination in gas-drilling areas that have resulted in sensory, respiratory, and neurological damage to people who have ingested contaminated water. The proposed site at Montana de Oro is immediately adjacent to the Diablo Canyon power plant, an active nuclear reactor that happens to be built on a fault line. Fracking is known to increase seismic activity (Bao and Eaton, Science 2016; Atkinson et al., Seism. Res. Letters 2016; Schulz et al, Geophys. Res. Letters 2015). Inducing earthquakes at such a location is beyond stupid, beyond suicidal. The high-volume use of carcinogenic chemicals used as lubricants and proppants pose a threat to health, particularly to workers on drilling sites and who handle the wastewater from fracking. U.S. companies are not even required by law to disclose the chemicals used in the process - which can run to thousands of gallons per well. Fracking is exempt or excluded from most major federal laws protecting environmental health, including the Safe Drinking Water Act. The EPA has identified 692 unique ingredients among the fracking fluids it has analyzed, and the most common are hydrochloric acid, methanol, and hydrotreated light distillates, all of which</p>	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout the Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>

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		<p>have serious health impacts. Other toxic, carcinogenic, and hazardous materials found in fracking fluid include: lead, radium, uranium, methanol, mercury, hydrochloric acid, ethylene glycol and formaldehyde. The BLM statement claims that there will be minimal environmental impacts, using calculations based on the premise that there will only be one well per lease. However, once a lease is granted, administration is turned over to DOGGR (Division of Oil, Gas and Geothermal Resources), at which point the BLM has absolutely no control over how many wells the oil companies create. Petroleum companies have a well-established track record of erecting multiple wells and following none but their own discretion. In addition to climate-threatening fossil fuels, fracking produces water contamination and fugitive methane, an extremely potent greenhouse gas. The high levels of methane leakage during capture and transportation suggest that shale gas is worse than coal in terms of its impact on the atmosphere. In comparison to investments in renewable energy infrastructure, the economic arguments for petroleum exploration are foolish and shortsighted. The USA is in the midst of an oil glut - oil has been overproduced and we do not need these extra wells. The primary financial effect of drilling will be enrich a small group of wealthy people. The short-term construction jobs created by building more fossil fuel infrastructure are insignificant, compared to the 40-year jobs generated by the production of renewable energy facilities. The financial analyses of these plans fail to incorporate the cost of toxic externalities that our communities will be forced to bear. As the weight of the climate crisis bears down upon us, we should focus our efforts on sustainable green energy, instead. Moving forward on this plan is a giant step backward. I urge the BLM to abandon this proposal and continue with Alternative A.</p>	
13457	Public Health and Safety	<p>I believe the 2019 Report does not adequately address the impacts of valley fever and does not provide adequate mitigation measures to protect workers (including every single person that will be present during ground disturbing activities). Since 2012, there has been numerous studies on valley fever. In 2016, workers at a 3,000 acre solar project contracted the disease during site prep. A 2018 case study followed seven road workers in California who all became sick with the disease after a road-widening project. The highest rates of valley fever in San Luis Obispo county were recorded in 2017 and 2018. With recent research into valley fever, it has become apparent that implementing dust controls is not enough to protect workers (including environmental monitors) and to protect the public. Some mitigation measures that could be implemented include: -Provide workers with information about their risk of exposure and give them training on how to reduce risk of exposure. - Have workers wear NIOSH-approved respirators with filters rated as N95, N99, N100, P100 or HEPA. - Encourage workers to change out of dusty work clothes before leaving the site to avoid taking spores on clothing home. -Require mandatory reporting of Valley fever cases to public health authorities. -Suspend work during heavy winds.</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
16863	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	<p>Today, in our backyard, we oppose the Trump administration's ignoble pursuit of energy dominance with indifference to our community, this land and the wildlife it supports. This area includes where we live, work and send our kids to school, and where we and the athletes we support surf, climb, fish, hike and run. We're concerned about spills, air pollution, unsafe drinking water and the many other health and safety risks and disruptions that fracking could inflict so close to home and so close to some of the best outdoor recreation in the world. The idea of putting places like Yosemite National Park, Sequoia National Park, and Carrizo Plain National Monument at risk is unacceptable.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.</p>
16863	T&E Species	<p>Fracking would also wreak havoc on wildlife, including the endangered Steelhead trout. The BLM's new draft environmental impact statement fails to address how these fish will be affected as it fails to address so many other issues it was required to this time —the second time around. It is still completely deficient.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.</p>

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			<p>The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species.</p> <p>The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>
17956		<p>First, a quote: "The central United States has undergone a dramatic increase in seismicity over the past 6 years, rising from an average of 24 events of magnitude ≥ 3.0 earthquakes per year in the years 1973–2008 to an average of 193 events of magnitude ≥ 3.0 earthquakes in 2009–2014, with 688 occurring in 2014 alone." - Ruinstein and Mahani (Myths & Facts on Waste Water Injection, Hydraulic Fracturing, Enhanced Oil Recovery, and Induced Seismicity.) You, the BLM, got shut down in a lawsuit by the CBD for not having any references to the environmental consequences of fracking. Yet, when we looked for your discussion in the EIS on one of the most potentially devastating side effects of this industrial practice - CAUSING EARTHQUAKES, EVEN IN PLACES NEVER HAD THEM - LIKE OKLAHOMA, almost nothing. What the heck? Really, here's all you have on this...(from the 2014 ROD) (pg. XVIII) "Well stimulation technologies, as currently practiced in California, do not result in a significant increase in seismic hazard. The pressure increases from hydraulic fracturing are too small and too short in duration to be able to produce a felt, let alone damaging, earthquake. In California, only one minor, anomalous earthquake (which occurred in 1991) has been linked to hydraulic fracturing to date. In contrast, disposal of water produced from oil and gas operations into deep injection wells has caused felt seismic events in several states. Expanded oil production for any reason, including expanded use of hydraulic fracturing, would lead to increased volumes of produced water, which, if injected underground could increase seismic hazards."(from the 2019 EIS) 3.10.1 Seismicity"Approximately 158,500 acres are considered to have high potential for oil and gas occurrence in the Planning Area. The largest area of high oil and gas potential is the San Joaquin Valley, as illustrated in Map 3-14.1 in the 2012 Final EIS. Moderate to high potential for fluid minerals exists outside the San Joaquin Valley region throughout the Coast Range; however, the southern Sierra Nevada are considered to have little to no potential for oil and gas.A large number of magnitude 2.5 (Richter scale) and greater earthquakes have been recorded in California (CCST 2016). The locations and magnitudes of earthquakes that have occurred in the supplemental hydraulic fracturing analysis areas are shown on Figure 3.10.1." Really? This is it?Oh, and you provided (2) maps - "Supplemental Hydraulic Fracturing ..." - which just locates different kinds of wells, and productivity, and "Location & magnitudes of Earthquakes ...". You provided NO MAP WITH SEISMIC FAULTS, or how faults overlay clusters of oil production tracks with earthquakes. (We've attached one for your use, that roughly covers the same area as your maps.) There should be a year by year analysis on quake frequency as related to drilling and a thorough analysis by a reputable seismologist. This is CALIFORNIA! This is something we ARE CONCERNED WITH! What are you doing with your time? Based on our analysis of your air pollution data, we believe you are wildly underestimating the number of wells, fracked or not, that might occur, as well as underestimating the number that will be fracked. Your estimates = 25%, Halliburton is already fracking 50-60%.Based on the EIS statement: (page 2) "... The RFDS projected the exploration, drilling, and production activity that would likely occur in the next 10 years, the anticipated life of the 2014 RMP. This was predicted to be approximately 100 to 400 federal wells to be drilled on federal mineral</p>	<p>Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses.</p> <p>The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS), at the planning level of detail. The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.</p>

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		<p>estate per year during the life of the 2014 RMP. This includes 90 to 360 wells per year on existing leases issued and 10 to 40 wells per year on new leases issued subsequent to the 2014 RMP approval date. Some of these wells were expected to be hydraulically fractured. You have no idea how many wells will eventually be fracked, the upper limit on all wells, or how much "produced" waste water will be injected underground. There is no mechanism discussed to study this issue. There is no upper "STOP" point. Some guy in a BLM office who is just going to keep stamping permits until CA explodes. Here are some basic FAQ's you should have provided. (For embedded reference links, go here. https://wp.me/P8mqbi-coJ) Fracking is generally NOT the main cause of induced earthquakes. The deep disposal of wastewater and "produced water" related to gas and oil production is the main culprit behind the causation of frack-quakes in areas like Oklahoma, that used to be essentially quake-free. Wastewater is produced at all wells, not just fracking sites. The majority of waste water is "produced water" that comes up with the oil during the extraction process. Hydraulic fracturing chemicals and particles can be as little as 10% of the fluid needing disposal. Salt water is produced at virtually all oil wells, whether the wells were hydraulically fractured or not. Not all wastewater injection wells induce earthquakes. It depends on volume and rate, the location of faults and the presence of pathways to get to the faults from the well area. Not all areas that drill for oil have all the requirements for earthquakes. HOWEVER, WE DO! (See attached earthquake fault map!) Induced earthquakes can occur at 10 miles or more from injection wells and at greater depths than the original injection point. Added pressure on the water is not necessary, just pouring it (gravity feed) in will do. Although seismicity associated with salt-water disposal has caused damaging earthquakes, there has not yet been a catastrophic event or fatalities. Preliminary results in a number of areas of induced seismicity indicate that the earthquake hazard in these areas is comparable to the hazard in areas more traditionally known for earthquakes, such as California. In cases when injection of water induces earthquakes of larger magnitudes, the earthquakes are most likely the result of reactivation of nearby pre-existing faults by upsetting the subsurface pressure regimes that keep the fault closed. (That sounds like CALIFORNIA!) Now, about California... In the 1970's, research by Dr. Kerry Sieh showed that over the last 15,000 years, great earthquakes (Magnitude "M">8) on the southern portion of the San Andreas fault occurred in a regular manner, easily dated to within about ±5 years. The time period varied in a regular and reproducible way. The last great earthquake occurred in 1857, and the work showed that the next "Big One" should have been in 1947. However, beginning at about 1900, extensive drilling for oil occurred in the Los Angeles Basin and surroundings, simultaneously with a rapidly growing population extracting increasingly larger amounts of groundwater. Between both these factors, the balance of oil and water completely changed the subsurface dynamics of the San Andreas fault system, changing the previously reliable but terrifying frequency of catastrophic earthquakes. Now no one knows when the next "Big One" will occur. Or how big it will be, considering that we have locked it up tighter than it ever was. Recent research has linked earthquakes to wastewater injection. A 2016 study linked wastewater injection in the Tejon oilfield near Bakersfield with a 2005 swarm of two earthquakes reaching magnitude 4.7. These earthquakes occurred about five miles from the injection wells linked to the seismic activity. In a related 2015 study, researchers identified at least three other cases in Kern County where wastewater injection likely induced earthquakes, including earthquakes greater than magnitude 4.1. The seismologists cautioned: "considering the numerous active faults in California, the seismogenic consequences of even a few induced cases can be devastating." Meanwhile, the industry is trying new, more invasive techniques. Directional drilling, for example, has greatly expanded access to rock formations. Companies also employ high fluid volumes to fill horizontal "well bores" that sometimes extend for miles. And oil and gas producers are using new chemical concoctions collectively called "slick water" that allow injection fluid to flow rapidly enough to generate the high pressure needed to break apart rock. Acidization, another dangerously extreme fossil fuel extraction technique, is similar to fracking but employs hydrofluoric or hydrochloric acid to dissolve rock. We are only just beginning to understand what we are doing to our local geologies, and this is dangerous. Geologists have been observing the startling increases in earthquakes. a steady background rate of 21 earthquakes of 3.0 Mw or greater in the central United States per year. Some have suggested that there is hope for mitigating the likelihood of damaging earthquakes through detailed seismic monitoring, careful selection of injection locations, variation of injection rates and pressures in response to ongoing seismicity, and a clear management plan. New research on seismology in places such as Texas and Oklahoma suggests risky and unknown changes. It is just not smart policy to go headlong first – at massive scale – and only later discover the consequences. YOU NEED TO START AGAIN ON THIS AND SERIOUSLY CONCENTRATE ON FRACKING ISSUES.</p>	

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19500	Environmental Justice	<p>Kern County is the most-fracked county in California by a wide margin. This region also has the worst air quality in the nation, as well as highly elevated rates of cancer and respiratory illness. For the people that live here, fracking means more oil extraction, more crippling climate impacts, and more impacts on their health. “The San Joaquin Valley has the worst air quality in the U.S. and experiences severe groundwater depletion and contamination,” said Nayamin Martinez, director of the Central California Environmental Justice Network. “These problems are only going to be exacerbated if oil extraction and fracking are allowed on public lands. We should learn from the damage we have done to fenceline communities in Kern County, where thousands of low-income residents live near oil wells that emit benzene and other dangerous pollutants.” (CBD - https://www.biologicaldiversity.org/news/press_releases/2019/california-oil-and-gas-leasing-04-25-2019.php) The EIS is silent on issues of environmental justice and racism. Hello, 21st century. We can do better!There's no description of comprehensive measures needed to ensure that oil and gas development does not contribute to environmental degradation, pollution, or threatens the health of residents in neighboring communities. There are no maps showing how close dwelling are to leasable lands described in this EIS. There are no demographic maps showing neighborhood makeup.(We've included two demographic map file from the NRDC (https://www.nrdc.org/sites/default/files/california-fracking-risks-report.pdf) We've already submitted a comment on the hazards of noise on the health of people living in neighborhoods close tooil and gas operations. (BKFO-HF-DSEIS--1-514223) Air pollution is worse where non-white and low-income people live. We've already submitted a comment on the hazards of (BKFO-HF-DSEIS--1-514264) Millions of people in California are exposed to air pollution from fracking and drilling – and environmental justice communities are hit the hardest. STAND-LA, an environmental justice coalition of community groups that seek to end neighborhood drilling, has persuaded the Los Angeles City Council to commission a study of a 2,500 ft buffer zone around oil and gas wells. Living near fossil fuel operations means dealing with spills and explosions from an industry that routinely shows they have little incentive to prevent these incidents. A study has shown that those living near fracking sites had significantly lower birth weights—and worse health—than other babies. (detailed here: https://www.sciencemag.org/news/2017/12/fracking-linked-low-weight-babies) A 2012 study by the National Association for the Advancement of Colored People found that people of color are 39 percent of the population within three miles of the coal-fired power plants throughout the nation. A 2017 study by PSE Healthy Energy revealed that half of California’s gas-fired power plants were located in communities designated as disadvantaged. Do these industries help the disadvantage communities or mostly just make them sick? A study from Headwaters Economics found that oil and gas drilling don’t even raise incomes when they come to town?—?in fact, they lower them. Looking at the period from 1980 to 2011, the studyfound that longer periods of specialization in oil and gas meant lower per-capita incomes, more crime, and lower educational achievement. Per capita income was found to be as much as \$7,000 lower in counties with a long-term focus on drilling compared to those that only experienced a year of it. Although many studies show positive short-term income effects from oil and gas development, the Headwater study study was significant because it showed that they don’t last long-term. Again, that points to limited job creation for high-income specialists as drilling starts, before the negative effects of extraction take over. Heidi Garrett-Peltier of the University of Massachusetts’ Political Economy Research Institute told ThinkProgress, the oil and gas industry is one of the worst to invest in if you want to create jobs. “In oil and gas, 12 percent” of value added investment goes to employees. In renewable manufacturing industries, it’s 60 percent.” Oil and gas industry is a capital-intensive business, with the majority of its investment going to physical capital and comparatively little going to the workers. Spending largely goes to buy land with fossil fuels underneath, to buy or rent the specialized equipment that’s a big part of the business, and to build infrastructure that doesn’t require much human time or effort once it’s done. “In an industry that’s capital-intensive, more of the revenue coming in goes towards paying for equipment,” Garrett-Peltier said, “which means it’s going more to profits for the owners of the equipment.” Robert Pollin, also of the University of Massachusetts’ Political Economy Research Institute stated that ownership of valuable deposits of fossil fuels like oil, natural gas, and coal is also concentrated among the wealthy or utilities owned by large companies with highly-concentrated ownership. Regular home owners may not even have rights to the oil and gas beneath their homes, making them vulnerable to fracking moving in close by. We're wondering when the BLM will rediscover it's mission to manage the land to create an healthful and sustainable environment for the people and wildlife who live near the lands it oversees.</p>	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>

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18190	Climate and Air Quality	<p>(Go here for embedded links: https://wp.me/P8mqbi-cow) "There is no safe level of air pollution." (Newsweek) (BusinessInsider) (LATimes)"...a growing body of evidence suggests that exposure can also harm the brain, accelerating cognitive aging, and may even increase risk of Alzheimer's disease and other forms of dementia."(Sciencemag)"Oil and gas extraction is one of the largest industrial polluters in the San Joaquin Valley, emitting dangerous particle pollution, smog-forming volatile gases and toxic air contaminants," said Genevieve Gale, executive director of the Central Valley Air Quality Coalition. "Additional air pollution from expanded operations adds insult to injury, keeping Valley residents at risk and limiting our ability to achieve clean air." "Expanding extraction of dirty fossil fuels on our public lands threatens the health of our communities and the future of our climate," said Monica Embrey, a senior campaign representative at the Sierra Club. "We will push back every step of the way against this reckless plan to subject more of CA's lands, wildlife, and communities to fracking." (CBD)What they say in the EIS...(pg 2) "The RFDS projected the exploration, drilling, and production activity that would likely occur in the next 10 years, the anticipated life of the 2014 RMP. This was predicted to be approximately 100 to 400 federal wells to be drilled on federal mineral estate per year during the life of the 2014 RMP. This includes 90 to 360 wells per year on existing leases issued and 10 to 40 wells per year on new leases issued subsequent to the 2014 RMP approval date. Some of these wells were expected to be hydraulically fractured."First off, it is really hard to know how many will really occur and whether they will be conventional or fracking. The BLM start out with a guiding estimate...(pg. 44) "The projected emissions included in the 2012 Final EIS are based on conventional well development for 400 wells over the 10-year period of the 2014 RMP, or an average of 40 wells per year on new leases.(Or more...It doesn't say "maximum")The analysis in this section projects the emissions of a maximum of 4 conventional wells that are also hydraulically fractured per year over a 10-year period." (It projects an arbitrary number of 40 fracked wells out of 400 total over 10 years for the purpose of creating estimate tables. It doesn't actually limit itself to 40.)... (Pg. 53) "Emission factors based on per-well analysis are used in conjunction with a maximum new well development of an average of fournew hydraulically fractured wells per year over the 10-year life of the plan." (What is the maximum of an average? Really!)We disagree with this analysis. In Kern County, CA's major oil-producing county, 50 - 60% of new oil wells are fracked, according to Halliburton. And fracking may have been done elsewhere in CA, since state officials haven't monitored or tracked the practice until recently. If 40 wells are "allowed" a year, there could be 20 to 24 fracked wells, and 200 to 240 in 10 years.(Pg. 52) "...Therefore, the potential impacts from the approximately 40 new hydraulically fractured wells are estimated based on hydraulic fracturing assumptions carried forward throughout this Draft Supplemental EIS. This analysis follows the methods and assumptions used for a similar analysis developed in the Central Coast Field Office Draft RMPA/EIS (BLM 2017)"LET'S DISCUSS EMISSIONS: We'll start with their low-ball scenario of an average of four new hydraulically fractured wells per year over the 10-year life of the plan, or 25% of all wells.According to the EIS (Table ES-2 below), "Emissions from hydraulic fracturing well development are summarized in Table 4.1.1. These emission increases are minimal, with the largest being NOx at 2.74 tons per year....This language is deceptive. The emissions number is based on the ADDITIONAL greenhouse gas load over the amount already calculated for a conventional well per pg. 55, Table 4.1.1. The real story is that emissions from hydraulic fracturing more than doubles the projected NOx emissions from 2.18 tons/year to a project total emissions increase of 4.92 tons/year. This is for an "average" of 4 wells a year, based on "past behavior of drillers".Table 4.1.5.(pg. 58) describes estimated "production phase + end use of GHG emissions for 40 hydraulically fractured wells = 221,119 MTCO2e per year, well above Santa Barbara County's threshold of significance for GHG emissions - 1,000 metric tonnes (MT) per year.We believe it easily could be 5-6x more, due to Halliburton's actual % used. 1,105,595 - 1,326,714 MTCO2e SO WHAT'S THE LIFETIME EMISSIONS FOR THE ESTIMATED 400 WELLS? What about all the other wells, conventional ones, or the ones on previously leased land?Table 4.1.6(pg. 60) shows that ozone levels from this proposal fail every county's Air Pollution Control District Attainment Status except Santa Barbara. Why would you even be promoting a project that, according to 4.1.7(pg. 62) causes "EXTREME" non-attainment for 8-hour ozone and moderate nonattainment for PM for San Joaquin and "SERIOUS" for Ventura. This whole thing should have been stopped right there. And now these studies...A new study by the EDF finds that methane escaping from fracking operations in PA "causes the same near term climate pollution as 11 coal fired power plants" and is "five times higher than what oil and gas companies report" to the state. A previous assessment by EDF last November found methane emissions escaping from oil and gas wells in New Mexico are "equivalent to the climate impact of approximately 12 coal fired power plants." Land management involves responsibility to the people who trust you to keep them safe and healthy.</p>	<p>Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.</p>

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22033		<p>We were amazed that a factor that is so important in any group issue was totally ignored, except for two incomplete references in the EIS...But let's start at the beginning... First a note:(If you want to see all the links to articles, reports and other source material, go here: https://wp.me/P8mqbi-coC. There are also videos that will give you a clear picture of the issues we're talking about below.)Now a quote... "Now comes the second phase. The dreadful noise generated by a nearby large compressor station. Noise that was so loud that our dog was too frightened to go outside to do his business without a lot of coaxing. Noise that sounds like a jet plane circling over your house for 24 hours a day. Noise that is constant. Noise that drives people to the breaking point. My neighbor called the sheriff, state officials and even the governor and was told nothing could be done about the noise. Like I said, the noise drives people to the breaking point, and my neighbor fired 17 rifle shots toward the station." –Excerpted from CBM Destroys Retirement Dream. In the EIS, (under "Conventional Well/pads" it states: Operation frequency varies from field to field, but the wells generate 24 hours per day, 7 days per week, 365 days per year." (pg. 46) Note that no decible level, of compressors, trucks, etc, is mentioned. Then, under “Hydraulic Fractured Well/Pads”, it discusses a single day of hydraulic fracturing pumping activities typically producing sound of approximately 107 decibels. Noise typically attenuates to 80 to 90 decibels at the edge of the site (California Department of Conservation 2015). (pg. 46) Hydraulic fracturing is considered part of the "well completion" phase. The process typically takes 1 to 2 days. (CA Dept. of Conservation 2015). We earlier sent you an email discussing that this was not an equivalent, nor even complete comparison. There's a continuum for noise at a well site. There is a noise level for construction, drilling, which was not called out anywhere, for fracking, and for compressor stations, which can be around for years. Depending on the depth of the formation, some wells may take less than 24 hours to drill, while some well in deeper formation may take more than 60 days to drill (Kern County 2015). BLM data indicate that most of the wells are typically in shallow formations where little site preparation is necessary and the drilling normally only takes 2-4 days. (Appendix A, 2012 Final EIS). The BLM itself was found to have supplied some of the missing data: for point sources 50' away (just not in this report):Well drilling - 83 dBA Pump jack operations - 82 dBA Water injection facilities - 71 dBA Gas compressor facilities - 89 dBAThe study in La Plata Co., CO reported these issues...Well drilling - 83 dBA Pumping units - 50 dBA (325 feet from well pad) Water injection facilities - 71 dBA Gas compressor facilities - 50 dBA (375 feet from property line) Fuel and Water trucks - 68 dBA (500 feet from source) Crane for hoisting rigs - 68 dBA (500 feet from source) Concrete pump used during drilling - 62 dBA (500 feet from source) In our earlier email, we also included a decibel chart and asked if you were entirely serious about putting a fracking rig, that emitted a 107 sound, even for 1 or two days, within 200' of an occupied residence, or "even closer"..., knowing that it could cause severe hearing damage. (Charts describe 100 dBA to: Jet take-off (at 305 meters), use of outboard motor, power lawn mower, motorcycle, farm tractor, jackhammer, garbage truck. Boeing 707 or DC-8 aircraft at one nautical mile (6080 ft) before landing (106 dB); jet flyover at 1000 feet (103 dB); Bell J-2A helicopter at 100 ft (100 dB) This information about "setbacks to homes", which had been on page 29 on the "alternatives" chart, is gone now, which we appreciate. But in it's place, nothing. Since this is a discussion about noise, we will say "crickets". You have list no standards for noise, nor noted any consequences of it. Health impacts for humans: There is scientific evidence that environmental noise has serious negative health impacts. A comprehensive reviewof all available data and measurements of noise levels at oil and gas operations compared the information to various health-based standards, such as those from the World Health Organization. The researchers concluded that modern oil and gas development can cause noise at levels that increase both short- and long-term health risks, including stress, sleep disturbance and deprivation, elevated blood pressure, diabetes, depression, birth complications and cognitive impairmentin children and contribute to the development or aggravate heart and circulatory diseases disease. Prolonged periods of exposure to even 65 dBA can cause mental and bodily fatigue, permanent hearing damage; and transform a person's initial annoyanceinto more extreme emotional responses and behavior as well. Noise exposure, like other health threats, may disproportionately impact vulnerable populations such as children, the elderly and people with chronic illnesses. Health impacts for animals: Noise has also been documented to have negative physiological and reproductive effects on birds and other wildlifeand interfere with their ability to communicate. It may even cause their temporary or permanent displacement from particular areas; if nests and dens are abandoned, populations could decline. Chronic and frequent noise interferes with animals' abilities to detect important sounds, whereas intermittent and unpredictable noise is often perceived as a threat. Importantly, these effects can lead to fitness costs, either directly or indirectly. If you are to continue in aiding and abetting this toxic industry, you need to set standards for all noise-creating operations on our land. We agree with this article (http://commongroundrising.org/oil-and-gas-noise/) that mitigation must be provided to provide a night time</p>	<p>Thank you for participating in the public comment process on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis are summarized in respective sections of Chapter 4 of the Draft SEIS.</p> <p>The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>

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		ambient noise of 35-50, depending on the the original noise level of the area's night time noise level, and no more than 55 dBA during the day near residential zones, measured at the edges of a property boundary or animal refuge area. We taxpayers do not like to spend our tax dollars on law suits with property owners, sickening children or the elderly, or harming animals. What we'd prefer is that you get out of the air polluting, water polluting, noise-making, sick-making business of oil and gas, and go into silent green sources of energy production instead. Then we would believe you are true stewards of the land for us, the American public	
18957		Re. BLM Bakersfield Field Office Hydraulic Fracturing Draft Supplemental EIS DOI-BLM-CA-C060-2018-0082- EIS I am concerned by the negative environmental and human health impacts of this proposal, which are aggravated by a number of shortcomings with this draft EIS. In California, as elsewhere, fossil fuel-intensive methods of fossil fuel extraction, which also rely on corporate-secret quantities and types of chemicals, need to stop. They are dangerous to humans, animals, and plants. They produce more climate change which is bringing urgent and catastrophic events. And they produce earthquakes and other geological changes that harm water quality and have real costs. Despite the wealth of experience we have documenting the negative environmental impacts of acid steam injection, fracking, and other methods used to extract unconventional gas and oil, the draft EIS states that there are no environmental impacts that are too significant to be mitigated. In other words, everything can be mitigated. This alone suggests the draft EIS requires engaging with climate change science, the overwhelming majority of which points to severe negative impacts from oil extraction for this region of California as well as the globe. The draft EIS does not specify how much and what kinds of GHG this project would produce, and when. Assuming the entire area is leased for fossil fuel production, can GHG emissions on this magnitude be mitigated through the state's cap and trade program, for example? That seems unlikely to me, but the EIS should study this and state clearly what the anticipated GHG emissions might be and how exactly emissions in those quantities might be mitigated. In addition, what are the impacts on air quality in this specific place from this project? What are the impacts when added to all the other projects being considered, e.g., the cumulative impacts? For how much longer will Californians continue to suffer from air pollution that produces asthma and other forms of lung disease, and at what private and public cost? To be sure, the current EIS document (and the 2014 document it supplements) acknowledges some environmental impacts from fracking in this region: these include, soil disruption, toxic air emissions, groundwater contamination in case of poorly executed waste water disposal (as has been widespread practice in California overseen by DOGGR), cultural impacts for Native American communities. After 100 years of this kind of development, the harms have piled up and these are no longer "insignificant." The cumulative impacts of a century of ecologically destructive development have added up to very significant impacts, to which this proposal would contribute directly. The draft EIS suggestion that only 0 to 4 wells would be used for fracking each year is questionable; we know from oil projects currently under review that companies are lining up to practice different forms of fracking and oil extraction. At numerous hearings this past year, I have heard oil industry representatives recognize that this industry is seeing its last days. California, county, and city policies are all moving towards supporting renewable energy production and towards restricting fossil fuels. It is only logical that those in the industry would be rushing to develop whatever they can as soon as possible. Thus, the real magnitude of anticipated oil and gas development needs to be made transparent to the public who lives here. Underestimating or obscuring this renders most calculations in the EIS misleading, because the magnitude of extractive operations is directly responsible for the magnitude of the environmental and human health impacts. I heard that these estimates come from oil and gas operations on other federal lands (according to Gabe Garcia, field manager of the BLM's Bakersfield field office). But this area already contains the infrastructure needed to quickly and cost-effectively deliver oil to market, including access to refineries, consumers, and ports for export. The EIS should address the specific impacts climate change will have on the Central Coast, including from drought, fires, and sea level rise. Water quality and quantity are acute problems here; the EIS should be specific about how this proposal would negatively impact water quality and quantity. The proposal to open up more BLM land to fracking and oil development is a step backward and a devastating mistake. It goes against California policies that have been ratified and passed again and again at the state, county and city levels. This proposal should be withdrawn - that is the historically and ethically correct way to go.	<div>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.</div> <div>The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species.</div> <div>The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</div>

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23470	Alternatives	I write to ask that the BLM Bakersfield Field Office FULLY evaluate and ADDRESS potential IMPACTS of hydraulic fracturing in the Central Valley, INCLUDING CONSIDERING the need to REFRAIN ENTIRELY from moving forward with new leasing and to put in place MEANINGFUL PROTECTIONS. BLMs initial analysis of impacts from hydraulic fracturing in the Bakersfield Field Office was NOT sufficient ! It UNDERESTIMATED impacts on air quality; on drinking water; on protected public lands and local communities; and DID NOT CONSIDER making ANY meaningful changes to current management. That is UNACCEPTABLE. Specifically, BLM should CONSIDER an alternative for NO new leasing; AND should consider an alternative that INCLUDES: SETBACKS from schools and other high-occupancy community facilities, developed with PUBLIC AND LOCAL input, and BASED on the STUDY of the HEALTH EFFECTS of oil and gas development; SETBACKS from irrigation facilities AND OTHER water sources; An AIR QUALITY MONITORING REGIME, and MEASURES to mitigate particulate matter, nitrogen oxides, volatile organic compounds, AND OTHER POLLUTANTS; COMPREHENSIVE DISCLOSURE AND EVALUATION OF IMPACTS from toxic materials used in hydraulic fracturing; IDENTIFYING parks, recreation areas, wildlife habitat, AND OTHER AREAS that MUST be shielded from development IMPACTS; FULL AND PROACTIVE RANGE of opportunities for PUBLIC participation, INCLUDING PUBLIC COMMENT opportunities for ALL LEASE SALES, ALL public meetings, providing BILINGUAL information when necessary AND performing NEPA ANALYSIS FOR ALL LEASE SALES. Please AMEND the Bakersfield RMP to INCLUDE ALTERNATIVES that fully and LEGITIMATELY CONSIDER the tremendous RISKS involved in hydraulic fracturing, AND the CONSEQUENCES that could befall communities in the Central Valley.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis. Neither a state-wide leasing moratorium, nor the choice of a 'no leasing' alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.
17326	General	I insist that the BLM, EPA, DOGGR take these peer review studies and reports, compendium and read the reports and respond to each and every submission as read or not read.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
17326	General	I would like you to confirm that you have read these reports and that they are entered into the record as read to show cause and evidence supporting your decision.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
17326	General	Please note attachment with comment. thank you.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
17326	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	Frankly given these facts and findings the only honest decision you can make as an agency whose mission and sworn duty is to sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations is to vacate this lease offer on public lands for the benefit safety and well being of all parties that will be adversely impacted by the trespass.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
17326	Public Health and Safety	Every well site in the state according to CFR needs to be certified and documented a Class I Underground Injection site if it disposing of toxic waste by products manufactured by the oil industry. And here's the deal. If it isn't certified and there are NO exceptions to this rule because then it would not be fair dealings. There is absolutely no benefit to the public to have all the safety and health rules removed.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
17326	Public Health and Safety	If you have not read this compendium then your decision would be lacking significant evidence to support approval of using public lands to dispose of toxic, radioactive, cancer causing chemicals. These are facts regarding our safety health and wellbeing that cannot be denied or dismissed. Doing so is reckless disregard with knowledge and intent to avoid facts and findings crucial to making a fair, just decision on the issue of our safety and well being.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
17326	Public Health and Safety	Second. UIC A class I toxic waste disposal certification that the site is safe for 10,000 years, for each well and site. The licenses to operate a toxic waste disposal site must be displayed at the place of business for anyone to see. No permits to operate can be issued until 1) MSDS sheet on the toxicity and 2) UIC Class I certification	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
17326	Public Health and Safety	Third. We need a citizen complaint form. Right now no one knows who is in charge of these sites. If there is a leak, spill, air releases we need a simple readily accessible contact number to report to. So a centralized form to respond to any and all citizen complaints within a timely manner is essential for our peace of mind.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
17326	Public Health and Safety	This is your job to comply with and supply the following documents to support your decision. First. An MSDS sheet that evaluates the combination of all the injected materials. That is to say that one MSDS sheet with the results of the combination of all the chemicals injected and the resulting hazards and cautions. How to respond to fire and explosion with the chemicals involved.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
16834	Climate and Air Quality	4. BLM failed to consider emissions of toxic air contaminants and other pollutants from produced water (storage and treatment). There are over 1,000 produced water ponds in California, and most are located in the San Joaquin Valley. In 2014, CARB published a report that includes measurements of emissions from produced water ponds which indicated there may be significant emissions of toxic air contaminants and methane from these sources. Additional work (in progress) on produced water ponds emissions indicate the potential for significant emissions of toxic air contaminants from these sources.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
16834	Climate and Air Quality	Diesel-powered equipment is an important contributor to emissions associated with hydraulic fracturing operations. Additional diesel particulate matter (DPM) emissions would have a negative impact on communities near hydraulic fracturing operations, but are not considered in the draft SEIS.	As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the "2014 RMP," identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.

Comment Number	Issue	Comment	Response
			The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.
16834	Climate and Air Quality	DPM has a significant impact on California residents. About 70 percent of the known cancer risk related to air toxics is attributable to DPM, and a number of non-cancer health effects are also associated with DPM, including cardiovascular and respiratory hospitalizations, respiratory emergency visits, and cardiopulmonary death. BLM is required to consider such impacts in its SEIS but did not.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
16834	Climate and Air Quality	While the impacts to air quality, including PM2.5 and NOx are determined in the draft SEIS to be minimal given the existing emission calculations, some of the areas BLM identified in the San Joaquin Valley with moderate to high resource potential are close to communities already bearing the burden of poor air quality. Development of resources close to these communities may result in increased localized air pollution. Short-term increases of criteria pollutants such as NOx and PM2.5 may result in negative health impacts, disproportionately affecting residents in nearby communities, and these potential impacts merit full analysis.	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.
16834	Environmental Justice	BLM did not follow the principles for considering environmental justice under NEPA. The draft SEIS does not address environmental justice impacts of hydraulic fracturing on BLM land, but merely asserts that the impact is negligible.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
16834	General	BLM cites a 2014 California Council on Science and Technology (CCST) report in asserting, "The use of hydraulic fracturing in California has continued at the same low rate for many years, and it is unlikely to increase any time soon." However, the cited report states that the number of hydraulic fracturing events was steady at around 100 to 150 events per month, orders of magnitude higher than the zero to four hydraulic fracturing events that BLM estimates per year.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.

Comment Number	Issue	Comment	Response
16834	General	Given that the number of wells estimated to be hydraulically fractured is foundational to the rest of BLM's analysis, BLM's failure to justify its assumption, and to provide the analysis and underlying data, precludes informed comment on much of the draft SEIS. As explained above, BLM should revise and republish the draft SEIS to incorporate updated data leading to improved well estimates. At a minimum, however, BLM should either provide the underlying "memo to file" or publish the analysis in a formal document, and extend the comment deadline for 45 days from the date of release or publication.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
16834	General	In addition, the supplemental hydraulic fracturing analysis area (Figure 4.1) contains and/or is nearby locations where hydraulic fracturing is more likely. Specifically, areas proposed in the analysis include fields where most hydraulic fracturing occurs in California: Buena Vista Nose, Elk Hills, Lost Hills, and Belridge. It is not clear why BLM would estimate zero to four new hydraulic fracturing events annually in an area where such events occur in the hundreds per year. BLM should revise and reissue the draft SEIS to incorporate updated data that reflects current activity in the oil and gas sector. The number of wells estimated to be hydraulically fractured is foundational to the draft SEIS, and a correction to this assumption necessitates issuance of a revised draft SEIS, so that stakeholders may comment on the aspects of the draft SEIS that rely on this assumption.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
16834	General	The document relies on unjustified and likely inaccurate assumptions and has suffered from significant procedural flaws. BLM should revise and republish the Draft Supplemental Environmental Impact Statement to justify its assumptions and/or incorporate updated data leading to improved well estimates or, at a minimum, extend the comment deadline for 45 days following correction of the procedural errors.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). In order to complete the supplemental analysis following the guidance of Secretarial Order 3355 (https://www.doi.gov/sites/doi.gov/files/uploads/3355_-_streamlining_national_environmental_policy_reviews_and_implementation.pdf), BLM is not able to accommodate requests to extend the public comment period on the Draft SEIS.
16834	General	The draft SEIS is predicated on particular assumptions about the number of wells that BLM considers likely to be hydraulically fractured. The draft SEIS assumes that only zero to four wells will be hydraulically fractured per year, over a 10-year period, and therefore analyzes potential impacts of hydraulically fracturing only that number of wells. BLM appears to reach this conclusion by estimating that, of the 40 new wells on new leases identified in the 2012 and 2014 planning documents, zero to 10 percent would be hydraulically fractured. However, the resulting estimate is unjustified, relies on outdated information, and is likely inaccurate. BLM provides no factual support for its apparent estimate that zero to 10 percent of new wells on new leases would be hydraulically fractured. As BLM acknowledges, "A critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured." To reach this "critical assumption," the draft SEIS explains, "BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.

Comment Number	Issue	Comment	Response
16834	General	The SEIS analyzed impacts related to opening new areas of California to oil and gas production that uses hydraulic fracturing or other well stimulation technology. Such operations carry the potential for significant adverse impacts to California air quality, water quality, sensitive habitats and residents.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
16834	General	wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP." The draft SEIS does not provide calculations, describe the analysis performed, or specify the underlying data, as elaborated under "Procedural Issues" below. We therefore are unable to comment on the validity or appropriateness of this assumption, or the accuracy of myriad components of the draft SEIS that rely on the estimated number of wells. BLM applies this zero to 10 percent assumption to an outdated and likely inaccurate estimate of the number of new wells on new leases under the planning scenario. BLM reaches its zero-to-four wells per year estimate by extrapolating from its 2012 final environmental impact statement (FEIS), in which BLM concluded, "Based on the [reasonably foreseeable development] scenario, the proposed action is projected to result in an estimated 4,000 wells over the next 10 year period or an average of 400 wells per year. This would result in 40 new wells annually[.]' The data BLM used to estimate the number of hydraulic fracturing events in the 2012 FEIS is almost a decade old, as the reasonably foreseeable development scenarios (RFDS) published in the 2012 final EIS relied on 2010 data. The unjustified assumption that zero to 10 percent of wells would be hydraulically fractured, applied to the outdated estimate of 40 new wells on new leases annually over 10 years, results in an assumption of zero to four hydraulically fractured wells per year that is likely inaccurate. CARB's technical staff perceive BLM's estimate of zero to four hydraulic fracturing events per year to be a significant underestimate, given current data.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
16834	NEPA Process	Procedural flaws have delayed or precluded fully-informed comment. Despite releasing the draft SEIS on April 25, 2019, BLM did not make the underlying 2012 FEIS, which the draft SEIS supplements, publically available until May 28, 2019. Given the necessity of reviewing the 2012 FEIS in conjunction with the draft document that supplements it, BLM should extend the comment deadline for 45 days after May 28, 2019.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). In order to complete the supplemental analysis following the guidance of Secretarial Order 3355 (https://www.doi.gov/sites/doi.gov/files/uploads/3355_-_streamlining_national_environmental_policy_reviews_and_implementation.pdf), BLM is not able to accommodate requests to extend the public comment period on the Draft SEIS.
16834	Public Health and Safety	As detailed in the attached comment letters, the Bureau fails to consider health impacts to the state's most vulnerable populations, the significant health risk from emissions of toxic diesel particulate matter, emissions of toxic air contaminants, and contamination of surface and ground water.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Soil Resources; Water Resources; and Social and Economic Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Comment Number	Issue	Comment	Response
16834	Water Resources	BLM must include the following State Water Board regulatory authorities in its SEIS and any amendments to the Resource Management Plan:Water Code Section 10783 groundwater monitoring requirements for well stimulation treatments in areas of oil and gas operations, including the State Water Board Model Criteria for Groundwater Monitoring to assess potential impacts of well stimulation treatments;The requirements that operators obtain Water Boards approval of an area-specific groundwater monitoring plan or confirmation of an exclusion from monitoring prior conducting well stimulation treatments (Cal. Code Regs, Title 14, Section 1783);Stormwater permit requirements for discharges from oil and gas production sites, including but not limited to discharges of overburden, raw material, and other products associated with the proposed activity;Sustainable Groundwater Management Act requirements, which provide a framework for sustainable management of groundwater resources by local agencies;National Pollution Discharge Elimination System (NPDES) permit requirements for any disposal into surface waters, including strict monitoring and reporting requirements required in NPDES permits; andSection 401 certification permit requirements for any oil and gas production activities that involve dredge or fill within state waters.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
16834	Water Resources	discharges from oil and gas production sites, including but not limited to discharges of overburden, raw material, and other products associated with the proposed activity. National Pollution Discharge Elimination System (NPDES) permits are required for any disposal into surface waters, including strict monitoring and reporting requirements. Section 401 certification permits are required for any oil and gas production activities that involve dredge or fill within state waters.Strikethrough: and must approve operators' groundwater monitoring plans, develop model groundwater monitoring criteria, and implement a regional groundwater monitoring plan. In addition, the Water Resources Control Board supervises and reviews water quality sampling and testing at permitted wells. The Groundwater Ambient Monitoring and Assessment Program, as authorized by AB599 - Groundwater Quality Monitoring Act of 2001, is the source of monitoring requirements.	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). The Final Supplemental EIS text has been modified to read: The California State Water Resources Control Board and Regional Water Quality Control Boards also play a significant regulatory role. Water Code Section 10783 requires that before well stimulation treatments can occur the State Water Board and Regional Water Quality Control Boards have approved a groundwater monitoring plan or have issued a letter to the operator that groundwater monitoring is not required. Stormwater permits are required for discharges from oil and gas production sites, including but not limited to discharges of overburden, raw material, and other products associated with the proposed activity. National Pollution Discharge Elimination System (NPDES) permits are required for any disposal into surface waters, including strict monitoring and reporting requirements. Section 401 certification permits are required for any oil and gas production activities that involve dredge or fill within state waters.
16834	Water Resources	In the References chapter of the SEIS, BLM should add the State Water Board's Model Criteria for Groundwater Monitoring in Area of Oil and Gas Well Stimulation, Adopted July 7, 2015 (Model Criteria).	The Final Supplemental EIS text does not reference the Model Criteria in the text of the document, therefore this reference was not added to the references chapter.
16834	Water Resources	On page eight of the SEIS, BLM should add "Water Code":Each well must comply with groundwater protection standards (Water Code: Division 6. Part 2.76. Groundwater Quality Monitoring: Section 10783), and upon completion, a report must be submitted to DOGGR;	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). The Final Supplemental EIS text has been modified to include "Water Code" in the reference to the groundwater protection standards.
16834	Water Resources	On pages eight and nine of the SEIS, we suggest the following edits:The California State Water Resources Control Board and Regional Water Quality Control Boards also plays a significant regulatory role. Water Code Section 10783 requires that before well stimulation treatments can occur the State Water Board and Regional Water Quality Control Boards have approved a groundwater monitoring plan or have issued a letter to the operator that groundwater monitoring is not required. Stormwater permits are required for	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). The Final Supplemental EIS text has been modified to read:

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			The California State Water Resources Control Board and Regional Water Quality Control Boards also play a significant regulatory role. Water Code Section 10783 requires that before well stimulation treatments can occur the State Water Board and Regional Water Quality Control Boards have approved a groundwater monitoring plan or have issued a letter to the operator that groundwater monitoring is not required. Stormwater permits are required for discharges from oil and gas production sites, including but not limited to discharges of overburden, raw material, and other products associated with the proposed activity. National Pollution Discharge Elimination System (NPDES) permits are required for any disposal into surface waters, including strict monitoring and reporting requirements. Section 401 certification permits are required for any oil and gas production activities that involve dredge or fill within state waters.
16834	Water Resources	Potential contamination of groundwater that could result from the unintended subsurface discharge of saline produced water, oil, chemicals, or other drilling fluids into aquifers, especially those that are either current or have potential future beneficial use;Access to water rights to use for preparation of site and well drilling that could also lead to areas of groundwater overdraft and/or land subsidence;Disposal of produced water into properly permitted injection wells or surface impoundments (ponds);Potential water impacts to any disadvantaged communities, including groundwater contamination and water table drawdown; andPotential impacts of the proposed activity on public supply wells.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
16834	Water Resources	State Water Board comments on the BLM's Notice of Intent to Prepare a Supplemental Environmental Impact Statement dated September 7, 2018, were not were not fully addressed in the SEIS dated April 2019.BLM must evaluate all potential impacts to surface water and groundwater of the proposed action, including impacts associated with the following:Grading activities to prepare potential drilling sites and access roads and any associated debris generated by these activities;Surface spills associated with any fluids used during the drilling or extraction process, including produced water from wells, oil spills and chemicals associated with hydraulic fracturing and other extraction technologies;Storm water runoff from extraction sites and all associated areas;	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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15681	Alternatives	As discussed in our scoping comments, a reasonable range of alternatives to address the impacts of hydraulic fracturing should include consideration of a no leasing alternative, given the potential severity of those impacts. In the leasing alternatives, BLM should have considered a range of possible means of protecting the public including, but not limited to, the following: • Setbacks from sensitive receptors, as recommended in the CCST report conducted pursuant to California's SB 4.184 • Measures to protect air and water quality to address the resource impacts that BLM has underestimated, as described above. • Measures to safeguard parks and wild and/or specially designated public lands from the impacts of hydraulic fracturing, such as such as closing public lands near national monuments and national parks to leasing. • Measures to ensure full community participation (in light of curtailed NEPA requirements at the APD stage). At a minimum, this should include, for both lease sales and applications for permits to drill:o Conduct NEPA analysis (i.e., determine that use of determinations of NEPA adequacy or categorical exclusions are not permitted for issuing new leases or permits to drill)o Provide for public comment on all lease sales or applications for permits to drillo Notify split estate landowners in advanceo Proactively reach out to affected communities, including with bilingual information as necessary, and hold public meetings as appropriate	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>
15681	Alternatives	BLM should be amending the Bakersfield RMP and evaluating new alternative to managing oil and gas leasing and development, including no new leasing, as recommended in our scoping comments.	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>
15681	Alternatives	In addition to the community alternative we are proposing, BLM also should have considered an alternative in which low and medium potential lands are closed to leasing.	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>

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15681	Biological Resources	The proposed alternative, and other alternatives to be considered, fails to adequately account for impacts to Carrizo Plain National Monument that will result from current and future leasing in the area. BLM must include detailed consideration of the protection of the monument's endangered species, its iconic wildflowers, the cavernous stretch of the San Andreas Fault, and white alkali lake whose sensitive features could be irreversibly harmed if BLM proceeds with the proposed alternative.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Climate and Air Quality	Accepted methods exist to quantify and analyze the significance of GHG emissions (through monetization), which BLM could use to evaluate the significance of those emissions and to balance consequences of emissions against benefits of a specific approval. ⁸⁵ Here, BLM failed to analyze and disclose the significance of the emissions and related climate change impacts using existing tools, such as the Interagency Working Group's Social Costs of Greenhouse Gases and global carbon budgeting.	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.
15681	Climate and Air Quality	Additionally, BLM completely fails to analyze potential GHG emissions from activities other than development, production, and end use, including potential emissions from gathering, boosting, processing, transmission, storage, distribution, and refining.	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.
15681	Climate and Air Quality	Although BLM provided a brief quantitative analysis of air impacts projected from four additional wells per year, their choice not to include a quantitative modeling analysis during this planning phase has resulted in a draft plan that does not accurately reflect reasonably foreseeable air pollution impacts both on a cumulative level and on a level where they are likely to occur in the planning area. This failure to model "deprives reviewers / stakeholders from understanding the health and environmental impacts of the emissions associated with the use of hydraulic fracturing for well stimulation." ²⁵ Thus, BLM must model emissions where they are likely to occur and take into account what impacts new leases could have on more sensitive areas, (such as areas near oil fields that are in extreme/serious nonattainment with NAAQS standards, areas with concentrated populations, and areas near Class 1 areas). As explained in the report by Megan Williams, air quality dispersion modeling is a necessary tool under NEPA because air quality models simulate the physical and chemical processes that affect air pollutants as they disperse and react in the atmosphere and are used to estimate pollutant concentrations at locations of interest based on inputs that include meteorological data and source-specific parameters, such as emission rates	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.

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		and source characteristics (e.g., location, height, etc.). Air quality modeling is the only way to evaluate how emissions sources will impact air quality aside from direct monitoring, which is only able to measure real-time pollution levels at the location of the monitoring device. ²⁶ Without a proper air quality modeling analysis, “the supplemental DEIS cannot be used directly to determine the environmental impacts of the use of hydraulic fracturing technology in oil and gas development on new leases within the Planning Area.” ²⁷ This lack of a dispersion modeling analysis also means that BLM failed to complete step 4 (develop air quality impact analysis) of the 10 step process to conform with federal conformity requirements.	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
15681	Climate and Air Quality	At the very least, BLM should limit the number of wells drilled as a result of this Draft Supplemental SEIS to no more than the 4 a year or 40 total over the ten year period they analyzed in order to ensure that the de minimis threshold for pollutants, like NOx, are not exceeded and compliance with California's various NAAQS SIPs is maintained.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.

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15681	Climate and Air Quality	BLM also provides an estimate of GHG emissions of the end use of the crude oil but similarly fails to include a detailed description of the data and methods used to develop this estimate. BLM assumes “annual production per well of 318,718 barrels of crude oil,” ⁸⁰ but provides no description of how this estimate was derived, thereby depriving the public of the ability to independently evaluate the adequacy of this estimate. BLM states that its estimate of 221,119 MTCO ₂ e of GHG emissions represents the GHG emissions from “the end use of crude oil that could possibly be produced annually by 40 hydraulically fractured wells over the life of the 2014 RMP.” ⁸¹ Using BLM’s estimate of 318,718 barrels of crude oil per well per year and a CO ₂ emissions factor of 0.43 metric tons CO ₂ /barrel (which is equivalent to BLM’s estimate from U.S. EPA of 74.54 kg/MMbtu), total annual CO ₂ emissions from “the end use of crude oil that could possibly be produced annually by 40 hydraulically fractured wells” would be equal to 5,481,950 metric tons CO ₂ —not the approximately 153,000 tons BLM estimates. BLM’s estimate of approximately 153,000 tons of CO ₂ represents the annual per well CO ₂ emissions, not the total annual CO ₂ emissions from 40 wells, as BLM claims. This severely underestimates the total annual CO ₂ emissions resulting from its decisions and deprives the public of a complete understanding of the impacts of this plan and subsequent oil and gas leasing and development on the climate.	As stated in Section 3.1.1 of the SEIS, when quantifying GHG emissions, the different GWP of each GHG pollutant is multiplied by the mass of that pollutant to arrive at a CO ₂ equivalent mass.
15681	Climate and Air Quality	BLM must complete a comprehensive cumulative impacts analysis, including analysis of the cumulative effects of hydraulic fracturing that were not previously anticipated. See <i>WildEarth Guardians v. Zinke</i> , 368 F.Supp.3d 41 (D.D.C Mar. 19, 2019); <i>Diné CARE v. Bernhardt</i> , App. No. 18-2089, 2019 WL 1999298 (10th Cir. May 7, 2019). Instead, BLM completely fails to analyze the cumulative impacts of its actions on climate and instead concludes, with no supporting data or analysis, that, “GHGs are not quantified for conventional well development in the 2012 Final EIS and are therefore not quantified in the supplemental analysis for hydraulic fracturing. The GHG emissions associated with the additional four wells discussed in this Draft Supplemental EIS are discussed above on an additive basis, however, and are de minimis. Considered cumulatively, however, based on the fluid mineral management actions in the PRMP, hydraulic fracturing is a component of the analysis in the 2012 Final EIS.” ⁸⁴ These statements fall far short of BLM’s obligations under NEPA to disclose and analyze cumulative impacts. The agency looked only at the climate impacts of new hydraulically fractured wells on new leases in isolation, without also analyzing and disclosing the emissions and climate impacts of these wells when added to the emissions resulting from other past, present, or reasonably foreseeable actions, in violation of NEPA. See 40 C.F.R. § 1508.27(b)(7) (requiring cumulative analysis even for impacts that are “individually insignificant but cumulatively significant”). Without considering “the combined effects” of such management, the agency cannot make an informed decision “whether, or how, to alter” the plans “to lessen cumulative impacts.” <i>Muckleshoot Indian Tribe v. U.S. Forest Serv.</i> , 177 F.3d 800, 810 (9th Cir. 1999).	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
15681	Climate and Air Quality	BLM must include an analysis of impacts to visibility and ecosystems (e.g., nitrogen deposition) from the conventional and unconventional oil and gas development considered in the Planning Area in order to be able to evaluate whether these activities will result in significant adverse impacts to air quality related values in nearby Class I areas.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
15681	Climate and Air Quality	BLM provides estimates of “development” and “production” phase greenhouse gas emissions but fails to describe the methodology it used to develop those estimates other than to state that it relied on emissions factors from the Division’s SB4 EIR and that the, “analysis follows the methods and assumptions used for a similar analysis developed in the Central Coast Field Office Draft RMPA/EIS (BLM 2017).” ⁷⁹ As such, it is impossible for the public to determine how BLM arrived at its estimate of total development and production GHG emissions of 20,779.2 MTCO ₂ e per year, including, for example, determining what sources of emissions were included and excluded and which global warming potential values were used to convert non-CO ₂ GHG emissions to CO ₂ e. Failing to provide a detailed description of the data and methods used to estimate GHG emissions precludes the public from independently evaluating the adequacy of BLM’s analysis.	As stated in Section 3.1.1 of the SEIS, when quantifying GHG emissions, the different GWP of each GHG pollutant is multiplied by the mass of that pollutant to arrive at a CO ₂ equivalent mass.
15681	Climate and Air Quality	BLM states that, “[o]il and gas production across the United States results in about 224 MMTCO ₂ e annually (USEPA 2015).” The only U.S. EPA study published in 2015 that is listed in the reference section of the DSEIS is	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis

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		U.S. EPA’s Review of State and Industry Spill Data: Characterization of Hydraulic Fracturing-Related Spills. This reference does not contain the cited figure for greenhouse gas emissions. We assume that BLM intended to cite to U.S. EPA’s 2015 Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013. ⁷⁶ If this assumption is correct, BLM has provided no justification for referencing the outdated 2015 inventory instead of the most recent 2019 Inventory. The current inventory estimates that in 2017, oil and gas operations in the U.S. emitted approximately 253 MMTCO ₂ e. ⁷⁷ However, recent scientific research shows that EPA is underestimating methane emissions from the oil and gas industry by 60 percent. ⁷⁸ BLM cannot rely on outdated and inaccurate information when assessing the potential impacts of its actions on climate.	necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.
15681	Climate and Air Quality	BLM states that, “CH ₄ in the atmosphere over a 100-year horizon has a GWP of 25, according to the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report and 28 according to the IPCC Fifth Assessment Report, meaning that 1 pound of CH ₄ causes the equivalent warming potential of 25 to 28 pounds of CO ₂ .” ⁷³ The IPCC Fifth Assessment Report (AR5) includes a range of estimates for methane (CH ₄) global warming potential (GWP). ⁷⁴ Without including climate-carbon feedbacks (cc fb), CH ₄ has a 100-year global warming potential (GWP100) of 28. However, the IPCC also notes that, “[t]hese values do not include CO ₂ from methane oxidation. Values for fossil methane are higher by 1 and 2 for the 20 and 100 year metrics, respectively (Table 8.A.1) (emphasis added).” ⁷⁵ In other words, the most current lower-end scientific estimate of GWP100 for fossil methane, which is what will be produced from these BLM leases, is 30, not 28. The IPCC also provides an upper end estimate of fossil CH ₄ GWP100 with cc fb of 36. BLM has provided no justification for why it only relies on the (incorrect) lower-end estimate of GWP100. It also has provided no justification for including the outdated GWP100 of 25 from the IPCC Fourth Assessment Report (AR4). As discussed below, it is unclear which estimate of GWP BLM used for its analysis of GHG emissions because it failed to disclose the data and methodology it used to derive its estimates emissions. Therefore, BLM should revise its analysis to reflect best available science, which is utilization of the 100-year GWP of 36.	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.
15681	Climate and Air Quality	Federal fossil fuels are a large source of GHG emissions and federal public lands contain important carbon sinks to help mitigate the adverse effects of climate change. Consequently, BLM must fully analyze and disclose to the public the impacts of fossil fuel development approvals on GHG emissions, carbon sinks, and climate change.	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.
15681	Climate and Air Quality	Here, BLM obscures the global warming potential of methane emissions by underestimating the 100year GWP, as described above, and altogether omitting their impact over the short-term (20 years), which is the period when oil and gas wells could be constructed, drilled, and fractured. DSIES at 44 (BLM projected that zero to four new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP). Instead, BLM intentionally only analyzed and disclosed the 100-year estimated global warming potential of methane, which is much lower than the more immediately relevant 20-year global warming potential. BLM failed to provide any rationale for why it omitted the 20-year GWP. This failure undermined the accuracy and integrity of the GWP analysis. 40 C.F.R. §§ 1500.1(b);. 1502.24. Thus, BLM failed to provide a “full and fair discussion” of the methane pollution resulting from its actions, as required by NEPA. Id. § 1502.1.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.

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15681	Climate and Air Quality	In addition to generally ignoring GHG impacts on the environment, the DSEIS provided a seriously distorted picture of potential emissions of a particularly potent greenhouse gas, methane. BLM violated NEPA when it understated the foreseeable methane emissions from oil and gas development under the lease sales.	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.
15681	Climate and Air Quality	In conducting their air quality analysis, BLM also appears to have made the decision to not convene a technical air quality work group made up of signatory agencies and relevant State agencies. As pointed out by EPA in their scoping comments, this decision goes against BLMs commitments to work with relevant planning agencies to collectively agree upon a modeling protocol and review results, as outlined in the “Memorandum of Understanding Regarding Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions through the National Environmental Policy Act Process” ³⁴ EPA states that utilizing the MOU’s stakeholder process would aid BLM though sharing “reasonably foreseeable development (RFD) and emissions inventory information to determine appropriate steps for the air quality analysis,” and points to BLM’s creation of a working group during the Central Coast RMP Amendment and Draft EIS process as an example to be followed. ³⁵ By not following the MOU and forming a working group to fully analyze the air quality impacts for both the 2012 RMP and this Draft SEIS process, BLM has placed themselves on even shakier ground when it comes to decisions—such as	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.
15681	Climate and Air Quality	In order for BLM to calculate air emissions resulting from additional hydraulic fracturing activity in the planning region, the agency must develop a comprehensive and accurate emissions inventory for use in a modeling analysis. This emissions inventory “must ensure that all assumptions, e.g., regarding well stimulation activities, equipment use, etc., are reflective of actual / realistic scenarios, current local regulations, and requirements in the relevant State Implementation Plans. Otherwise, BLM should model emission sources under maximum possible conditions and assuming no controls.” ³⁶ BLM should also provide enough detail in the SEIS for stakeholders to review underlying assumptions used in developing the inventory—a task BLM failed to conduct in this Draft Supplemental EIS and prior RMPs.	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.
15681	Climate and Air Quality	In reviewing the Draft SEIS, BLM appears to have completely ignored EPA’s request to access impacts to nearby Class 1 areas and failed to properly define current air quality baseline conditions. For instance, in developing the emissions inventory for the Draft SEIS, BLM appears to have left out additional emissions that could occur beyond what the State of California Department of Conservation Well Stimulation Environmental Impact Report (June 2015) reports as “typical emissions” from hydraulic fracturing equipment. ³⁷ Additional emissions that should have been addressed in the emissions inventory include “emissions from other pumping units (e.g., associated with acid fracturing / stimulation treatments), generators, and drill rigs associated with well stimulating hydraulic fracturing activities that are not included in the inventory for the supplemental DEIS,” as well as “increased emissions that would occur from product trucks.” ³⁸ The emissions inventory for the Draft SIES must include all foreseeable emissions that could result from additional hydraulic fracturing in the planning regions, including the additional equipment usage and additional product transport. Failure to include these potential emissions has resulted in the Draft SEIS containing an inaccurate emissions inventory that undercounts emissions, this in turn, if and when corrected may result in exceeding the de minimis threshold for pollutants like NOx. Before proceeding with a final SEIS, we strongly urge BLM to go back and consider working with a technical air quality work group to model air emissions resulting from this plan and to accurately and transparently update the emissions inventory to include emissions all applicable sources. Only then can the agency conclude whether or not this plan conforms with relevant SIPs and Regional Haze Plans for nonattainment areas within the Draft SEIS planning region.	<p>Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.</p>

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15681	Climate and Air Quality	In the Drafts SEIS, BLM concludes that air quality impacts resulting from this proposal would be “negligible,” and would not exceed the de minimis threshold for projected emissions increase resulting from additional hydraulic fracturing. ²¹ However, as noted by Megan Williams in her report, “[t]he air quality impact analysis presented by the BLM for the supplemental DEIS is deficient and potentially	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.
15681	Climate and Air Quality	The BLM must consider potential impacts to Class I airsheds of Sequoia, Kings Canyon and Yosemite, as well as account for impacts to all national park units including Carrizo Plain and Cesar Chavez National Monuments, which lie within the planning area in the final SEIS.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Climate and Air Quality	their choice not to conduct project phase modeling and their inadequate development of the emissions inventory for this proposal.	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.
15681	Climate and Air Quality	understates the foreseeable impacts of hydraulic fracturing on air quality.” ²² These deficiencies have resulted in a failure by BLM to take a hard look at foreseeable direct, indirect, or cumulative air quality impacts in the Draft SEIS, and puts into question BLM’s de minimis calculation. This failure is twofold. First, BLM did not comprehensively evaluate the air quality impacts for new leases within the Planning because they did not model air pollution impacts. ²³ Second, BLM failed to adequately develop a comprehensive emissions inventory and consider recent air quality monitoring data, including in an air quality modeling analysis.	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.

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15681	Climate and Air Quality	While we agree with BLM's statements on the utility of modeling, we believe that a quantitative dispersion modeling analysis should take place now, at the planning phase, as opposed to later during a site specific NEPA analyses for each individual project. Such a modeling analysis was not included in either this Draft SEIS or the original 2012 RMP. As seen in EPA's comments to BLM re: The Coastal Plain Oil and Gas Leasing Program, EPA also supports the need for quantitative air analysis at the planning stage "prior to authorization of on-the-ground actions."30 In their comments on the Coastal Plain program, EPA states that a "quantitative analysis is commonly conducted for NEPA analyses at the oil and gas planning stage," and that a "project-specific analyses would only be conducted on a case-by-case basis and would not be of an appropriate scope and scale to assess the cumulative impacts of the overarching Coastal Plain leasing program."31 Similarly in this case, a site-specific case-by-case analysis without an earlier planning stage modeling analysis means that this Draft SIES neglects to take a hard look at potential cumulative impacts that could occur when accurately considering multiple leases spread out over the planning region during the 10 year life of the RMP.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Climate and Air Quality	Without a dispersion modeling analysis at this stage, one could make the argument that BLM has failed to take an interdisciplinary approach that properly identifies air quality effects and values in detail at the earliest possible time.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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15681	Cultural Resources	BLM also fails to adequately account for historic and current cultural connections to Carrizo Plain National Monument. Archaeological studies show that Native Americans were part of the Carrizo Plain dating back more than 10,000 years. As such, BLM needs to conduct additional, meaningful consultation with cultural interests in the area. This must include material outreach to Native Americans connected to the region, as well as Latino communities and other disenfranchised populations in the area who have historically been excluded from or had limited participation in public lands planning processes as a result of current and past systemic discrimination.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Cumulative Impacts	A such it is incumbent on BLM to analyze potential impacts to visibility in nearby Class 1 areas, including cumulative impacts—especially given the proximity of potential hydraulic fracturing sites to these areas. In addition, to the extent it has not already, BLM should have consulted with, and incorporated any recommended mitigation or other measures recommended by, federal land managers including NPS to assess this proposal and adopt measures to ensure potential cumulative visibility impacts do not result in additional degradation of Class I area air quality.	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>

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15681	Cumulative Impacts	Bakersfield planning area, since these decisions are being made in adjacent planning areas at the same time. The Proposed RMP Amendment for the Central Coast planning area was released on May 9, 2019, and would open 732,500 of 800,000 acres to hydraulic fracturing. The impacts of hydraulic fracturing in the Bakersfield planning area will be compounded by the reasonably foreseeable impacts of hydraulic fracturing in the Central Coast planning area, and thus BLM should analyze these impacts here.	
15681	Cumulative Impacts	It was therefore imperative that BLM consider the hydraulic fracturing impacts in the Central Coast RMP planning area as cumulative with the impacts in the	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>Cumulative impacts analysis Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS) supplemented this same analysis in the 2012 Final EIS.</p>
15681	Cumulative Impacts	There are a number of protected public lands, including national parks and national monuments managed by the National Park Service and the BLM, in and around the planning area that were designated to protect special values. These values will be affected by hydraulic fracturing, including through impacts to air quality and water resources, but the alternatives released as part of the Draft SEIS do not account for potential proximate or cumulative impacts to national park units within the SEIS planning area or regionally.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Environmental Justice	The final SEIS should also fully account for, address, and provide actionable solutions relating to the systemic socioeconomic inequality that has resulted from previous public lands decisions. The SEIS should address environmental justice issues associated with the disproportionate exposure of people of color to pollution, potential water contamination, and spills, among other environmental and public health hazards that stem from industrial, and specifically, oil and gas development in this area.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
15681	Lands with Wilderness Characteristics	As part of the Bakersfield RMP revision, BLM inventoried for lands with wilderness characteristics in compliance with the agency's obligation under FLPMA and found 16,190 acres of lands with wilderness characteristics in the Bakersfield Field Office. Bakersfield Proposed RMP, p. 263. However, the SEIS does not include any analysis whatsoever of potential impacts of hydraulic fracturing on this inventoried resource. Hydraulic fracturing would have impacts on these values, including impacts associated with air and water pollution as discussed elsewhere in these comments, and should have been analyzed in this SEIS instead of just in the context of the existing alternatives from the Bakersfield RMP.	<p>Preliminary issues for the Supplemental EIS, concerning resources that may be impacted by hydraulic fracturing, were identified during internal scoping by BLM personnel; federal, state, and local agencies; and other stakeholders. These did not include lands with wilderness characteristics.</p> <p>The 2014 PRMP identifies 149,600 acres as closed to fluid mineral leasing:</p> <p>--Non-discretionary closures – Wilderness, WSAs, Piedras Blancas ONA, and the PCNST</p>

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			-Discretionary closures – some ACECs (Bitter Creek ACEC, Blue Ridge, Erskine Creek, Piute Cypress, and Point Sal) lands with wilderness characteristics, suitable segments of WSR and Deer Spring area of ecological importance.
15681	Mitigation	1. Is of sufficient areal extent to prevent the movement of injected or displaced fluids into protected water;2. Is sufficiently impermeable to prevent the vertical migration of injected or displaced fluids;3. Is free of transmissive faults or fractures that could allow the movement of injected or displaced fluids above the stimulated zone; and4. Contains at least one formation of sufficient thickness and with geomechanical characteristics capable of preventing or arresting vertical propagation of fractures.5. BLM may require the operator to identify and characterize additional zones that will impede or contain vertical fluid movement.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Mitigation	BLM also fails to include any mitigation measures to reduce the impacts of GHG emissions on the planning area, instead simply concluding, with no supporting analysis, that, “these direct and end use emissions would not be likely to conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. California’s regulatory setting, including reporting of GHG and the Cap-and-Trade Program (Section 3.6.2, Regulatory Framework), provides oversight and management of GHGs directly emitted during development and production and indirectly emitted by end users of the petroleum products. The estimated GHG emissions and the associated direct and indirect impacts would be minor.”	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
15681	Mitigation	BLM notes that well integrity is key to containment of fluids but then provides no analysis of the adequacy of existing laws and regulations to ensure that well integrity is achieved. In fact, both California's and BLM's current well construction rules are outdated and inadequate and must be updated to reflect technological advancements in oil and gas extraction techniques. The following additional mitigation measures should be required:• In areas where the depth to the deepest protected groundwater is not known, operators must estimate this depth. This depth should then be verified by running petrophysical logs, such as resistivity logs, after drilling to the estimated depth. If the depth to the deepest protected water is deeper than estimated, an additional string of casing is required. Surface casing must be of sufficient diameter to allow the use of one or more strings of intermediate casing. All instances of protected water not anticipated on the permit application must be reported including the formation depth and thickness and water flow rate, if known or estimated.• A formation integrity test (FIT) must be performed immediately after drilling out of all surface and intermediate casing. The test should demonstrate that the casing shoe will maintain integrity at the anticipated pressure to which it will be subjected while drilling the next section of the well, no flow path exists to formations above the casing shoe, and that the casing shoe is competent to handle an influx of formation fluid or gas without breaking down. If any FIT fails, the operator must contact the regulator and remedial action must be taken to ensure that no migrations pathways exist. The casing and cementing plan may need to be revised to include additional casing strings in order to properly manage pressure.• All surface, intermediate, and production casing strings must stand under pressure until a compressive strength of 500 psi is reached before drilling out, initiating testing, or disturbing the cement in any way. In no case should the wait-on-cement (WOC) time be less than 8-hours.• All surface, intermediate, and production casing strings must be pressure tested. Drilling may not be resumed until a satisfactory pressure test is obtained. Casing must be pressure tested to a minimum of 0.5 psi/foot of casing string length or 1500 psi, whichever is greater, but not to exceed 80% of the minimum internal yield. If the pressure declines more than 10% in a 30minute test or if there are other indications of a leak, corrective action must be taken.• Surface casing setting depth must be shallower than any hydrocarbon-bearing zones and must be set at least 100' but not more than 200' into a competent confining zone below the base of the deepest protected groundwater and be fully cemented to surface by the pump and plug method.• Intermediate casing must be used where necessary to isolate protected water, anomalous pressure zones, lost circulation zones, or other drilling hazards. Casing setting depth must be based on local engineering and geologic factors and be set at least 100' below the deepest	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Mitigation	BLM should prohibit the direct injection of contaminants into protected or usable water unless operators can demonstrate that the water does not now and will not in the future serve as a source of usable water.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
15681	Mitigation	BLM should require that operators of stimulated wells predict, using site characterization, monitoring and operational data, and computational modeling, the projected lateral and vertical migration of stimulation fluids and formation fluids in the subsurface and demonstrate that injected or displaced fluids will not migrate laterally into protected or usable water. This includes but is not limited to:1. Maps, cross-sections, and models delineating aquifer extents, volume, and chemistry.2. Maps, cross-sections, and models delineating the physical and chemical extent of stimulation operations including hydraulically induced fractures, injected fluids, and displaced formation fluids, based on site-specific data. The physical extent would be defined by the modeled length and height of fractures (if any), horizontal and vertical penetration of stimulation fluids and proppant, and horizontal and vertical extent of the displaced formation fluids. The chemical extent would be defined by that volume of rock in which chemical reactions between the formation, hydrocarbons, formation fluids, or injected fluids may occur, and must take into account potential migration of fluids over time.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Mitigation	BLM should require that wells that will be stimulated must be sited such that a suitable confining zone is present. The owner or operator must demonstrate to the satisfaction of the regulator that the confining zone:	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Mitigation	BLM should use this SEIS to amend the Bakersfield RMP in order to remove lands within the viewshed of the western boundary of the monument, specifically south of highway 58 and north of highway 166, from future leasing consideration. Leasing these lands would exacerbate the stresses noted above on the monument and would pose new threats to the area and its connected landscape by partially surrounding the monument's western and eastern boundaries with development and industrial traffic. In addition, BLM should limit any industrial activity, hydraulic fracturing or otherwise, within the	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>

Comment Number	Issue	Comment	Response
15681	Mitigation	<p>Cement should be pumped at a rate and in a flow regime that inhibits channeling of the cement in the annulus. During placement of the cement, operator shall monitor pump rates to verify they are within design parameters to ensure proper displacement efficiency. Throughout the cementing process operator shall monitor cement mixing in accordance with cement design and cement densities during the mixing and pumping. • All cement must have a have a 72-hour compressive strength of at least 1200 psi and free water separation of no more than two milliliters per 250 milliliters of cement, tested in accordance with the current API RP 10B. Cement must conform to API Specification 10A and gas-blocking additives must be used. Cement mix water chemistry must be proper for the cement slurry designs. At a minimum, the water chemistry of the mix water must be tested for pH prior to use, and the cement must be mixed to manufacturer's recommendations. An operator's representative must be on site verifying that the cement mixing, testing, and quality control procedures used for the entire duration of the cement mixing and placement are consistent with the approved engineered design and meet the cement manufacturer recommendations, API standards, and the requirements of this section. • Compressive strength tests of cement mixtures without published performance data must be performed in accordance with the current API RP 10B and the results of these tests must be provided to the regulator prior to the cementing operation. The test temperature must be within 10 degrees Fahrenheit of the formation equilibrium temperature at the top of cement. A better quality of cement may be required where local conditions make it necessary to prevent pollution or provide safer operating conditions. • For surface, intermediate, and production casing, at a minimum, centralizers are required at the top, shoe, above and below a stage collar or diverting tool (if used) and through all protected water zones. In non-deviated holes, a centralizer shall be placed every fourth joint from the cement shoe to the ground surface or to within one joint of casing from the bottom of the cellar, or casing shall be centralized by implementing an alternative centralization plan approved by the Division. In deviated holes, the Division may require the operator to provide additional centralization. All centralizers must meet API Spec 10D (Recommended Practice for Casing Centralizers – for bow string centralizers) or API Spec 10 TR4 (rigid and solid centralizers) and 10D-2 (Petroleum and Natural Gas Industries, Equipment for Well Cementing, Part 2, Centralizer Placement and Stop Collar Testing). • For any section of the well drilled through fresh water-bearing formations, drilling fluids must be limited to air, fresh water, or fresh water-based mud and exclude the use of synthetic or oilbased mud or other chemicals. • To reduce the risk of external casing corrosion all potential flow zones—as defined in API RP 652, Isolating Potential Flow Zones During Well Construction—must be properly isolated. Failure to isolate flow zones can also result in annular overpressurization, which can lead to a loss of mechanical integrity, putting groundwater at risk, and/or allow crossflow of subsurface fluids, potentially into protected water if it has not been properly isolated. All well construction materials must be compatible with fluids with which they may come into contact and be resistant to corrosion, erosion, swelling, or degradation that may result from such contact. • Internal and external well mechanical integrity must be assessed at least yearly.</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
15681	Mitigation	<p>Neither California's nor BLM's rules adequately address the risk of communication between offset wells and therefore we recommend that BLM require the following additional mitigation measures: • For all wells within the Axial Dimensional Stimulation Area (ADSA), the operator must: o Evaluate the adequacy of the well design and construction methods to achieve the goal of isolating protected water o Assess the internal and external mechanical integrity of each well identified o Prepare a plan for performing corrective action if any of the wells identified are improperly designed, constructed, completed, plugged, or abandoned.</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

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15681	Mitigation	Perform an assessment to determine the risk that the stimulation treatment will communicate with each well identified.o For each well identified as at-risk for communication, prepare a plan for well control, including but not limited to:? A method to monitor for communication? A determination of the maximum pressure which the at-risk well can withstand? Actions to maintain well control? If the at-risk well is not owned or operated by the owner/operator of the well to be stimulated, a plan for coordinating with the offset well operator to prevent loss of well control.BLM acknowledges that migration of fracturing fluids from the target zone poses a risk to aquifers but fails to fully analyze this risk or develop mitigation measures to prevent it.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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15681	Mitigation	<p>protected water, anomalous pressure zones, lost circulation zones, and other drilling hazards. Intermediate casing must be set to protect groundwater if surface casing was set above the base of protected water, and/or if additional protected water was found below the surface casing shoe. When intermediate casing is installed to protect groundwater, the operator shall set a full string of new intermediate casing to a minimum depth of at least 100 feet below the base of the deepest strata containing protected water and cement to the surface. The location and depths of any hydrocarbon strata or protected water strata that is open to the wellbore above the casing shoe must be confirmed by coring, electric logs or testing and shall be reported as part of the post-treatment report.</p> <p>• If both surface casing and intermediate casing are used as water protection casing, or if intermediate casing is not used, a full string of production casing is required. A production liner may be hung from the base of the intermediate casing and used as production casing as long as the surface casing is used as the water protecting casing and intermediate casing is set for a reason other than isolation of protected water.</p> <p>• When intermediate casing is installed to protect groundwater, it must be fully cemented to surface. When intermediate casing is set for a reason other than to protect strata that contain protected water, it must be fully cemented to surface unless doing so would result in lost circulation. If not cemented to the surface, intermediate casing shall be cemented with sufficient cement to fill the annular space from the casing shoe to at least 600 feet above fluidbearing formations, lost circulation zones, oil and gas zones, and anomalous pressure intervals, or other drilling hazards. Where the distance between the casing shoe and shallowest zone to be isolated makes this technically infeasible, multi-stage cementing must be used to isolate any hydrocarbon- or fluid-bearing formations or abnormally pressured zones and prevent the movement of fluids.</p> <p>• When intermediate casing is not used, production casing must be fully cemented to surface unless doing so would result in lost circulation. If not cemented to the surface, production casing shall be cemented with sufficient cement to fill the annular space from the casing shoe to at least 600 feet above fluid-bearing formations, lost circulation zones, oil and gas zones, anomalous pressure intervals, or other drilling hazards. Where the distance between the casing shoe and shallowest zone to be isolated makes this technically infeasible, multi-stage cementing must be used to isolate any hydrocarbon- or fluid-bearing formations or abnormally pressured zones and prevent the movement of fluids. Sufficient cement shall also be used to fill the annular space to at least 100 feet above the base of the freshwater zone, either by lifting cement around the casing shoe or cementing through perforations or a cementing device placed at or below the base of the freshwater zone.</p> <p>• If fluid returns, lift pressure, displacement and/or other operations indicate inadequate cement coverage, the operator must (i) run a radial cement evaluation tool, a temperature survey, or other test approved by the Division to identify the top of cement, (ii) submit a plan for remedial cementing to the Division for approval and (iii) implement such plan by performing additional cementing operations to remedy such inadequate coverage prior to continuing drilling operations.</p> <p>• Prior to cementing the hole must be prepared to ensure an adequate cement bond by circulating at least two hole volumes of drilling fluid and ensuring that the well is static and all gas flows are killed. Top and bottom wiper plugs and spacer fluids must be used to separate drilling fluid from cement and prevent cement contamination. Casing must be rotated and reciprocated during cementing when possible and when doing so would not present a safety risk.</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
15681	Mitigation	<p>viewshed, or which would raise the level of detectible noise disturbance from the eastern and southern boundaries of the monument, in an effort to limit the impacts from existing oil and gas activities, as well as any new impacts from potential additional leasing in the area.</p>	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>

Comment Number	Issue	Comment	Response
15681	Mitigation	We recommend that BLM prohibit stimulation in wells in which protected water and hydrocarbons are isolated behind the same string of casing. Casing strings that isolate protected water should not be perforated for the purposes of stimulation, production, or injection.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Mitigation	We recommend that in the Final SEIS, BLM excludes the leasing of all parcels (especially parcels without significant oil and gas resources), that occur in the vicinity of national parks, monuments, and forests—such as potential parcels in the adjacent to Sequoia National Park’s Foothills Visitor Center or the Cesar E. Chavez National Monument.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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15681	NEPA Process	BLM also declines to conduct in-depth analysis of the impacts of hydraulic fracturing at the RMP stage by pointing to analysis that may occur at a later point such as leasing or permitting. See, e.g., Draft SEIS, p. 49. However, BLM's current guidance does not require NEPA analysis or public input at these later stages of analysis, increasing the importance of a thorough evaluation as part of planning decisions.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	NEPA Process	Despite the court's roadmap of risks and heavy emphasis on the CCST report findings, the SEIS fails to fully delve into such risks. As a consequence, the SEIS is essentially a rehash of the analysis that the court found inadequate, ornamented with references to the CCST report but proposing neither new alternatives to address the heightened risks of fracking, nor any proposed amendment to the RMP to address such risks.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
15681	NEPA Process	In addition, it was observed at BLM outreach meetings conducted in May 2019, BLM inadequately accommodated Spanish language speaking community members who attended public meetings. This includes strict interpretation of time allocations for public comment for Spanish speaking attendees, as well as limited availability of Spanish language materials and briefings at the meetings. Full Spanish language translation of SEIS materials were also not made available to communities at any point during the 45-day comment period. The BLM must account for this exclusionary practice in its final SEIS and must conduct extensive outreach to communities throughout the planning area in an inclusive manner.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). In order to complete the supplemental analysis following the guidance of Secretarial Order 3355 (https://www.doi.gov/sites/doi.gov/files/uploads/3355_-_streamlining_national_environmental_policy_reviews_and_implementation.pdf), BLM is not able to accommodate requests to extend the public comment period on the Draft SEIS. In addition, BLM was not able to accommodate specific needs and provide language interpreters for all potential non-English speakers who may have attended the public meetings on the Draft SEIS.

Comment Number	Issue	Comment	Response
15681	NEPA Process	Rather than proceeding with leasing at this juncture, BLM should evaluate an amendment to the Bakersfield RMP that fully analyzes the real risks associated with hydraulic fracturing. Based on that analysis, BLM should determine whether further leasing should be allowed; and, if so, how to ensure that resources and communities are protected.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Other	Attached please find comments from The Wilderness Society, Natural Resources Defense Council, National Parks Conservation Association, Los Padres ForestWatch and Coalition to Protect America's National Parks. We appreciate the opportunity to comment on the Draft SEIS for the Bakersfield hydraulic fracturing analysis.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
15681	Public Health and Safety	In scoping comments, we identified substantial risks to human health due to toxic and hazardous chemicals associated with hydraulic fracturing and recommended that BLM complete a Health Impact Assessment prior to authorizing any leasing. We also pointed to data that shows more than 1.8 million people in California live in areas most burdened by environmental pollution as identified by the California Environmental Protection Agency's (CalEPA) CalEnviroscreen 2.0. BLM did not address this data, nor did the agency commit to conducting a Health Impact Assessment. BLM has underestimated or ignored health impacts in the SEIS, as evidenced by the lack of robust analysis supported by data. We reiterate that BLM should conduct a Health Impact Assessment through this SEIS, including specifically as part of developing an alternative that prioritizes public health and safety in the planning area. The Assessment should evaluate a broad spectrum of health effects associated with hydraulic fracturing, including without limitation air pollutant, water contamination, accidents and injuries, and sociological impacts such as alcoholism, substance abuse, and mental health impacts. The well-known health risks associated with oil and gas development, documented in our scoping comments and throughout these comments, call for not only a thorough Assessment of this nature, but also a formal methodology in the SEIS to evaluate the Assessment's findings and assess potential mitigation.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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15681	Recreation	The Draft SEIS details lands already leased and land open to leasing, together comprising significant tracks of lands being made available for oil and gas development proximate to Cesar Chavez National Monument, with parcels less than two miles from the monument's boundary. None of the alternatives as proposed remove land track parcels eligible for development within the monuments viewshed, or parcels that could disrupt the natural ambient noise levels and could measurably disturb the visitor experience. Parcels within such close proximity, if developed would increase dust, light pollution, emissions of volatile organic compounds, haze-inducing agents, and industrial traffic. BLM fails to document any consideration of Cesar Chavez National Monument, and must include accounting for the noted impacts to monument in its final SEIS. Disturbances like those created by industrial development can undermine the experience of people visiting the monument to pay respects at Cesar Chavez's memorial garden and burial site. In addition, limiting external disturbances near the 116-acre monument is particularly important considering the rural setting and size of the monument. BLM failed to account for management priorities of the national monument in the Draft SEIS. Consideration and accounting for management priorities should be reflected in the final SEIS.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Socioeconomic s	We also urge BLM to provide an analysis in the final SEIS of the potential effects of the proposed activity on the employment of the local workforce, for both blue and white-collar positions.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
15681	Water Resources	BLM has not adequately disclosed or analyzed potential impacts to groundwater associated with Class II disposal of flowback fluids, nor has it proposed appropriate mitigation measures to address such impacts.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Water Resources	and instead relying on summaries and analyses prepared for other purposes, BLM has not adequately disclosed, analyzed, and mitigated the potential impacts to water resources, as required by NEPA.	

Comment Number	Issue	Comment	Response
15681	Water Resources	BLM acknowledges that, “[i]njection of hydraulic fracturing fluids poses risks to groundwater,” but then simply concludes, with no supporting analysis, that impacts to groundwater from new leasing will be negligible. ¹⁴³ This falls far short of BLM’s obligations under NEPA to adequately disclose, analyze, and mitigate potential impacts to groundwater from injection of hydraulic fracturing fluids.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Water Resources	BLM claims, with no supporting data or analysis, that, “Class II well disposal can be the best environmental practice to dispose of produce water. UIC rules reduce the risk of impacts to USDWs.” However, contrary to this unsupported statement, the CCST found that, “The environmental impacts of discharging oil and gas wastewater into Class II wells in California are not entirely understood. There are federal and state requirements for construction and placement of Class II injection wells (Veil et al., 2004), but there are concerns that Class II wells in California may be contaminating protected groundwater.” As such, the CCST recommended that, “[a]n alternative practice would be to determine the location of protected groundwater in the state, to investigate and review current practices to resolve outstanding issues concerning the use of Class II wells for disposal in California, and to conduct site-specific studies to ensure the safety of proposed disposal methods.”	This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Water Resources	BLM completely fails to disclose and analyze information regarding the chemical composition of flowback, despite the fact that Division regulations require operators to analyze and disclose the composition of water recovered from the well following the well stimulation treatment ¹⁶² and this information is readily available to the public.	Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.

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			It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Water Resources	BLM provides a generic list of hydraulic fracturing chemical additives rather than analyzing the readilyavailable and comprehensive database of chemicals actually used in the areas where leasing and hydraulic fracturing may occur. In order to accurately disclose, analyze, and mitigate potential impacts from hydraulic fracturing, BLM must perform a site-specific analysis of chemicals that may be used and the potential environmental and public health impacts of those chemicals.BLM states that chemicals and additives make up 2% of hydraulic fracturing fluid by volume, citing to a 2016 U.S. EPA report ¹³⁴ ; however, the CCST found that fracturing in California, “requires much less water per well, but uses fluids with more concentrated chemicals than hydraulic fracturing in other states.”	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Water Resources	BLM states that well stimulation reports from the Division indicate that nearly 100 percent of recovered flowback was disposed by injection into Class II injection wells but that, “[t]he volume of fluid was not disclosed.” ¹⁵⁷ This is false. The Division requires operators to disclose the volume of flowback fluid recovered from each well after well stimulation operations. ¹⁵⁸ While DOGGR may not have included an analysis of recovered fluid volumes in its annual reports, from which BLM drew its conclusions, this information is readily available, and BLM should have analyzed it. The CCST analyzed the quantities of recovered fluids from 506 completion reports available as of December 15, 2014, for 499 hydraulic fracturing and seven matrix acidizing treatments and found that, “volumes of recovered fluids collected from both hydraulic fracturing and acid matrix treatments range from 0 to 1,600 m3 (9,900 barrels).” ¹⁵⁹ BLM also contradicts itself, stating at one point that flowback, “is typically maintained in segregated tanks prior to being cleaned-up and diluted to facilitate recycling,” ¹⁶⁰ but then later stating, as noted above, that, “nearly 100 percent of recovered flowback was disposed by injection into Class II injection.” ¹⁶¹ These careless errors and misstatements demonstrate BLM’s cursory and inadequate analysis of potential impacts to groundwater from wastewater management.	BLM understand the cited references support the general conclusions noted in the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.

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15681	Water Resources	BLM states that, “[a] maximum of 40 new wells on new leases would be hydraulically fractured during the planning period (10 years). These wells would have an average true vertical depth of 2,700 feet. However, it is possible that some of the wells could exceed 10,000 feet true vertical depth (DOGGR 2015b).” ¹¹⁸ This estimate of well depths comes from the Division’s Final SB4 Environmental Impact Report (SB4 FEIR) and represents the average true vertical depth (TVD) of wells that were hydraulically fractured in California from February 2011 through 2013. ¹¹⁹ However, the SB4 FEIR also states that, “much of the current and planned hydraulic fracturing operations in California occur at depths of less	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Water Resources	BLM states that, “[d]ata for California indicate that hydraulic fracturing consumes about 100,000 gallons (0.31 acre-feet) of water per well (DOGGR 2015a, 2016, 2018c).” ¹¹⁴ BLM does not indicate how it reached this conclusion but based on the references cited it appears that BLM based this estimate on the average hydraulic fracturing base fluid volume reported in the Division’s First Annual Well Stimulation Treatment Report. ¹¹⁵ This average volume incorporates data from all the hydraulic fracturing operations that occurred in California between January 1, 2014 and September 30, 2015. However, as noted above, site-specific data is available from January 2014 to present for each of the SHFAAs. BLM should have analyzed site-specific data for all years available rather than relying on a statewide average for a single reporting period.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Water Resources	BLM states that, “[w]ater sources for hydraulic fracturing are produced water (8.8 percent), groundwater supply wells (25.4 percent), and surface water from public water sources (65.8 percent) (Kern County 2015).” ¹¹⁶ This estimate comes from the 2015 Kern EIR, which analyzed well stimulation operations in Kern County only, and only includes well stimulation data submitted to the Division from January to September 2014. ¹¹⁷ The lease parcels BLM is offering cover additional counties, and sitespecific data for additional years are available and should have been analyzed.	As stated in Section 4.8.1 of the SEIS, these assumptions are utilized for the defined study area, not just Kern County.
15681	Water Resources	BLM states that, “The potential effects of hydraulic fracturing on surface water and soils may not be substantially different from routine oil field operations, and the chemicals used may be similar (USGS 2014b).” This conclusion does not appear in the cited reference, the topic of which is how to monitor groundwater to identify and manage potential impacts from oil and gas development, particularly well stimulation. BLM has provided no data, analysis,	This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. BLM believes the cited reference provides adequate documentation as a source for this particular assumption.

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		or references to support this assumption. To the contrary, as discussed below, potential impacts to surface waters and soils from hydraulic fracturing operations can be significant, and BLM should have properly disclosed and analyzed these potential impacts and proposed appropriate mitigation measures to address such impacts.	As noted throughout the Draft SEIS document, the Draft Supplemental EIS, like the 2012 Final EIS it supplements, was prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Water Resources	BLM states that, “USEPA data on hydraulic fracturing fluid spills indicate that impacts to groundwater may be rare, occurring only once out of 457 incidents studied by the USEPA (2015, 2016),” but the cited studies do not include this conclusion. BLM downplays the findings of this research by only referencing impacts to groundwater	BLM understands the cited references support the cited statement.
15681	Water Resources	BLM states, “[f]or analysis purposes, it is assumed that drilling and completion practices would be similar in all the supplemental hydraulic fracturing analysis areas.” ¹¹³ Such a simplifying assumption may be appropriate when more granular data is not available, but in this case detailed, well- and oil fieldspecific data are available. BLM should have analyzed this data to develop accurate assessments of the drilling and completion practices used in each of the Supplemental Hydraulic Fracturing Analysis Areas (SHFAAs). BLM should also have reviewed historic well drilling and completion data for each of the SHFAAs.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
15681	Water Resources	BLM's analysis of flowback management and disposal relies on outdated and incomplete information, includes false and misleading statements, and falls far short of its obligations under NEPA. Among the most commonly cited environmental impacts of oil and gas production are degradation of soils and water caused by releases of hydrocarbons and produced water.155 The CCST identified numerous release mechanisms and transport pathways by which wastewater management activities could allow flowback fluid to impact the environment, including:• Spills and leaks during storage and handling• Transportation accident• Pipe failure (both above and below ground)• Overflow from storage reservoir• Percolation (from storage or disposal pits)	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Water Resources	BLM's current estimated maximum water use is 8.0 million gallons (25 acre-feet) of water for new wells on new leases in the Planning Area over the 10-year planning period.128 As noted above, BLM's assumptions about the potential volume of water use for hydraulic fracturing operations is based on outdated and incomplete information. BLM also fails to identify the potential sources or quality of this water. BLM dismisses any potential impacts that may result from this upper-end estimate of water use, stating that, "[t]he impact of water use for hydraulic fracturing of an average of zero to four wells per year would be negligible," when compared to the estimated surface and groundwater use in Kern	This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. The Draft Supplemental EIS, like the 2012 Final EIS it supplements, was prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Water Resources	BLM's summary misstates the findings of EPA's study and inappropriately downplays the potential impacts to groundwater from constituent mixing and handling.	BLM understand the cited references support the general conclusions noted in the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS).

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15681	Water Resources	Communication between offset wells during stimulation is a serious problem, risking blow outs in adjacent wells and/or aquifer contamination during well stimulation, yet BLM fails completely to analyze or even discuss this risk.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Water Resources	County. ¹²⁹ Both the U.S. Environmental Protection Agency (EPA) ¹³⁰ and the CCST ¹³¹ found that impacts from water use are likely to be local and site-specific, with the CCST noting that although local impacts of water usage so far appear minimal, “well stimulation is concentrated in water-scarce areas of the state, and an increase in water use or drawdown of local aquifers could cause competition with agricultural, municipal, or domestic water users.” ¹³² As such, simply comparing potential water use for hydraulic fracturing to total water use in Kern County is completely insufficient to disclose, analyze, and mitigate potential impacts to water quantity and quality, as required under NEPA. BLM can and must develop reasonable scenarios for potential water use based on the location of existing oil fields and areas with high potential for oil and gas development, the location of federal minerals, and current and future water supply and demand in those areas. Based on that assessment, BLM must identify potential impacts and any necessary mitigation measures. The CCST recommends evaluating the use of wastewater or alternative base fluids to reduce freshwater consumption and associated impacts.	
15681	Water Resources	Despite these clear environmental and public health and safety threats, BLM states, without providing any supporting analysis, that these potential impacts will be mitigated by existing laws and regulations, theoretical lease stipulations and COAs, and “company implemented BMPs” and therefore risks to groundwater will be negligible. ¹⁴² The BLM has not properly disclosed and analyzed the potential threats to groundwater from constituent mixing and handling, including what chemicals that may be	Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Water Resources	However, rather than performing its own analysis of both historic data and this new extensive dataset to determine the potential impacts specific to the leases being offered, BLM instead relied on summary reports for the entire state from the Division of Oil, Gas, and Geothermal Resources (Division) and Kern County's Draft Environmental Impact Report (Kern DEIR), which dates from 2015 and therefore mostly predates the availability of data from the SB4 rules. By failing to analyze the available site-specific data	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.

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15681	Water Resources	Reuse of produced water for beneficial purposes (e.g., irrigation)• Disposal of produced water into sewer system (and subsequent disposal of• treatment residuals)• Improper siting of disposal wells (into aquifer or protected groundwater)• Failure of disposal well (e.g., leakage through casing or cement)• Migration through existing pathways during subsurface disposal (e.g., faults, fractures, permeable overburden)• Illegal dischargeBLM does not disclose, analyze, or provide mitigation measures for any of these potential pathways and instead concludes, without providing supporting data or analysis, that impacts to groundwater from flowback management and disposal will be negligible.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Water Resources	than 1,000 feet below the ground surface.”120 Again, site-specific data is available from 2014 to present for each of the SHFAAs and BLM should have analyzed this data rather than relying on an outdated statewide average. In addition, the total depth of the well is not the only or most important factor to consider when assessing potential risks to water resources from hydraulic fracturing operations. BLM should also have analyzed data on fracturing depth for each of the SHFAAs. This data is readily available from the Division.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15681	Water Resources	used on the proposed lease parcels and the potential impacts of those chemicals on protected water, or adopted mitigation measures to reduce such impacts, and as such has not met its obligations under NEPA.	

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15681	Water Resources	USGS estimated that the calculated mean average drainage area of wells in the two assessment units considered would be 18 acres. In other words, on average, one well would be required every 18 acres to produce the Monterey reservoirs in the San Joaquin Basin province. BLM should have disclosed and analyzed the potential impacts to water resources from such development and proposed appropriate mitigation measures to address any such impacts.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
17431		Attached please find updated comments on the Bakersfield Draft SEIS specifically addressing a proposed Public Health and Public Lands Alternative, submitted on behalf of a coalition of community members.	
17431	Alternatives	An important component of the Public Health and Public Lands Alternative must be strong leasing and development setbacks for towns and community facilities, including homes, mobile home parks and other residences as well as high-occupancy buildings like schools, recreation centers and nursing homes. We recommend these measures should be developed in consultation with local governments, with public input. The setbacks contemplated in California Assembly Bill 3452 would be a good starting point for evaluating appropriate setbacks in the Bakersfield planning area. AB 345 would establish a 2,500-foot setback from residences, schools, childcare facilities, playgrounds, hospitals, and health clinics for all new oil and gas	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p> <p>BLM requires project compliance with all federal, state, and local laws, including setback distances.</p>
17431	Alternatives	Based on the potential impacts to communities and public lands resources in the planning area from hydraulic fracturing, BLM must evaluate alternatives to those previously considered in the Bakersfield Resource Management Plan, including not moving forward with leasing.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement. Neither a state-wide leasing moratorium, nor the choice of a “no leasing” alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.
17431	Alternatives	BLM must amend the Bakersfield Resource Management Plan to close additional areas to oil and gas leasing and drilling in order to protect recreation and visitor experiences, wilderness-quality lands, wildlife habitat and significant historic and cultural sites from oil and gas development.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.

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17431	Alternatives	development across the State of California. Because this measure would only apply to non-federal lands, BLM should ensure consistency by adopting a similar setback for federal lands.	BLM requires project compliance with all federal, state, and local laws, including setback distances.
17431	Alternatives	First and foremost, we believe BLM should adopt a no-leasing alternative in order to protect people and the environment from oil and gas development and associated impacts. However, if BLM does not proceed with our preferred no-leasing scenario, the following are baseline requirements that must be included in a Public Health and Public Lands Alternative. Such an alternative would include necessary safeguards to protect communities and resources from oil and gas development, and key elements of this alternative are described below. Additional detail regarding implementation of these elements is presented in our technical comments. To the extent any leasing proceeds in the planning area, it should do so only after BLM fully evaluates and addresses the impacts of hydraulic fracturing. BLM is obligated to evaluate reasonable alternatives and this community alternative is squarely within the nature and scope of the action BLM is undertaking.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement. Neither a state-wide leasing moratorium, nor the choice of a “no leasing” alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.
17431	Alternatives	The following areas should be closed to leasing and drilling in the Public Health and Public Lands Alternative:- Lands adjacent to national parks, forests, monuments, and wildlife refuges- Lands within and adjacent to state ecological reserves, state parks, state historic parks, and state beaches- Lands within or adjacent to county parks- Lands within or adjacent to city nature reserves- Lands within or adjacent to the Pacific Crest Trail- Lands adjacent to Congressionally-designated wilderness areas- Lands that drain directly into waterbodies that provide drinking water for local communities- Lands within or adjacent to private nature reserves, conservation easements, mitigation banks, or lands owned or administered by nonprofit land trusts- Areas of Critical Environmental Concern and Lands with Wilderness Characteristics- Lands important for national defense including air force bases, naval bases, and national guard facilities- Lands within city limits	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
17431	Alternatives	We reiterate that first and foremost, we believe BLM should adopt a no-leasing alternative in order to protect people and the environment from oil and gas development and associated impacts.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement. Neither a state-wide leasing moratorium, nor the choice of a “no leasing” alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.
17431	Climate and Air Quality	Therefore, as part of the Public Health and Public Lands Alternative, BLM must conduct a full analysis of potential air quality impacts from hydraulic fracturing, including but not limited to:- The air emissions from and impacts of hydraulic fracturing on all of California’s air basins.- The emissions and air quality impacts of continued and/or increased hydraulic fracturing activity.- The variation in emissions that might arise from project to project.- The air emissions of individual chemicals used for hydraulic fracturing. This must consider the aggregate impacts of chemicals found in hydraulic fracturing fluids, including an analysis of impacts over time that considers how these chemicals degrade or interact with subsurface geologic formations and fluids.- The air emissions of proppants.- The specific VOCs, TACs, or hazardous air pollutants (HAPs) that are emitted from hydraulic fracturing processes.- A qualitative evaluation of the magnitude of criteria pollutants that includes but is not limited to emissions from combustion from vehicles and equipment, venting and fugitives, and road dust.- An analysis of the air pollution associated with all phases of the oil and gas production processes that accompany hydraulic fracturing.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
17431	Cultural Resources	We additionally recommend that BLM coordinate with local tribal interests to ensure any and all lands that have cultural significance are closed to leasing and drilling.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Cultural Resources; Native American Values; and Paleontological Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
17431	Mitigation	BLM must also require the use of all available mitigation measures, including but not limited to:- Emissions reducing technologies such as reduced emissions completions (RECs), no or low bleed pneumatic controllers, cleaner engines (e.g. electric motors instead of internal combustion engines, EPA Tier 4 engines for nonroad diesel equipment, and trucks that meet 2010 standards), and processes and technologies to reduce emissions from dehydrators and tanks;- Leak detection and repair programs;- Switching to low or no emissions energy	As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.

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		sources for on-site power generation;- Reducing the toxicity of hydraulic fracturing fluids;- Silica exposure reduction strategies and use of non-silica proppants wherever possible;- Educating workers about air emissions risks and providing personal protective equipment;- Tank gauging procedures that reduce exposure to volatilized chemicals;- Proper well design, construction, and maintenance to reduce the occurrence of mechanical integrity problems that could lead to leaks;- Surface setbacks to limit exposures to sensitive receptors.In summary, the Public Health and Public Lands Alternative must adopt measures to control and mitigate emissions of pollutants including PM2.5, NOx, VOCs, and toxic air contaminants such as benzene and formaldehyde. BLM must also outline a monitoring and adaptive management protocol to ensure control and mitigation measures are adequately protecting communities from air pollution associated with hydraulic fracturing.	<p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
17431	NEPA Process	The Public Health and Public Lands Alternative should include requirements for all implementation-level leasing processes to ensure stepped-down environmental review and proactive outreach to impacted communities and individuals. This is particularly important given the recent changes in BLM's leasing policy, which make public comment opportunities optional for lease sales. Required elements of public participation for all lease sales should include:- Conduct NEPA analysis for all lease sales (Determinations of NEPA Adequacy or Categorical Exclusions are not permitted for issuing new leases)- Provide for public comment on all lease sales- Notify split estate landowners during internal scoping for lease sales- Proactively reach out to affected communities, including with bilingual information, and hold public meetings as appropriate	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>
17431	Public Health and Safety	As part of developing this alternative, BLM should conduct a Health Impact Assessment to evaluate potential impacts of fossil fuel development on public health, and require measures to minimize or eliminate those impacts. The Assessment should evaluate a broad spectrum of health effects associated with hydraulic fracturing, including air pollution, water contamination, accidents and injuries, and sociological impacts such as alcoholism, substance abuse, and mental health impacts. The well-known health risks associated with oil and gas development call for not only a thorough Assessment of this nature, but also a formal methodology to evaluate the Assessment's findings and assess potential mitigation. Setbacks and other mitigation measures must be adopted in response to the information generated in the Assessment.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.

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17431	Public Health and Safety	BLM must disclose, evaluate, and mitigate the full range of potential impacts associated with hazardous and toxic materials used in hydraulic fracturing activities. Mitigation measures should include but not be limited to:- Full disclosure of all chemicals used in hydraulic fracturing activities.- Consistent with recommendations made by the California Council on Science and Technology (CCST), the use of hazardous and poorly understood chemicals should be limited. The use of chemicals with unknown environmental profiles should be prohibited. The overall number of different chemicals should be reduced, and the use of more hazardous chemicals and chemicals with poor environmental profiles should be reduced, avoided, or disallowed. The chemicals used in hydraulic fracturing should be limited to those on an approved list that would consist only of those chemicals with known and acceptable environmental hazard profiles. Operators should apply Green Chemistry principles to the formulation of hydraulic fracturing fluids, particularly for biocides, surfactants, and quaternary ammonium compounds, which have widely differing potential for environmental harm.15- Well design, construction, and maintenance standards should be updated to ensure that wells can withstand the stresses of hydraulic fracturing activities.- Require operators to characterize and monitor groundwater and surface water to detect any contamination that may be related to hydraulic fracturing activities.- Prohibit disposal of wastewater in percolation ponds.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
17431	Public Health and Safety	Measures to minimize spills and leaks of drilling, workover, completion, and waste fluids including requiring the use of closed-loop fluid handling systems in lieu of surface pits/impoundments and comprehensive spill contingency planning and reporting requirements.- Require operators to evaluate the chemistry of produced water from hydraulically fractured wells, the potential consequences of that chemistry for the environment, and how this chemistry changes over time.- Consistent with CCST recommendations, prohibit the use of produced water from hydraulically fractured wells for purposes such as irrigation that could negatively impact the environment, human health, wildlife and vegetation. This ban should continue until or unless testing the produced water specifically for hydraulic fracturing chemicals and breakdown products shows non-hazardous concentrations, or required water treatment reduces concentrations to nonhazardous levels.16- Require secondary containment for transport, mixing, and pumping equipment in order to minimize potential soil and water resource impacts from chemical spills, including measures to ensure the integrity of these barriers over time.- Limit the amount of a given hazardous material may be stored or present at a given site, as well as potential aggregate or temporal limits for storage.- Require monitoring and detection for naturally occurring radioactive material (NORM), employ best management practices for handling NORM if detected, proper worker health and safety protection with respect to NORM, and the use of proper disposal methods for wastes containing NORM.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
17431	Water Resources	BLM must analyze and protect important water resources that could be contaminated by hydraulic fracturing activities, including water source areas and systems; irrigation facilities; and waterbodies and riparian areas. At a minimum, we recommend the following setbacks for water resources:- ¼ mile for any dam, ditch, irrigation intake, canal or other water conveyance- ½ mile for any private well, municipal or private water system- ½ mile for rivers, streams and water bodies	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
20563		Attached please find comments on the Bakersfield Draft SEIS specifically addressing a proposed Public Health and Public Lands Alternative, submitted on behalf of a coalition of community members.	
20011		Please see attached letter for my comment.	
20011	NEPA Process	It is also troubling that BLM considered only 2.5% of the public comment letters submitted during last year's scoping period, ignoring the vast majority of public comments because BLM determined the views expressed were not substantive or unique.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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20011	NEPA Process	New fracking in and around areas of environmental significance, such as national forests, parks and monuments, wildlife refuges, rivers, and reservoirs, could have substantial, negative environmental and public health impacts. Yet, BLM has chosen to prioritize speed over safety, placing an arbitrary one-year time limit on its study and restricting the number of pages to 150, without regards to whether the study could be properly conducted in that constricted timeframe or adequately explained in that limited amount of space.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
20011	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	Also concerning, the BLM plan also proposes to allow drilling throughout Naval Base Ventura County (NBVC). In recent years, the Navy has done important work to protect and restore the wetlands around the base. Drilling on the base would undo that work, harming the coastal environment and negatively impacting mission readiness, as well as the base's operational capacity.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
20011	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	BLM has a responsibility to protect our public lands for future generations, and this proposal is clearly at odds with that mission. Instead of opening up over a million acres of federal lands for harmful energy development, our nation should be focused on developing clean, renewable energy resources and reducing our carbon footprint. Sadly, the BLM proposal moves our nation completely in the wrong direction.I therefore urge BLM abandon this plan and leave in place the drilling and fracking moratorium.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
20011	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	Furthermore, I am greatly concerned about several parcels of sensitive lands in my Congressional District that would be opened to new drilling and fracking. First, the Ojai Valley Land Conservancy's Ilvento Preserve is an 80-acre parcel that contains important wildlife corridors and diverse native flora. The Thacher School in Ojai is adjacent to a 40-acre parcel that includes a popular hiking trail. The 1,500 acre Hopper Mountain National Wildlife Refuge is home to the endangered California condor. Drilling on federal lands adjacent to these locations could have significant negative impacts on wildlife, vegetation, endangered species, and public health. It will also destroy the natural beauty of these areas, which my constituents value greatly.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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11580		One question that was brought up concerning the statement made in the ES.2 table (p. XIV, under Water Resources) from the draft SEIS was that the effects of the proposed fracking efforts in the proposed areas would be little to and/or less than negligible. The direct wording is as follows: “negligible impacts in context of regional agricultural consumption. Hydraulic fracturing constituent mixing and handling - Impacts to groundwater due to spills of fracturing fluids would be negligible”. However, the Water Association of Kern County website states that 36% of water used for “ families, business, farms, the environment and recreation” come from groundwater (WAKC.com, 2019), as well as an additional 26% from the State Water Project's California Aqueduct. This would lead to the assumption that the water is used for more than agricultural consumption, as was stated in the draft SEIS. These specific areas can be illustrated in a map of the different supply sources, also from the WAKC website (WAKC, 2019). When this map is held in comparison with the map of proposed fracking areas provided on page V of the draft SEIS, it can be seen that much of the proposed fracking areas overlap with those of the State Water Project and the groundwater supplies, leading to the question: is there a direct number that describes the negligibility of the fracking effects on what is around 60 percent of Kern County's water sources? Is there a tangible number that can be associated with the effects of fracking on the water in these areas, and if so, where can they be found? Are there clearcut terms surrounding the parameters of negligible groundwater effects?	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24668	Seismic Activity	The SEIR does not address the presence of a nuclear power plant & stored nuclear waste in an already earthquake sensitive area. The residents of San Luis Obispo County demand that all potential impacts are considered & the moratorium be continued.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15344		Please see the attached letter from the Board of Trustees of the Unitarian Society of Santa Barbara. Thank you for the opportunity to be heard. Keith Strohmaier, Board President, Unitarian Society of Santa Barbara	
15344	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	Most troubling of all, opening up more than a million acres of mineral estate and public land to oil production ignores the climate crisis that has directly impacted the very counties in which the public land lies. Devastating wildfires and drought in these counties are directly caused by the burning of the carbon fuel being extracted. We should be focusing our time and energy on ways to use less oil and gas instead of ways to produce more.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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15344	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	The Board of Trustees of the Unitarian Society of Santa Barbara strongly and without reservation opposes the Bureau of Land Management's current proposal and supports making the federal moratorium on oil and gas production on public lands and mineral estates permanent.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
15651	Cumulative Impacts	<p>The National Park Service (NPS) appreciates the opportunity to comment on the Bureau of Land Management (BLM) Bakersfield Field Office Hydraulic Fracturing Supplemental Draft Environmental Impact Statement (SDEIS). The SDEIS planning area is adjacent to Sequoia and Kings Canyon National Parks ("the Parks"), which are administered as a single unit by NPS. In 2018, over 1.8 million park visitors spent an estimated \$165.5 million in local gateway regions while visiting the Parks. These expenditures supported a total of 2,100 jobs, \$65.9 million in labor income, \$110.6 million in value added, and \$185.4 million in economic output in local gateway economies surrounding the Parks. The NPS also appreciates BLM's decision and commitment to protect NPS resources in all action alternatives of the Bakersfield Resource Management Plan (RMP) Final EIS, and in the Record of Decision and Adopted RMP, stated as: AAV-D-2. Prevent BLM actions from degrading Federal Class I areas including Domelands Wilderness, San Raphael Wilderness, and Sequoia and Kings Canyon National Parks. (p. 18, ROD & ARMP) To support AAV-D-2, we provide suggestions for analyzing and preventing potential degradation of the Class I areas, and also for protecting other resources vital to park purpose and function. Class I Air Quality Area of Sequoia and Kings Canyon National Parks The NPS has reviewed the Air and Atmospheric Values Analysis in the Bakersfield Field Office Hydraulic Fracturing SDEIS.) and associated material in the 2012 Bakersfield Proposed Resource Management Plan and Final Environmental Impact Statement (2012 FEIS/RMP). Our conclusions regarding the analysis and recommended solutions are as follows:</p> <p>1. Concern: The air analysis does not contain sufficient data for the NPS to determine whether impacts to air quality and air quality related values (AQRV) could occur in the Parks, which are both designated Class I areas under the Clean Air Act. According to the FEIS and SDEIS, emissions were only calculated for new development on new leases (400 wells/year and 4 wells/year, respectively) yet the majority of future development is anticipated to occur on existing leases. The reasonably foreseeable development (RFD) included up to 400 new wells on federal minerals, a fraction of which would be hydraulically fractured. This approach to the air analysis does not consider the full scope of future actions that BLM may take under a revised RMP, including approving applications for permits to drill (APD) on existing leases.</p> <p>1. Solution: We recommend that BLM develop an emissions inventory for the full scope of the RFD activity anticipated under the FEIS/RMP (up to 400 wells/year); that is, all new federal mineral development on new and existing leases. The SDEIS should characterize the contribution of hydraulic fracturing activities to this full RFD emission inventory.</p> <p>2. Concern: Emission reduction mitigation measures for oil and gas activities were not discussed in the SDEIS or the associated FEIS/RMP. Cumulative air quality issues that affect the Parks are present within the region, including nonattainment status for ozone and Particulate Matter (PM), yet because the air analyses only considered a fraction of the federal mineral RFD, mitigation measures that may be necessary to maintain or protect air quality into the future were not considered under the SDEIS or associated 2012 FEIS/RMP.</p> <p>2. Solution: To address cumulative air quality concerns, we recommend that the BLM include additional air emission mitigation measures in the form of stipulations for new leases and appropriate conditions of approval (COAs) for existing leases within the Bakersfield Field Office. This includes (but is not limited to) the use of Tier IV or Tier IV equivalent drilling and completion engines to reduce NOx emissions, which are a precursor to ozone formation and contribute to visibility impairment and nitrogen deposition. However, we note that a complete emission inventory with sufficient detail is necessary to identify a full suite of recommended mitigation measures.</p> <p>3. Concern: We note that Bakersfield Field Office did not convene an interagency air quality technical work group to solicit early input from</p>	<p>Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.</p> <p>his supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.</p> <p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the "2014 RMP," identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p>

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		stakeholder agencies. Convening the interagency group would identify concerns associated with the air analysis early in the planning process and vet and resolve technical aspects of the analysis (including emission inventories and air quality modeling).3. Solution: While late in the process, quickly convening such a group could be beneficial to ensure emission inventory and analysis concerns are adequately addressed and that appropriate mitigation measures are identified to protect air quality and AQRVs in the Parks. 4. Concern: The SDEIS analysis does not include an emission inventory with sufficient technical detail to determine the adequacy of the emission calculations provided, including the emission factors and activity assumptions used. The needed detail would include emission calculations for criteria air pollutants as well as greenhouse gas emissions. 4. Solution: See recommendations for concerns one and three above.	The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.
15651	Visual Resources	Scenic Views and the Visitor Experience Scenic landscapes are an important part of the recreation and visitor experience at the Parks, from the dramatic sequoia groves to the high Sierra wilderness. The diverse landscape in and around the Parks offers the opportunity to enjoy a wide range of hiking and back country experiences. Current vistas from the Parks include natural vistas of canyons and mountains as well as scenes with development with rustic character in visitor use areas. Most views from the Park to outside the boundaries are not modified by development because of the surrounding National Forest and Wilderness Area. Concern: The NPS understands that with current technology, hydraulic fracking is most probable within the SDEIS Analysis Area, but is legally possible wherever BLM lands are open to fluid mineral leasing. To be proactive, the NPS recommends that viewshed protections be applied to leasable lands near the parks. We recognize these areas are unlikely to be developed in the near term based on currently available technologies and market conditions, but urge that protections should be in place should future technological and market changes make development of these leasable areas more attractive to operators. BLM land in this category appears to be leasable within a mile of the Foothills Visitor Center entrance to Sequoia National Park. The NPS is concerned about possible impacts to the visitor experience including increased traffic, changes to the scenic values; construction sound,	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p>

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		<p>vibration, and dust; and invasive plant spread. Solution: Analyze potential impacts to the visitor experience at Foothills Visitor Center in a manner similar to the analyses for state parks used in the Final EIS. The NPS suggests that the “Chimineas Ranch Controlled Surface Use”, stipulation could be modified for leasable lands where hydraulic fracking could impact the NPS Foothills Visitor Center (MM-D-1.1.17, page 88, BLM Bakersfield Record of Decision & Adopted Resource Management Plan). The stipulation could be edited as follows to provide protection for NPS resources and the visitor experience: This lease is within the boundaries of, or adjacent to, the State of California’s Chimineas Unit of the Carrizo Plain Ecological Reserve, viewshed of the Sequoia National Park Foothills Visitor Center an area that contains unique or significant natural or cultural values. Prior to the authorization of any surface disturbing activities, a preliminary environmental review will be conducted to identify the potential presence of natural or cultural values. Authorizations may be delayed until completion of the necessary surveys during the appropriate time period for these resources. Surface disturbing activities may be prohibited on portions or the entire lease, and some activities may be prohibited during seasonal time periods. This stipulation shall not be waived, however may be granted exception or modified as follows: Exception: The Authorized Officer may grant an exception if, after coordination with CDFG the National Park Service, an environmental review determines that the activity, as proposed or conditioned, would not impair the values present and is consistent with the management of the ecological reserve National Park. Modification: The Authorized Officer may modify this stipulation to further restrict surface use on a portion of or the entire lease if a more stringent requirement is deemed necessary to protect resource values following an environmental review. The NPS also requests that the BLM notify NPS of applications for new wells within viewshed of the Foothills Visitor Center and that BLM coordinate with NPS early in the permitting process to identify COAs suitable for individual wells. Wild and Scenic Rivers: Concern: Oil and gas leasing with accompanying hydraulic fracturing could impact Wild and Scenic Rivers, sections of river eligible for Wild & Scenic designation, and other waters under NPS stewardship in the National Park System. See Figure 1 below for water bodies upstream and/or adjacent to BLM lands open for leasing and hydraulic fracturing. Figure 1. Rivers eligible or designated as National Wild and Scenic Rivers, and BLM lands (in orange) open for fluid mineral leasing and hydraulic fracturing. Solution: Review activities on lands in the vicinity of the segments of the Kaweah, Kings, and Kern Rivers and determine whether any proposed actions under the SDEIS could have an adverse effect on the natural, cultural, and recreational values of the National River Inventory (NRI) segments. Adverse effects may include, but are not limited to: destruction or alteration of all or part of the free flowing nature of the river; introduction of visual, audible, or other sensory intrusions which are out of character with the river or alter its setting; deterioration of water quality; or transfer or sale of property adjacent to an NRI river without adequate conditions or restriction for protecting the river and its surrounding environment. In addition, consider whether the proposed action could foreclose options to classify any portion of the NRI segment as a wild, scenic, or recreational river area. Impacts of a proposed action could be severe enough to preclude inclusion in the Wild and Scenic River System, or lower the quality of the classification (e.g., from wild to recreational). If the proposed undertaking could effectively downgrade any portion of an NRI segment, consult with NPS to ensure that mitigation/avoidance measures are included. In the Wild and Scenic River review, reflect the full range of possible water withdrawal rates rather than an averaged water amount per well. Wilderness The Parks total designated wilderness is 808,078 acres – more than 93% of all lands in these Parks. Additional acres are managed as wilderness according to NPS policy, which results in nearly 97% of all Park lands being managed as wilderness. These wilderness areas are managed under the provisions of the National Wilderness Act of 1964 “for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and to provide for the protection of these areas and the preservation of their wilderness character.” Concern: Air quality and other impacts from leasing and hydraulic fracking may impact the wilderness values in the Parks. Solution: Include a section in the Supplemental Final EIS to analyze potential hydraulic fracking impacts to wilderness values. As noted above, improvements to the air analysis will also assist in addressing wilderness values. Wildlife Several wildlife species of conservation concern in the Parks move across large distances in the landscape and healthy populations require management through interagency cooperation across land ownership boundaries. Sierra Nevada bighorn sheep, California condor, wolverines, and brown bears are a few examples. Concern: The SDEIS defers analysis of habitat fragmentation and other wildlife impacts to project-specific NEPA documents. The project-specific NEPA documents are localized and are unlikely to capture the landscape-level impacts to wide-ranging species. Solution: Include a section to analyze landscape-level wildlife impacts for wide-ranging species of conservation concern.</p>	<p>It is important to note that this Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

Comment Number	Issue	Comment	Response
13418	Opinion - NEPA process	The Draft SEIS does not comply with U.S. District Court, Central District of California's summary judgment to take a "hard look" at the environmental impact of hydraulic fracturing that the Bureau of Land Management failed to include in the 2012 Final EIS.	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>It is important to note that this Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
13418	Opinion - NEPA process	The Draft SEIS does not comply with U.S. District Court, Central District of California's summary judgment to take a "hard look" at the environmental impact of hydraulic fracturing that the Bureau of Land Management failed to include in the 2012 Final EIS. A few examples from my review of the Draft SEIS are included in the attached document.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
17385		Deficiencies and inconsistencies found in 4.8 Methods of Analysis and Assumptions;4.8.1 Methods of Analysis and Assumptions states that "According to the United States Environmental Protection Agency (USEPA) (2016), spills of hydraulic fracturing fluids have stemmed primarily from equipment failure or human error and mainly involved storage containers. The potential to impact, groundwater "depends on the composition of the spilled fluid, spill characteristics, spill response activities, and the fate and transport of the spilled fluid" Because of these factors, impacts to groundwater may not be readily apparent for a number of years."Yet 4.8.1 concludes "Impacts to groundwater from loss of disposal well integrity or out-of-zone migration of disposed fluids from an average of zero to four wells would be negligible. If present trends continue, the drilling and hydraulic fracturing of up to 40 wells on new leases over the 10-year planning period would also have negligible impact."These statements are at odds with each other. The first admits that impacts to groundwater are not and cannot be known, with any certainty. This is a scientifically sound statement. We should not venture to make statements about what we must admit are unknowns. The concluding statement cannot, therefore, be correct. We do not know if injecting flowback liquid into any wells, Class II or otherwise, will contaminate groundwater. This is one reason that under this current EIS, Alternatives C & D would be the logical choice. An alternative of ending all oil and gas production in the Planning Area would be better.Deficiencies and inconsistencies found in 4.10 Minerals	<p>Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS).</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p> <p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the "2014 RMP," identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p>

Comment Number	Issue	Comment	Response
		<p>Management;4.10.3.1 states that “Earthquake magnitudes associated with hydraulic fracturing are small (less than magnitude 3.8)”. This does not take into account induced earthquakes caused by wastewater disposal associated with all oil recovery techniques. “We know that four magnitude 5+ earthquakes have occurred in Oklahoma, three of which occurred in 2016. In 2011 a magnitude 5.3 earthquake was induced by fluid injection in the Raton Basin, Colorado. Earthquakes with magnitudes between 4.5 and 5.0 have been induced by fluid injection in Arkansas, Colorado, Kansas, and Texas.” (Source: US Geological Survey) The fact that seismic activity increases due to wastewater injection, not a specific extraction method, should bring heightened scrutiny for all extraction methods, not be used to rationalize potentially destructive activity.4.10.3.1 “SB4 requires seismic monitoring during all hydraulic fracturing activities” This is good however once seismic activity is detected, what can be done about it? If salinated water is stored underground and an earthquake does occur, induced by wastewater being pumped underground or naturally occurring, how could it be ensured that the casing will not crack and wastewater will seep into the freshwater table? This guarantee of course cannot be made. This is why of the given choices, alternatives C & D are the best.The EIS is lacking an alternative that would halt all leasing of lands for fossil fuel extraction in the Planning Area, encompassing both public land and federal mineral estate. This is by far the most glaring deficiency of the report. Without an alternative describing an end to extraction within the Planning Area, the general public do not have sufficient opportunity to protect the beautiful state we call home.</p>	<p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
22750	Cultural Resources	<p>June 8, 2019 “BAKERSFIELD, Calif. – The Bureau of Land Management Bakersfield Field Office is seeking public input on the potential environmental impacts of hydraulic fracturing during oil and gas production on new leases on public lands and Federal mineral estate” The above mentioned referenced Environmental Impact Statement (EIS) has not adequately considered Native American cultural resources and this should not be allowed. Further consultation with tribes both Federally Recognized and not Federally Recognized needs to take place to discuss the negative impacts of what is proposed. It is our belief that not all cultural sites have been researched adequately and further consultation is needed. We are opposed to the leases as the various practices to extract oil will include the unsafe use of fracking and other destructive methods. Fracking will damage village sites and needed habitat including habitat for plants and animals that are important in our culture. We know these places and they represent over ten thousand years of our unique culture. The oil leases could negatively affect the entire homeland of the yak tityu tityu yak tilhini – Northern Chumash Along with the village sites, there are cemeteries and ceremonial sites. All of these places should be respected, not only for their history, but for what they mean to the tilhini people of today. They should be left untouched and we should not have to live in fear of their destruction. These are important cultural resources that are not renewable and can't be replaced. We are opposed to any oil extraction practices that will further destroy our homeland, our culture and cause injury to us as people; therefore, we believe further consultation is needed. Thank you, Mona Olivas Tucker, Chair Yak tityu tityu yak tilhini – Northern Chumash Tribe San Luis Obispo County and Region</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

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20451	Cumulative Impacts	Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed. The EIS does not evaluate the cumulative social and economic impacts that higher production rates of liquid mineral extraction and the higher rates of green house gas emissions associated with increasing production through hydraulic fracturing. Until your office addresses the cumulative effects that additional oil and gas production will have on accelerating climate change, this document should not be accepted. The social and economic impacts are GLOBAL. Your office has the moral and societal responsibility to reduce the production of liquid minerals, not increase production. BLM is the steward of public land. Stop acting as shill for oil and gas companies.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
21881		To Whom It May Concern: Attached please find the comment letter from Center for Biological Diveristy, Los Padres ForestWatch, and Sierra Club regarding the Notice of Availability of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement, California. A CD of references and a hard copy of the letter will be delivered via Federal Express Mail. Sincerely, Omonigbo Oiyemhonlan Center for Biological Diversity	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS).
21881	Alternatives	As described above, BLM arbitrarily identified as the "no action" alternative an alternative that is not in fact the existing state of affairs. BLM ignores the fact that the 2014 RMP is in place and conducts its analysis on the wrongful assumption that taking "no action" will result in BLM managing lands under the Caliente and Hollister RMPs that were superseded by the 2014 RMP. The problem with BLM's misidentification of the "no action" alternative is compounded by BLM's failure to analyze in the DSEIS the impacts of hydraulic fracturing from what it incorrectly identifies as the "no action" alternative. BLM maintains that leaving in place the Caliente and Hollister RMPs would have no different impacts with respect to hydraulic fracturing from those identified in the 2012 FEIS. ⁴⁵³ But the 2012 FEIS (which properly identified the Caliente and Hollister RMPs as the "no action" alternative) failed to comply with NEPA precisely because it failed to analyze the impacts of hydraulic fracturing. The Caliente and Hollister RMPs did not prohibit the use of hydraulic fracturing techniques on public land and mineral estate. Therefore BLM's failure to analyze the impacts of hydraulic fracturing in the 2012 FEIS applies also to its analysis in that EIS of the impacts of leaving in place the Caliente and Hollister RMPs. That is, with respect to analysis of impacts of hydraulic fracturing under the previous resource management plans, BLM still fails to analyze the impacts of fracking. As a result, the public cannot compare BLM's proposed plan against what BLM identifies as the "no action" alternative, to determine the extent to which, if any, the 2014 RMP and the DSEIS reduce the environmental impacts of fracking on public lands and federal mineral estate. To the extent BLM chooses to include in the DSEIS an alternative that would revise the existing RMP to replace it with a management plan that replicates the Caliente and Hollister RMPs, it must analyze and disclose the impacts of hydraulic fracturing that result from that management plan.	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>
21881	Alternatives	BLM must also go beyond merely considering the risks of fracking. New information, including as described in these comments; makes clear that other forms of extreme extraction, including acidization, steam injection, and waterflooding, are also widely used in California. Because these extreme extraction techniques involve risks and harms beyond that posed by conventional fossil fuel development, and all are underregulated by BLM, the supplemental EIS must consider an alternative that prohibits all forms of extreme extraction.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
21881	Alternatives	BLM must analyze alternatives that would meaningfully alter the levels of production from federal mineral estate, such as closing all federal land and mineral estate to new oil and gas leasing, or closing all federal land and mineral estate to oil and gas production. However, BLM fails to offer these alternatives and appears to pretend that this critical body of scientific information does not exist.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.

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			The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.
21881	Alternatives	BLM Must Consider a "No Leasing" Alternative	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement. Neither a state-wide leasing moratorium, nor the choice of a "no leasing" alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.
21881	Alternatives	BLM Must Consider an Alternative that Imposes Health and Safety Buffers	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>
21881	Alternatives	BLM Must Consider an Alternative that Prohibits Fracking and Other Forms of Extreme Extraction In addition to a "no leasing" alternative, the DS EJS must consider a "no fracking" alternative.	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>
21881	Alternatives	None of the alternatives identified result in any meaningful difference in agency action regarding hydraulic fracturing or associated activities, or in the resulting environmental impact, according to the DSEIS itself. As the DSEIS concludes, impacts to air and atmospheric values, biological resources, cultural resources, Native American values, soil resources, paleontological resources, soil resources visual resources, water resources and social and economic resources are the same across all alternatives. 76 This undermines the very purpose of the alternatives analysis, to "rigorously explore and objectively evaluate all reasonable alternatives" to the proposed action in comparative form, so as to provide a "clear basis for choice among the options" open to the agency.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.

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			The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.
21881	Alternatives	Portions of the DSEIS improperly state that the "no action" alternative would be result in the planning area being managed under the 1997 Caliente RMP and 1984 Hollister RMP, as amended, where in fact if BLM takes no action here, the planning area will be managed under the 2014 RMP.	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>
21881	Alternatives	The DSEIS Fails to Consider an Adequate Range of Alternatives	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>
21881	Alternatives	The DSEIS Fails to Consider Whether the Alternatives Considered are Consistentwith National, State and Local Plans, Policies, Regulations and GoalsNEPA regulations require agencies to account for conflicts with existing laws andrequirements imposed for the protection of the environment when engaging in environmentalanalysis.For example, BLM must disclose whether each of the proposed plan alternativeswould interfere with efforts to meet federal and international greenhouse gas emission reductiontargets. When it amends the DSEIS to consider an adequate range of alternatives, BLM mustensure that it considers whether the alternatives considered are consistent with national, state andlocal plans, policies, regulations and goals. The alternatives analysis contained in the DSEIS failto do so.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.

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21881	Alternatives	The DSEIS must be amended to clearly identify BLM's preferred alternative.	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>
21881	Areas of Critical Environmental Concern (ACEC)	aspect of the "Kern County Zoning Ordinance, Chapter 19.98" that might mitigate potential impacts of well stimulation on ACECs. Even if it did, the ordinance only applies in Kem County. Kettleman Hills and Hopper Mountain ACECs, and also possibly Chico Martinez ACEC, are outside Kem County's boundaries and thus not subject to any protections the Kem County Zoning Ordinance may offer. BLM must identify with some specificity the impacts to ACECs, and how state well stimulation impacts and local ordinances may offer some protection in order to provide the public enough infonnation to be able respond to BLM's conclusions that these laws and regulations will be protective.BLM must amend the DSEIS to adequately disclose the impacts of hydraulic fracturing on ACECs, identify with some specificity the state and local regulations that it asserts without justification will protect ACECs without federal surface control from impacts, and to impose No Surface Occupancy stipulations on federal lands within ACECs designated as open for leasing.	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>

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21881	Areas of Critical Environmental Concern (ACEC)	BLM should impose NSO stipulations on any areas open for oil and gas leasing within an ACEC. ACECs are areas that BLM has identified as being in particular need of protection, in order to preserve important values. In this instance, four ACECs and Compensation Lands are identified as being important to preserve listed species. For the reasons set out above, and as acknowledged in the DSEIS, listed species are vulnerable to surface disturbance that occurs with oil and gas development. NSO stipulations would avoid that surface disturbance, thereby avoiding unnecessary and undue degradation to particularly sensitive areas. Yet in each of these ACECs BLM will allow leasing for oil and gas development without stipulations prohibiting surface occupancy of the parcel (NSO stipulations). BLM should impose NSO stipulations on any areas it proposes to open for oil and gas development within an ACEC in the Planning Area.	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21881	Areas of Critical Environmental Concern (ACEC)	<p>The analysis of impacts falls far short of NEPA's required "hard look" standard. That the DSEIS, which simply fails to address many of the impacts raised in the scoping process, includes a section on impacts to ACECs, suggests that BLM has identified and expects significant impacts to ACECs that must be disclosed. But the DSEIS is so vague and brief as to be unintelligible. While NEPA requires a "detailed statement," the DSEIS summarizes the impacts to ACECs that BLM concedes will be not mitigated into two conclusory sentences:Operations in areas adjacent to ACECs could result in spills or leaks that would impact ACECs; dust and soil from operations could drift to adjacent ACECs, potentially impacting vegetation and habitat resources."This "analysis" is insufficient to give the public enough information to be able to participate intelligently in the EIS process," and therefore fails to meet the "hard look" standard that NEPA requires. Because, for the reasons set out above, the analysis of impacts to water resources, air quality and biological resources is also inadequate, BLM cannot rely on these parts of the analysis to adequately disclose the impacts to ACECs. Furthermore, as the DSEIS identifies, ACECs are sufficiently significant to warrant special attention and analysis in an environmental impact statement.</p>	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

Comment Number	Issue	Comment	Response
21881	Areas of Critical Environmental Concern (ACEC)	<p>Use ("CSU"), 389 BLM is wrong to assert that "a number of NSO and CSU stipulations" would "provide protection to ACECs from hydraulic fracturing operations." The Chico Martinez, Hopper Mountain, Kettleman Hills and Lokern-Buena Vista ACECs are all designated as open for oil and gas development subject to Controlled Surface Use ("CSU") stipulations. But, according to BLM a CSU stipulation does not prohibit, nor allow BLM to prohibit, at the drilling permit stage, all surface occupancy on a parcel. A fluid mineral lease issued without a NSO stipulation (as is the case for parcels designated CSU) confers on the lessee the right to use the lands to the extent required to drill for, and extract, oil and gas. At best, a CSU stipulation potentially imposes controls on precisely when, where, and how that land is used; but in BLM's view it does not reserve to BLM the right to deny occupancy altogether. Because BLM does not adequately analyze the impacts to ACECs, from "spills or leaks" and "dust and soil" that could "impact" ACECs and "vegetation and habitat resources," it is impossible to discern whether or how CSU stipulations might "provide protection to ACECs from hydraulic fracturing operations." It is arbitrary for BLM to assume that stipulations that allow surface occupancy, and therefore surface disturbance of an ACEC, will "provide protection from long-term ground disturbing activities and additional protection." Further, BLM cannot rely, as it appears to purport to, on the impact of surface disturbing activities on non-federal surface being subject to analysis under CEQA. While California's Department of Conservation, Division of Oil, Gas & Geothermal Resources, which permits oil and gas development in California, acknowledges that those permits are discretionary decisions and thus subject to CEQA, DOGGR refuses to prepare CEQA analyses for most oil and gas well permits in California. In any event, BLM cannot rely on future environmental analysis as justification for avoiding analysis of impacts now. "This "approve now and ask questions later [approach] is precisely the type of environmentally blind decision-making NEPA was designed to avoid." Likewise, the explanation of how local and state measures "would apply to mitigate potential impacts" is left entirely unexplained. BLM fails to identify the "protective measures, mitigation measures, and BMPs" from "S84, chapter 313" that might apply, and how those would operate to protect ACECs from impacts. In fact, while SB 4 98 and the regulations promulgated pursuant to that statute do regulate well stimulation activities in California, they do not contain or impose "Best Management Practices," as BLM asserts. BLM fails to identify any</p>	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the "2014 RMP," identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
21881	Areas of Critical Environmental Concern (ACEC)	<p>While, pursuant to the 2014 RMP, various ACECs that are open for leasing are subject to different kinds of leasing stipulations-No Surface Occupancy ("NSO") and Controlled Surface</p>	<p>Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.</p>

Comment Number	Issue	Comment	Response
21881	Biological Resources	BLM should amend the DSEIS to analyze the impacts of hydraulic fracturing on wetlands and riparian habitat, to identify the location of wetland and riparian habitat in the planning area, and to require, as other BLM field offices do, that any parcel leased for oil and gas development in wetland or rjparian habitat have a CSU stipulation prohibiting surface occupancy on or near to those resources.	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21881	Biological Resources	BLM's analysis of impacts to biological resources in the Planning Area is, like much of the DSEIS, infected by arbitrary assumptions that falsely downplay the impacts to species of hydraulic fracturing and oil and gas development in the Planning Area. As with many other conclusions in the DSEIS, this conclusion is undermined by the fact that BLM understates the number of wells that will be hydraulically fractured and the emissions resulting from each fracturing treatment. In this instance, the arbitrary RFDS means that the surface disturbance BLM relies upon in its analysis of impacts to biological resources is unrealistically low. Consequently, BLM.'s conclusion that all action alternatives "would result in negligible impacts" is arbitrary and capricious.	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

Comment Number	Issue	Comment	Response
21881	Biological Resources	Further, in analyzing the impacts to riparian/ wetland areas, BLM makes the "assumption ... that future applicants would propose surface-disturbing activities to be located in such a way as to avoid riparian/ wetland vegetation."369 Yet in the same sentence, BLM maintains that it cannot analyze impacts with any specificity, because it cannot tell where development will occur. 370 That is, BLM relies on an unsupported assumption merely to avoid analyzing impacts. There is no basis for this assumption, and it is therefore arbitrary and capricious. In the absence of a CSU stipulation prohibiting development on wetland or riparian habitat, BLM cannot assume operators will choose not to develop in wetland or riparian habitat.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21881	Biological Resources	Further, the Best Management Practices ("BMPs") and Standard Operating Procedures ("SOPs") in the 2014 RMP include species-specific measures only for a small subset of the federally listed species and other special species that will be harmed by the proposed oil and gas development activities.473 Federally listed and other special status species each require an areawide impacts analysis that evaluates the species-specific hanns from the proposed oil and gas activities including fracking, and, importantly, require species-specific protections, including closures and/or NSO stipulations that protect critical habitat, core population areas, and important movement areas from leasing. BLM has failed to provide any explanation as to why it has elected to put in place species-specific BMPs and SOPs, which may alleviate unnecessary and undue degradation of biological resources for some threatened and endangered species in the Planning Area, but not others. To avoid unnecessary and undue degradation, it must amend the DSEIS to impose species-specific BMPs and SOPs for all listed species in the Planning Area.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21881	Climate and Air Quality	BLM concludes the RMP satisfies the Clean Air Act's conformance requirement because that projected emission increases will fall below the applicable de minimis thresholds.469 This conclusion is undermined by the fact that BLM understates the number of wells that will be hydraulically fractured and the emissions resulting from each fracturing treatment. In particular, in the San Joaquin Valley Air Pollution Control District, the de minimis thresholds for NOx and ROG are only 10 tons per year, and it is likely that even a small upward adjustment of the RFDS would push emission totals beyond this threshold.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.

Comment Number	Issue	Comment	Response
21881	Climate and Air Quality	BLM must comply with NEPA by analyzing whether the alternatives comply with the Paris Agreement, and prepare a new Resource Management Plan amendment in light of the further supplemental EIS which properly complies with NEPA.	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>
21881	Climate and Air Quality	BLM must disclose whether each of the alternatives analyzed in the DSEIS would interfere with efforts to meet federal and international greenhouse gas emission reduction targets. 105 The DSEIS arbitrarily concludes that the GHG emissions from oil and gas development .. would not be likely to conflict with any applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions . " 10 However, the Proposed Plan is inconsistent with the United States' climate commitments made pursuant to that Paris Agreement, which the DSEIS fails to even refer to.	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>
21881	Climate and Air Quality	If BLM believes that each hydraulically fractured well is likely to produce 318,718 barrels of oil per year, the estimates of "End Use Greenhouse Gas Emissions for 40 Hydraulically Fractured Wells" presented in DSEIS table 4.1.5 are severely flawed: applying the conversion factors would produce per-well estimates very near the purported total estimates offered in this table. Thus, the inputs to the DSEIS's analysis of end-use climate impacts cannot be squared with the estimates ultimately presented.	<p>As stated in Section 4.1.4 of the SEIS, a rough estimate of possible indirect CO2 emissions is provided below based on the RFD Scenario, other publicly available information, and assumptions integrated into the Central Coast Field Office Draft RMPA/EIS (BLM 2017). Possible indirect emissions were estimated by assuming annual production per well of 318,718 barrels of crude oil. Table 4.1.5 estimates 221,119 MTCO2e of GHG emissions from the end use of crude oil that could possibly be produced annually by 40 hydraulically fractured wells over the life of the 2014 RMP.</p>

Comment Number	Issue	Comment	Response
21881	Climate and Air Quality	In addition, the new DSEIS should disclose estimates of total lifetime production and associated end-use emissions for the 40 hydraulically fractured wells that BLM expects to be drilled over the life of the plan, rather than merely reporting annual emissions.	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21881	Climate and Air Quality	In the air around drilling and fracking operations and their attendant infrastructure, researchers have measured strikingly high levels of toxic pollutants, including the potent carcinogen benzene and the chemical precursors of ground-level ozone (smog). In some cases, concentrations of fracking-related air pollutants in communities where people live and work exceed federal safety standards. Research shows that air emissions from fracking can drift and pollute the air hundreds of miles downwind.	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

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21881	Climate and Air Quality	In the DSEIS, BLM must closely assess the direct, indirect, and cumulative impacts of oil and gas development on air quality, including the types of air emissions, sources and amounts of emissions, and their substantial hanns to human health and the environment, which are summarized as follows by a 2018 comprehensive scientific assessment:	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21881	Climate and Air Quality	Multiple Errors in the DSEIS Each Lead to Underestimates in Greenhouse Gas Emissions. The DSEIS underestimates greenhouse gas emissions by: • Underestimating the number of wells that will be hydraulically fractured; • Providing a flawed estimate of downstream emissions; • Underestimating production emissions, by failing to use data specific to this planning area's intensive production emissions; • Understating life-cycle methane emissions; • Understating the impact of each ton of methane emitted (methane's "Global Warming Potential". The first of these issues is explained above, in comments on the RFDS. We address the others in the following sections. BLM must release a new DSEIS that addresses these errors.	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.</p> <p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p>

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			<p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
21881	Climate and Air Quality	Nothing in the DSEIS addresses emissions of air pollution other than criteria pollutants and greenhouse gases, or, more broadly, the health impacts of proximity to oil and gas production. And while appendices to the FEIS briefly acknowledge the fact that oil and gas production emits additional pollutants (regulated "hazardous air pollutants"), 166 the FEIS provides no analysis of the volume of such pollution that will be emitted or the health impacts thereof.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21881	Climate and Air Quality	Since the 2012 FEIS, important new scientific studies and synthesis reports have confirmed the overwhelming international scientific consensus that human-caused climate change is causing widespread harms and that urgent, largescale cuts in greenhouse gas pollution are needed to avoid catastrophic damages. The DSEIS fails to either to mention or to provide adequate disclosure of the conclusions of these critical climate change reports and research, including the Fourth National Climate Assessment and IPCC Special Report on Global Warming of 1.5 °C, which make clear that we are in a climate emergency, and the choices we make now regarding fossil fuel	Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.

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		production and combustion will affect the severity of the climate change damages that will be suffered in the coming decades and centuries.	<p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21881	Climate and Air Quality	The DSEIS 's discussion of end-use emission presents incorrect data, and the public cannot meaningfully comment thereon. The DSEIS 's estimate of end use greenhouse gas emissions is severely flawed. The DSEIS states that "possible indirect emissions were estimated by assuming annual production per well of 318,718 barrels of crude oil." No source for this estimate is provided. However, this is the figure presented in the Central Coast Draft EIS, which the Bakersfield DSEIS cites in other portions of its analysis, as the estimate for the total (not per-well) volume of annuar oil production that would occur under the Central Coast RFD.	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p>

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21881	Climate and Air Quality	<p>The DSEIS also fails to acknowledge a 2018 scientific review confirming the conclusions of the Environmental Protection Agency's 2009 endangerment finding that determined that the then-current and projected concentrations of greenhouse gas pollut ion endanger the public health and welfare of current and future generations, based on robust scientific evidence of the harms from climate change.</p>	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

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21881	Climate and Air Quality	The DSEIS also fails to acknowledge that greenhouse gas emissions are continuing to rise, which is critical for understanding the current conditions and trends for the RMP.	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21881	Climate and Air Quality	The DSEIS also fails to disclose the critical findings of the 2018 Intergovernmental Panel on Climate Change (IPCC) Special Report on Global Warming of 1.5°C that quantified the devastating harms that would occur at 2°C warming, highlighting the necessity of limiting warming to 1.5 °C to avoid catastrophic impacts to people and life on Earth.	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p>

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21881	Climate and Air Quality	<p>The DSEIS analysis of greenhouse gases and human-caused climate change is fundamentally flawed and inadequate in numerous key respects, including; (1) the DSEIS fails to adequately disclose new scientific information on the state of the climate emergency, including the current and projected harms of the climate crisis and the need for urgent action to cut greenhouse gas pollution, particularly from fossil fuel production and combustion, which is the primary driver of the climate crisis; (2) the DSEIS fails to disclose and analyze scientific evidence that new fossil fuel production and infrastructure must be halted and existing production must be phased out to avoid the worst dangers from climate change; and (3) the DSEIS's estimates of greenhouse gas emissions are severely flawed and significantly underestimate the harms from oil and gas development in the Planning Area;.</p>	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

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21881	Climate and Air Quality	The DSEIS bases its discussion of air impacts of hydraulic fracturing on the California Department of Conservation 's SB 4 EIR . That EIR states that: "Well stimulation treatments cause emissions of criteria air pollutants and precursor pollutants from [three] broad categories of sources: emissions from venting or fugitive losses; emissions from portable equipment and mobile sources; and emissions from activities on paved or unpaved surfaces." However, BLM only looked at the second of these categories when providing estimates of emissions from hydraulic fracturing. Crucially, as the EIR makes clear, the data BLM relies upon does not include vented or fugitive emissions, which are discussed in an earlier section of the EIR. S84 EIR at I O .3-29.	BLM understands the cited references support the general conclusions noted in the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS).
21881	Climate and Air Quality	The DSEIS fails to disclose and analyze scientific evidence that new fossil fuel production and infrastructure must be halted and much existing production must be phased out to avoid the worst dangers from climate change. The DSEIS fails to disclose scientific research showing that there is no room in the global carbon budget for new fossil fuel extraction on federal lands if we are to avoid the worst dangers from climate change.	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21881	Climate and Air Quality	The DSEIS Fails to Take a "Hard Look" at Impacts to Air Quality BLM understates air impacts by failing to account for all emission sources, by ignoring air pollutants other than criteria pollutants and greenhouse gases, and by assuming that emissions that do not violate the Clean Air Act's conformity or PSD requirements will not have adverse health impacts.	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.

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21881	Climate and Air Quality	The DSEIS is deficient because it fails to take the required hard look at the full scope of air pollution impacts associated with hydraulic fracturing. Moreover, BLM must further supplement the 2012 FEIS to account for the emissions of hazardous air pollutants and other non-criteria pollutants emitted from the entire oil and gas production process. A voluminous body of peer reviewed scientific literature published since release of the FEIS has demonstrated that these impacts cannot be disregarded.	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21881	Climate and Air Quality	The DSEIS is not consistent with the MLA, which requires BLM to ensure that "[a]ll leases of lands containing oil or gas ... shall be subject to the condition that the lessee will, in conducting his explorations and mining operations, use all reasonable precautions to prevent waste of oil or gas developed in the land "474 Specifically, BLM has failed to ensure that oil leases will prevent the venting or leakage of methane gas, a powerful greenhouse gas, when operations are carried out pursuant to any such leases.	<p>Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.</p>

Comment Number	Issue	Comment	Response
21881	Climate and Air Quality	The DSEIS must account for recent studies showing increased methane emissions. Another problem with the DSEIS's failure to disclose the data underlying its emission estimates is that the public cannot determine whether those estimates account for recent data showing that methane is emitted from the oil and gas supply chain at much higher levels than previously understood.	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21881	Climate and Air Quality	The DSEIS must calculate the greenhouse gas emissions from oil and gas development over the full lifetime of the wells on new and existing leases.	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

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21881	Climate and Air Quality	The DSEIS must explain its estimates of well development and production emissions, and ensure that these estimates use data specific to the oil fields in the Planning Area. Separate from the indirect "transport" and "end use" emissions discussed in DSEIS Table 4 .1.5 and the preceding section, the DSEIS provides estimates of direct emissions associated with well "development" and "production" in tables 4.1.3 and 4.1.4. The DSEIS does not provide any references for the data presented in these tables, nor any explanation as to how these figures were calculated. Cf DSEIS at 53 (Explaining that the DSEIS relied on the "S84 EIR" for emissions factors for five criteria pollutants). Because the DSEIS does not explain how BLM developed the aggregated development and production emission estimates, or the data BLM used to do so, the public cannot ensure that these estimates are correct or meaningfully comment thereon.	As stated in Section 4.1.1 of the SEIS, this analysis follows the methods and assumptions used for a similar analysis developed in the Central Coast Field Office Draft RMPA/EIS (BLM 2017).
21881	Climate and Air Quality	The DSEIS observes merely that venting and fugitive leaks of methane "can often be detected and cost-effectively reduced, captured, recovered or controlled by flaring," ⁴⁸³ though it purports to impose only a single BMP that would address methane wastage, a requirement that high-bleed devices be replaced with low-bleed devices or retrofit bleed reduction kits, to reduce methane emissions from pneumatic devices. ⁴⁸⁴ The DSEIS and 2012 FEIS fail to include any measure to reduce waste by flaring or leakage from non-pneumatic device sources. BLM's obligation to ensure that the PRMPA avoids the waste of methane is of particular significance given BLM's rescission of federal regulations that would otherwise regulate the waste of methane. On September 18, 2018, the BLM rescinded the Waste Prevention, Production Subject to Royalties, and Resource Conservation Rule ⁴⁸⁵ ("Waste Prevention Rule"), revoking protections designed to limit waste of natural gas by oil and gas companies on federal lands from venting, flaring and equipment leaks. ⁴⁸⁶ The Waste Prevention Rule would also have resulted in payment of royalties on the captured gas.	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.
21881	Climate and Air Quality	The DSEIS understates the impact of each ton of methane emitted. The DSEIS also fails to use the correct global warming potential (GWP) for methane over policy-relevant 20-year and 100-year time periods. The DSEIS states that the global warming potential for methane is 28 over a 100 year period according to the IPCC Fifth Assessment Report.	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

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21881	Climate and Air Quality	The DSEJS Ignores Emissions of Non-Criteria Pollutants and Improperly Assumes that Compliance with the CAA's PSD and Conformity Demonstrates a Lack of Impact	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
21881	Cumulative Impacts	BLM must address the cumulative effects that new oil and gas development could have in contributing to the increased risk of earthquakes, for example, through increased fluid injection from fracking and wastewater disposal. As detailed above, it is highly likely that new oil and gas development, and increased fracking and wastewater injection associated with new development, would cumulatively increase the risk of increased earthquake activity, and larger quakes. For example, scientific research has established that higher volumes and pressures of fluid injection can increase the risks of induced seismicity. ⁴²⁸ Multiple fracking operations that are close in time and space can also increase seismic risks:	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
21881	Cumulative Impacts	BLM must release a new DSEIS that explains its analysis of downstream impacts, and that documents the sources for the data used as inputs. This must involve more than merely correctly applying the methodology used in the Central Coast DEIS.	As stated in Section 4.1.1 of the SEIS, this analysis follows the methods and assumptions used for a similar analysis developed in the Central Coast Field Office Draft RMPA/EIS (BLM 2017).
21881	Cumulative Impacts	emissions from each leasing decision-past, present, or reasonably foreseeable-and compare those emissions to regional and national emissions, setting forth with reasonable specificity the cumulative effect of the leasing decision at issue." ⁴⁵² It is vitally important that the cumulative impacts of hydraulic fracturing on new federal leases, hydraulic fracturing on existing federal leases, and all other hydraulic fracturing in the Planning Area, be analyzed. The DSEIS must be amended to include this analysis.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
21881	Cumulative Impacts	For the reasons set out above, BLM must consider all future fracking of new wells on federal mineral estate, whether it is on existing leases or new leases, as the "action" to be analyzed by the supplemental EIS. But if for any reason BLM is not required to consider all fracking of new wells on federal mineral estate as part of the project, it must analyze the impacts of all such activity when considering the cumulative impacts of the Proposed Plan. Yet BLM completely fails to do so. BLM restricts the scope of the DSEIS to "the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions." ⁴¹⁴ But BLM does not explain, in either the 2012 FEIS or the DSEIS, how many wells on existing federal leases will be hydraulically fractured, despite acknowledging that, at least as of 2012, "about 7,400 wells can be found on BLM (sic) in the Planning Area,' ⁴¹⁵ and 90 to 360 new	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p>

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			<p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21881	Cumulative Impacts	<p>Further, the cumulative impacts of hydraulic fracturing on groundwater resources must be analyzed. As described above, there have been instances where fracking one well has affected a nearby oil and gas well or its fracture network, resulting in spills from the nearby well.431 California's long history of oil and gas development means that fracking and new wells often occur where older, unmapped wells may be in the vicinity. Old wells can act as a conduit for chemicals when a new well is operating. 432 The CCST has warned that "wells constructed to less stringent regulations in the past or degraded since installation may not withstand the high pressures used in hydraulic fracturing." 433 The cumulative impact of all hydraulic fracturing in the Planning Area must therefore be taken into account. The cumulative risks to surface water resources from spills and leaks must also be analyzed. Spills and leaks occur with troubling regularity in California. The CCST reported that there were 575 spills of produced water from 2011 to 2014, and eighteen percent of those spills affected waterways.434 There were thirty-one chemical spills in oil fields, nine of them acid spills.435 One acid spill ruptured beyond a secondary containment apparatus and spilled 5,500 gallons of hydrochloric acid.436</p>	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

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21881	Cumulative Impacts	Further, the cumulative impacts to biological resources in the Planning Area, and beyond, may also be significant. Many federally listed species that are particularly vulnerable to oil and gas development, and which may be impacted by the proposed plan are present in both the Planning Area and the Central Coast planning area, including the California condor, San Joaquin kit fox, blunt-nosed leopard lizard, California tiger salamander, Vernal pool fairy shrimp,	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21881	Cumulative Impacts	Gas and Geothermal Resources ("DOGGR") has issued more than 190 permits to conduct well stimulation in the Planning Area. ⁴²² DOGGR may issue a single authorization that approves multiple applications for permits to perform well stimulation. ²³ In Kern County alone it is predicted that 2,697 new oil and gas wells will be permitted, and 1,200 wells will undergo well stimulation (hydraulic fracturing or acidization), each year. ⁴²⁴ The analysis of cumulative impacts is particularly important because BLM predicts that most hydraulic fracturing will occur in existing oilfields. ⁴²⁵ As described further below, many impacts are worsened and risks more serious where oil and gas development is dense.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
21881	Cumulative Impacts	In the case of HF [fracking] operations, high injection rates and the relatively large spatial footprint of the stimulated region produces transient risks that may be compounded by multiple operations that are proximate in time and space. ⁴²⁹ Numerous studies have established that cumulative pressure increases from injection may induce swarms of earthquakes on faults located tens of kilometers or more from injection wells. ⁴³⁰ Accordingly, it is highly likely that new oil and gas development, including fracking, and increased wastewater injection associated with new development, would cumulatively increase the risk of increased earthquake activity, and larger quakes. BLM must consider the cumulative impacts of hydraulic fracturing, including injection disposal of waste fluids, on new federal leases, existing federal leases, and state and private lands in the Planning Area.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
21881	Cumulative Impacts	Most of the hydraulic fracturing in California takes place in the San Joaquin Valley, where groundwater has been over-drafted by agriculture for over 80 years, causing a host of problems, including subsidence of the land surface. The 8-meter drop in the land surface near Mendota, California, is among the largest ever that has been attributed to groundwater pumping (Galloway et al., 1999). New water demands on top of already high competition for water could further deplete the region's aquifers, as has been observed in other water-scarce regions of the U.S. where hydraulic fracturing is occurring (Reig et al., 2014). This could cause concern for smaller communities and domestic users that rely on local groundwater. In the San Joaquin Valley, farmers and communities also depend on imported water delivered by canals, deliveries of which have become increasingly unreliable in recent years (DWR, 2014a). The DSEIS fails to consider this significant cumulative effect of increased water depletion or any mitigation for this significant effect. The DSEIS must acknowledge this impact and should consider the following mitigation measures (1) requiring operators to use recycled wastewater for all oil and gas activities or alternative well stimulation methods (e.g., using nitrogen instead of water), and (2) requiring them to demonstrate with hydrological studies that groundwater pumping for oil and gas activities will not contribute to overdraft of an aquifer.	As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the "2014 RMP," identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.

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			The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.
21881	Cumulative Impacts	Second, BLM must analyze the cumulative impact of hydraulic fracturing of new leases in the planning area with all hydraulic fracturing in the Planning Area. Elk Hills, Mt. Poso, Buena Vista, and Lost Hills fields in Kern County and the Sespe, Ojai, and Ventura fields in Ventura County, all within the Planning Area, "host substantial amounts of hydraulic-fracturing enabled development."421 Already this year the California state regulator, the Division of Oil,	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
21881	Cumulative Impacts	steelhead and California red-legged frog.437 Within the Planning Area, while subject to substantial hydraulic-fracturing enabled development, Elk Hills, Mt. Poso, Buena Vista, and Lost Hills fields in Kern County and the Sespe, Ojai, and Ventura fields in Ventura County are also "essential to support resident populations of rare species and serve as corridors for maintaining connectivity between remaining areas of natural habitat," which are vulnerable to expanded production.438As the DSEIS mentions, for plant species, the impacts of hydraulic fracturing include reduction of pollinator populations; loss of habitat due to surface disturbance, surface occupancy, compaction and trampling; and introduction of noxious weeds. 439 Habitat fragmentation can reduce numbers of fish species to the point of local extirpation.440 Over the predicted lifespan of the 2014 RMP, BLM predicts that hydraulic fracturing will disturb 123.9 acres.441 Even modifications in habitat, though less obvious and less severe than habitat loss, can be significant "especially if numerous small impacts accumulative across large areas."442 Given that BLM predicts that most hydraulic fracturing will occur in existing oilfields,443 the cumulative impacts are likely to be significant and must be analyzed.Likewise, the analysis of cumulative impacts to biological resources is corrupted by the unrealistically low RFDS for the number of total wells and fracked wells projected for federal lands in the Planning Area. Further, the cumulative impacts analysis is a cursory two-sentence statement that fails to consider the effects of the wide range of impacts to wildlife and habitats from oil and gas development including fracking. 444 This falls far short of BLM's obligation under NEPA to ensure "environmental information is available to public officials and citizens before decisions are made and before actions are taken."445	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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21881	Cumulative Impacts	<p>The DSEIS fails to undertake any cumulative impacts analysis of GHG emissions on the basis that "GHGs are not quantified for conventional well development in the 2012 Final EIS and are therefore not quantified in the supplemental analysis for hydraulic fracturing."448 But whether BLM has previously quantified GHG emissions for oil and gas development in the Planning Area in the 2012 RMP is irrelevant for determining whether BLM has taken the required 'hard look" in the this SDEIS. The law is quite clear that to adequately assess the cumulative impacts of the proposed plan, BLM must quantify the GHG emissions from other reasonably foreseeable GHG-emitting projects, including all oil and gas production that BLM forecasts will occur in the Planning Area. 49The DSEIS already contains the data BLM needs to provide forecasts of GHG emissions from all oil and gas development. This is evidenced by the fact that BLM has already quantified certain GHG emissions resulting from hydraulic fracturing on new leases in the Planning Area. To the extent that BLM requires any additional information to carry out full downstream, or life cycle, emissions calculations, scientific studies and reports provided by commenters with this comment will readily enable BLM to carry out those calculations. Calculating combustion emissions that will result from resource management plan actions in California is not novel for BLM. In fact, BLM did make an effort to quantify GHG emissions from all oil and gas development in its environmental impact statement for the proposed Central Coast resource management plan amendment, released last month.450 Given that the DSEIS purports to incorporate by reference all of the references cited in that document, BLM can readily make the same GHG emissions estimates in the DSEIS. But BLM tries to avoid analyzing the cumulative GHG emissions on the basis that "based on the fluid mineral management actions in the PRMP, hydraulic fracturing is a component of the analysis in the 2012 Final EIS.'451 That is, the 2012 FEIS already analyzed GHG emissions including those from hydraulically fractured wells. But the 2012 FEIS did not quantify those emissions. The law is now clear that BLM must analyze the full life cycle, or downstream, emissions from GHGs, and quantify those emissions. It cannot justify its failure to comply with NEPA in this DSEIS on the basis that the 2012 FEIS does not comply with NEPA either. BLM must also extend the analysis of downstream and life cycle emissions to emissions from federal mineral estate across California, and all oil and gas production in California . . . NEPA does not require the impossible. It does, however, require that BLM quantify the</p>	<p>Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.</p>
21881	Cumulative Impacts	<p>The obligation to analyze cumulative impacts requires BLM to evaluate the impacts of any related projects with cumulative impacts proposed or reasonably foreseeable in the same geographic region in a single, comprehensive, analysis.413 BLM has failed to adequately analyze cumulative impacts in several respects.</p>	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p>

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			It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21881	Cumulative Impacts	Third, BLM must analyze the cumulative impacts of hydraulic fracturing in the context of its contemporaneous plan to open 725,500 acres of federal land and mineral estate in the Central Coast planning area, adjacent to the Planning Area, for oil and gas leasing and hydraulic fracturing. ⁴²⁶ Like the Bakersfield Planning Area, no new leases for oil and gas development of federal mineral estate have been issued in the Central Coast planning area since 2013, because BLM failed to analyze the impacts of hydraulic fracturing before leasing parcels for oil and gas development. ⁴²⁷ The cumulative impacts of opening federal mineral estate across the state for oil and gas development and hydraulic fracturing must be analyzed.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
21881	Cumulative Impacts	This analysis glosses over the significant cumulative impact of increased fracking in connection with existing water use in the planning area, fracking on federal mineral estate and other lands that (as discussed further below) BLM has failed to analyze, and the impact on local communities that are already stressed by existing water scarcity. A cumulative impact is "the impact on the environment which results from the incremental impact of the [proposed agency] action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." ³¹⁵ Further, "cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."Cumulatively, water withdrawals for oil and gas activities and tracking will exacerbate existing problems of land subsidence, aquifer system compaction (resulting in loss of aquifer storage), and water quality deterioration caused by excessive groundwater pumping within the planning area. ³¹⁷ While the total water depleted from fracking may be small compared to the water withdrawn throughout the entire planning area, these significant effects will be felt at the local aquifer level (especially in those areas of the San Joaquin Valley where fracking is most likely to occur), which the DSEIS analysis overlooks. As explained by the CCST:	As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the "2014 RMP," identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.

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			<p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
21881	Cumulative Impacts	<p>wells per year projected to be drilled on existing leases.416 Given that BLM predicts that up to 10 percent of wells on new leases may be hydraulically fractured, and asserts that hydraulic fracturing is more common on existing leases,417 it is unrealistic and unbelievable that not a single one of the 7,400 existing wells, or one of the hundreds of new wells predicted to be drilled on an existing lease, might be hydraulically fractured over the period that the resource management plan is in place.In fact, the DSEIS itself indicates that a significant amount of fracking will occur to existing wells on existing leases. Specifically, the Prude (2018) memo states that 600 of the 3300-3400 wells fracked since 2012 in the Planning Area were existing wells completed prior to 2012, rather than newly drilled wells.418 This indicates that a substantial amount of fracking (18% of frack jobs) is happening to existing wells, not just to new wells.Further, BLM must analyze the cumulative impacts of fracking of new wells on federal mineral estate and fracking of existing wells on federal mineral estate. Analysis of the cumulative impacts of new hydraulic fracturing treatments of both new wells and existing wells is particularly important because the DSEIS itself indicates that a significant amount of fracking will occur to existing wells on existing leases. Specifically, the Prude (2018) memo states that 600 of the 3,300-3,400 wells fracked since 2012 in the Planning Area were existing wells completed prior to 2012, rather than newly drilled wells.419 This indicates that a substantial amount of fracking (18% of frack jobs) is happening to existing wells, not just to new wells. BLM also estimates that 90 to 360 new wells each year will be drilled on existing federal leases,420 but never estimates or evaluates the fracking that will occur to these new wells on existing leases in the Planning Area. This is a major omission. BLM is required to evaluate the impacts of all fracking on federal leases, including fracking on existing leases.This failure renders the cumulative impacts analysis deficient and fails to provide the "hard look" that NEPA requires. BLM must undertake this analysis and consider the cumulative impacts of all future hydraulic fracturing on federal land and mineral estate in the Planning Area.</p>	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21881	Environmental Justice	<p>The DSEIS also fails to acknowledge that most of the oil and gas development that is projected to occur in the planning area will likely occur close to environmental justice communities and compound existing air and water pollution burdens on these communities. According to the SDEIS, the largest area of high oil and gas potential is the San Joaquin Valley.41 These high potential areas are close to minority and low-income communities, including Taft, Arvin, Bakersfield, and Kettleman City. Thus, minority and low-income communities in the San Joaquin Valley will be disproportionately impacted by increased oil and gas development and tracking in the</p>	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p>

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		Planning Area. The failure to disclose this impact precludes consideration of mitigation for this disproportionate impact, such as the following:(1) closing areas near homes, schools, hospitals, nursing homes, mobile home parks and other sensitive receptors to oil and gas leasing;(2) establishing a mitigation fund which oil and gas operators would pay into to fund health care for children with asthma in environmental justice communities within the planning area or to fund remediation of groundwater or public water systems used by these communities	<p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21881	Environmental Justice	The DSEIS must disclose these disproportionate environmental burdens on low-income and minority communities in the planning area. and should mitigate these impacts.	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p>

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			It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21881	Environmental Justice	The FEIS recognizes that the planning area's minority and low-income populations meet the CEQ's environmental justice criterion. ⁴⁰⁰ However, neither the FEIS nor SDEIS even acknowledge that these populations within and around the planning area are already disproportionately impacted by pollution from industrial agriculture, heavy diesel truck traffic, and intensive oil and gas development in the region, much less that increased fracking and oil and gas development will only exacerbate these disproportionately high and adverse impacts on environmental justice communities. The Scoping Report for the DSEIS, ignoring material provided by commenters on environmental justice issues in the Planning Area, simply states that "[i]t was determined during internal scoping that supplemental analysis of hydraulic fracturing ... would not change the impact conclusions reached in the 2012 FEIS related to environmental justice. Therefore a discussion of environmental justice is not included in the Draft SEIS." ⁴⁰¹ That is, before BLM even received public scoping comments it had determined it would not address environmental justice issues. and no material provided during the comment processes would shift it from this position. Such arbitrary predetermination of impacts undermines the public participation process that NEPA requires.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
21881	Lands and Realty	degradation or that unnecessary or undue degradation will not occur." ⁴⁷² BLM must specifically account for unnecessary and undue degradation that will result from the Proposed Plan.The BLM has failed to show that it is necessary to allow new and expanded oil leasing and development, including the utilization of hydraulic fracturing, or fracking, on BLM lands and mineral estate. Such activities, as proposed to be managed under the Proposed Plan cause, or are likely to cause, unnecessary and undue degradation of the land, air, water and wildlife resources BLM is mandated to protect through, inter alia, surface disturbance, habitat degradation, air pollution, greenhouse gas emissions, and surface and groundwater depletion and contamination. Neither the 2012 EIS nor the DSEIS adequately explain how BLM management under the Proposed Plan will prevent such impacts. Further and in particular, the Proposed Plan violates FLPMA because it fails to avoid unnecessary and undue degradation of biological resources and habitat, air quality, and water resources.	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.</p> <p>The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species.</p> <p>The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>
21881	Lands and Realty	The Proposed Plan is not consistent with FLPMA, which requires BLM to prevent unnecessary or undue degradation of public lands. ⁴⁷⁰ In the context of activities overseen by BLM, "unnecessary" degradation is "that which is not necessary for mining[.]" and" '[u]ndue' is that which is excessive, improper, immoderate or	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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		unwarranted."471 Oil and gas development may only go forward as long as unnecessary and undue environmental degradation does not occur. This is a substantive requirement, and one that the BLM must define and apply in the context of oil and gas development authorized through the Proposed Plan. In other words, BLM must define and apply the substantive unnecessary and undue degradation requirements in the context of the specific resource values under consideration. The obligation to avoid unnecessary and undue degradation is a requirement distinct from BLM's obligations under NEPA. "A finding that there will not be significant impact [under NEPA] does not mean either that the project has been reviewed for unnecessary and undue	<p>The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species.</p> <p>The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>
21881	Mitigation	Finally, BLM should impose the mitigation measures described throughout these comments, to protect resources in the Central Valley from the risk and harms of hydraulic fracturing and oil and gas development.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21881	NEPA Process	BLM must amend the purpose of the DSEIS to properly acknowledge the full scope of activity that it is required to analyze, and amend the analysis of impacts accordingly.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
21881	NEPA Process	BLM must consider whether the Proposed Plan is consistent with local regulation addressing oil and gas production, and prepare a Resource Management Plan amendment that removes land and mineral estate in the portions of Ventura County where new oil and gas wells are prohibited; and that imposes stipulations or lease notices to ensure compliance with local laws	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.

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21881	NEPA Process	BLM was well aware of the community need for translators and translated materials in Spanish. Community members told BLM in advance of the public hearings that they wanted to participate in the public comment process but needed Spanish translation and interpretation to do so. BLM refused to provide translation services at the public hearings, and consequently denied Spanish-speaking community members the opportunity to fully participate in the decisionmaking process. ⁴⁶⁷ Furthermore, BLM has failed to translate any of the materials it has prepared for the DSEIS into Spanish-not the notices of availability, not the Power Point presented at the public hearings, not the DSEIS nor any related documents, nor even a summary of the DSEIS. In the Planning Area, which has a substantial Spanish-speaking population, meaningful engagement with the public can only occur when notices, presentations, and the DSEIS is translated into Spanish and interpretation services are available at public hearings. ⁴⁶⁸ Given the high proportion of residents that speak a language other than English at home, or that live in linguistically isolated communities, to comply with NEPA's public outreach obligations, BLM should have made materials relating to the DSEIS available in Spanish, and	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). BLM was not able to accommodate specific needs and provide language interpreters for all potential non-English speakers who may have attended the public meetings on the Draft SEIS.
21881	NEPA Process	For all the reasons stated above, as well as in the attached and cited documents incorporated by reference herein, the DSEIS is unlawful because it violates BLM's obligations under NEPA, CAA, FLPMA, MLA, ESA and CZMA. BLM must amend the DSEIS as indicated above, and take the other action required, as explained above, to comply with BLM's statutory obligations.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
21881	NEPA Process	For example, in the DSEIS, BLM states that 1,015,350 acres of federal mineral estate will be open to fluid mineral leasing. m Yet the shapefile dataset provided to the public includes only 847,597 acres of federal mineral estate open to fluid mineral leasing. The public therefore has no way to know the full extent of the areas that BLM proposes to open for leasing. It cannot be certain, by looking at any map generated by the data BLM provided, that the full extent of areas open for leasing are disclosed.	Figure ES-1 in the Draft SEIS accurately displays the lands that were made available for leasing via the 2012 Bakersfield Proposed Resource Management Plan.
21881	NEPA Process	Furthermore, BLM has failed to comply with Executive Order No. 12898 and NEPA 's regulations to ensure public participation in the NEPA process. Executive Order No. 12898, which is intended to address environmental justice in minority populations and low-income communities, requires agencies to work to ensure effective public participation and access to information. ⁴⁵⁹ Relevantly, it requires that federal agencies "wherever practicable and appropriate, translate crucial public documents, notices and hearings, relating to human health or the environment for limited English speaking populations.' ⁴⁶⁰ Furthermore, it requires that agencies work to "ensure that public documents, notices, and hearings relating to human health or the environment are concise, understandable, and readily accessible to the public." ⁴⁶¹ NEPA requires that the "methods chosen for public participation must focus on reaching persons who may be interested in the proposed action. Such persons include those in potentially affected communities where the proposed action is known or expected to have environmental impacts including minority communities, low-income communities, or federally-recognized Indian tribal communities.' ⁴⁶²	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). BLM was not able to anticipate specific needs and provide language interpreters for all potential non-English speakers who may have attended the public meetings on the Draft SEIS.
21881	NEPA Process	Just as BLM concluded that, when preparing a supplemental EIS analyzing the impacts of fracking in the Central Coast planning area, it must develop a new RFDS, so too BLM must reanalyze and update its RFDS for the DSEIS. The RFDS for the 2014 RMP is inconsistently described, based on unsupported assumptions, underestimates the likely number of wells, and unlawfully excludes from analysis the majority of hydraulically fractured wells on federal mineral estate.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.

Comment Number	Issue	Comment	Response
21881	NEPA Process	More specifically, NEPA's implementing regulations provide that, if an agency conducts a public meeting or hearing on a draft EIS, it must make the draft EIS available to the public at least 30 days in advance of any meeting or hearing. ⁴⁵⁶ BLM has failed to comply with this requirement. It published the notice of availability of the DSEIS on April 26, 2019. ⁴⁵⁷ Accordingly, the earliest it could hold public meetings in compliance with the regulations was May 26, 2019. But BLM held its public meetings on May 21, 22 and 23, 2019. BLM thereby violated NEPA, and denied the public the time period to read, consider and digest the DSEIS before the hearing that the regulations require. ⁴⁵⁸	The BLM follows NEPA implementing regulations including minimum public notification of 15 days for public participation activities where the public is invited to attend as well as a minimum of 30 calendar days for written comment response.
21881	NEPA Process	other requested languages; and provided translators at public hearings. Before finalizing the DSEIS, BLM should make the DSEIS available in Spanish and any other requested languages, consult with local community members about appropriate channels to publish Spanish-language and other requested language notices explaining the availability of the DSEIS, and reopen the comment period to take comments for 90 days after publication of translated materials. To remedy BLM's refusal to (i) provide translators at the public hearings it held on the DSEIS despite receiving requests in advance from members of the affected communities for translators, (ii) provide any of the slides it used in Spanish, despite being aware in advance that affected community members were requesting translated materials, and (iii) give community members utilizing a translator additional time to make oral comments, BLM should schedule additional public hearings with materials available in Spanish and any other requested language; provide translators as requested, and receive into the record any oral comments provided at the hearing.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). BLM was not able to accommodate specific needs and provide language interpreters for all potential non-English speakers who may have attended the public meetings on the Draft SEIS.
21881	Oil and Gas Leasing and Development	BLM Fails to Adequately Assess Oil Production from Organic-Rich Shales Located Deep in the Basins in the Planning Area	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21881	Oil and Gas Leasing and Development	BLM must amend the DSEIS to clear the basis for its RFDS calculations.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.

Comment Number	Issue	Comment	Response
21881	Oil and Gas Leasing and Development	BLM must analyze the lifetime greenhouse gas emissions from wells in new and existing leases in the Planning Area in the context of the U.S. carbon budget for keeping global temperature rise below 1.5°C which is necessary for avoiding the worst damages from the climate crisis.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21881	Oil and Gas Leasing and Development	First, the methods and calculations used by Prude (2018) to estimate the incidence of fracking on new leases are riddled with math and logic errors. In Prude's first method, Prude calculates the acres of federal mineral estate only in the 11 most highly fracked fields and within two miles of those fields. In doing so, Prude omits 15 other oilfields where fracking has occurred since 2012, improperly narrowing the scope of analysis. Many of the oilfields that were omitted from analysis have a high fracking rate-for example 20%, 50%, 100% of new wells since 2012 were fracked-even though they have a low overall number of new wells, and it is not reasonable to exclude these fields. 16 By narrowing the analysis to 11 fields, BLM also assumes that, of the 217 oil fields within the Bakersfield FO Planning Area, there will be absolutely no more fracking anywhere except for in those 11 fields, without providing a basis for that extreme assumption.	<p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. BLM understands that the assumptions made in the cited reference (Prude 2018) are supported by the references cited therein and that these assumptions are sufficient to support the planning level of analysis in the Draft SEIS.</p> <p>Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis.</p>
21881	Oil and Gas Leasing and Development	Importantly, Prude's assumption that the new wells will be evenly distributed over the acres open for leasing is completely invalid and contradicted by the DSEIS. BLM repeatedly states that the new leases and new wells are likely to be near existing leases and existing wells, 19 and not evenly distributed. The Prude memo itself states that "HF activity in the future is expected to occur in the same general areas as in the past."20 In short, these erroneous assumptions, logic errors, and math errors invalidate BLM's fracking projection.	<p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. BLM understands that the assumptions made in the cited reference (Prude 2018) are supported by the references cited therein and that these assumptions are sufficient to support the planning level of analysis in the Draft SEIS.</p> <p>Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis.</p>
21881	Oil and Gas Leasing and Development	In addition to ignoring nationally focused research, the DSEIS fails to address Californiaspecific studies that establish the importance of halting new fossil fuel production in California to prevent devastating harms to the climate, health, and environmental justice, and to allow the state to meet its climate targets. The DSEIS failed to evaluate a 2018 analysis published in the prominent journal Nature Climate Change that concluded "by ceasing the issuance of permits for new oil wells, California could reduce global CO2 emissions substantially and also enhance environmental justice in the state."224 The DSEIS similarly ignored a comprehensive 2018 study that quantified the climate, health, and environmental justice benefits of ceasing the issuance of permits for new oil and gas extraction wells in California, including implementing a 2,500-foot health buffer zone around homes, schools, and hospitals; developing a plan for the managed decline of California's entire fossil fuel sector to maximize the effectiveness of the state's climate policies; and developing a just transition plan for the communities and workers most affected.225 BLM must also analyze how the lifetime greenhouse gas emissions from oil and gas development in the Planning Area square with meeting the greenhouse gas emissions targets under California climate policy.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.

Comment Number	Issue	Comment	Response
21881	Oil and Gas Leasing and Development	Instead, the DSEIS's brief explanation of how the SHF areas were developed ³⁹ is vague and unintelligible, and BLM never shows its work to justify the borders of the four SHF polygons. Indeed, the only conclusion that can be drawn from Figure ES :l and Figure 4.1 is that the boundaries of the SHF polygons are arbitrary and omit areas that should be analyzed. All the SHF polygons exclude numerous leasing areas with high or moderate resource potential that are near wells that have been fracked. For example, the boundary of the Sespe SHF analysis area illogically cuts through the middle of high resource potential lease parcels, excluding the portions of the lease parcels that are closest to fracked wells. However, these omitted areas which have been fracked, have high potential for oil and gas development, and are available for leasing- should logically be included in the SFH analysis polygons as areas likely to undergo fracking. The unreasonable and unfounded SFH analysis corrupts the DSEIS analysis.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
21881	Oil and Gas Leasing and Development	Putting aside that this approach disregards BLM 's clear obligation to also consider hydraulic fracturing of new wells on existing leases, the DSEIS does not provide an adequate explanation for how the boundaries of the SHF analysis areas were determined, or how the SHF areas relate to projection of the number of fracked wells estimated in the Prude (2018) memo.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
21881	Oil and Gas Leasing and Development	Second, as described above, Prude uses inaccurate data to calculate the percentage of mineral estate expected to be hydraulically fractured. Prude calculates that 3% of unleased high potential mineral estate is within areas likely to be fracked (8707 /286,900 acres). However, Prude uses the incorrect number of acres with high potential for oil and gas occurrence. He works from the assumption that there are 286,900 acres of high potential mineral estate, instead of the 158,500 acres repeatedly stated in the DSEIS and FEIS. 17 Using the correct acreage figures leads to an estimate that 5.5% of unleased high potential mineral estate within areas likely to b_e fracked- an increase on the 3% that Prude assumes (8707/158,500 acres). Prude also uses the incorrect number of new wells on new leases, using 0 to 40 wells instead of the 10 to 40 well projection used elsewhere in the DSEIS. 18	This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. BLM understands that the assumptions made in the cited reference (Prude 2018) are supported by the references cited therein and that these assumptions are sufficient to support the planning level of analysis in the Draft SEIS. Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis.
21881	Oil and Gas Leasing and Development	The DSEIS estimates the number of new wells that will be fracked on new federal leases, but fails to estimate or address the number of wells that will be fracked on existing federal leases. BLM offers no justification for this arbitrary refusal to analyze the impacts of all future hydraulic fracturing on federal mineral estate in the Planning Area.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.

Comment Number	Issue	Comment	Response
21881	Oil and Gas Leasing and Development	The DSEIS fails to adequately assess the possibility of increased production and/or reserve growth in discovered oil fields or similar und iscovered reservoirs, and how such growth would impact future drilling and production rates.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21881	Oil and Gas Leasing and Development	The DSEIS fails to provide a reasonable or transparent projection of the number of wells fracked each year on federal leases, even though this estimate is crit ical to the entire environmental analysis. The DSEIS estimates that zero to four new wells on new leases would be fracked each year, for a total of 0 to 40 over the 10-year period. 14 The calculations underlying this estimate are not described in the DSEIS but in a short memo by Prude (2018) based on compiled data in three spreadsheets cited by the memo. 15 There are numerous fatal flaws in this analysis.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
21881	Oil and Gas Leasing and Development	the DSEIS must analyze the impacts of all new hydraulic fracturing on federal mineral estate, and must not arbitrarily constrain itself to a narrow subset of wells	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.

Comment Number	Issue	Comment	Response
21881	Oil and Gas Leasing and Development	Yet BLM fails to provide an explanation for the well projections in the RFDS, or show how these well numbers were detennined.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). The U.S. District Court, Central District of California upheld the Reasonably Foreseeable Development Scenario in the 2012 Final EIS. This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
21881	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	Fracking has the potential to open up vast resources that otherwise would not be available, increasing the potential for future greenhouse gas emissions. The urgent need to prevent the worst impacts of climate change, described above throughout these comments, means that the world in general--and California in particular--cannot afford to invest in new fossil fuel development and infrastructure that locks in carbon-intensive oil production for years into the future. The long-lived GHG emissions and fossil fuel infrastructure that would result from allowing new leases of federal land and mineral estate for oil and gas development will contribute to undermining national and state climate commitments and increase climate change impacts, at a time when there is urgent need to keep fossil fuels in the ground. Upon proper consideration of the impacts of the Proposed Plan and the alternative reasonably available to BLM, the only justifiable course of action is to make permanent the moratorium on leasing federal lands and mineral estate that has been in place in California since 2013, and to move to phase out existing fossil fuel production from federal lands and mineral estate. We urge BLM in the strongest possible terms to do so.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
21881	Other	estate in the coastal zone in Ventura and Santa Barbara counties, and close to the shoreline in San Luis Obispo county, including near Montana de Oro state park (Map 2, attached). Further, consistency review is not limited only to activities that occur inside the coastal zone. Activities that occur outside a coastal zone that have an effect on resources in a state coastal zone must also be considered for consistency with a state's program. It is self-evident that oil and gas activities, which can have impacts to resources, including impacts to air quality, climate, biological resources and ground and surface waters described (inadequately) in the DSEIS, and in greater detail in comments that BLM received with respect to the EIS, may affect resources in the coastal zone. BLM must not make any decision about the 2014 RMP and its Proposed Plan unless and until it undertakes the consistency review required by the Coastal Zone Management Act, and make such amendments as are necessary to ensure compliance with California's coastal management program.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
21881	Other	Though BLM does not include in the DSEIS any analysis of the extent of lands it proposes to lease that fall within the coastal zone, the Proposed Plan would open federal mineral	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21881	Public Health and Safety	As outlined in Table 4.8, the typical constituents of hydraulic fracturing fluids fall into numerous categories and are thus many and varied. For instance, there are breakers to lower fracking fluid viscosity before fracking fluid flows back, proppants to keep newly-forned	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
21881	Public Health and Safety	fractures open, gelling agents to pry open fractures, biocides to prevent bacteria from degrading gelling agents, carriers for aiding in the transport of other fluids, and crosslinkers to increase the viscosity of fluids in order to boost fracking effectiveness. 258 However, there is neither a full accounting of chemicals used within these categories, nor an assessment of the potential threats to public health posed by those chemicals. Many chemicals amongst the above categories are designated as Hazardous Air Pollutants (HAPs), which can enter the air	As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.

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		during the venting of gases during fracking or the evaporation of chemicals from fracking and produced fluids, leading to dangerous human exposures.259 For instance, formaldehyde, naphthalene and methylene chloride are all known or suspected carcinogens, while methanol is linked to reproductive harm, and hydrochloric acid and hydrofluoric acid can cause both eye irritation and respiratory harm. 260 Despite the commonality of all of these chemicals in oil and gas operations, naphthalene, methylene chloride, and hydrofluoric acid are not mentioned either in the current DSEIS or the 2012 FEIS, whereas the other chemicals are mentioned but not discussed in terms of the health risks specific to them.In truth, there are hundreds of chemical additives used in oil extraction, 261 many exclusive to hydraulic fracturing, and all of them should be individually considered for their potential to cause public health hanns.262 Being in close proximity to fracking operations can lead to exposures to a multitude of chemicals, which can then lead to wide-ranging health effects, so potential chemical exposures should be thoroughly identified.	<p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
21881	Public Health and Safety	It is stated in Table 4.8 of the DSEIS that silica sand is used as a proppant in hydraulic fracturing liquids, but the fact that silica dust exposure is linked not only to silicosis and lung cancer, but also to pulmonary tuberculosis and other serious impacts to lung· function is never mentioned. 290 Potential health impacts of exposures to all chemicals and proppants like silica used in fracking operations should be analyzed in the DSEIS.	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>

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21881	Public Health and Safety	The DSEIS Fails to Analyze Impacts to Human Health and Public Safety The DSEIS identifies a list of "preliminary issues ... concerning resources that may be impacted by hydraulic fracturing which were "partially listed" in the 2018 Notice of Intent to prepare the supplemental EIS. That list does not include impacts to public health or publfo safety. By its own count, BLM received 28 scoping comments addressing the impacts of hydraulic fracturing on public health and safety. In fact, a far greater number of commenters raised concerns about the impacts that substances used in the fracking process may have on human health and safety. BLM asserts that "[a]ll substantive issues raised during public scoping are analyzed" in the DSEIS, but that is untrue. BLM has completely failed to analyze impacts to public health or safety from hydraulic fracturing. Throughout the Scoping Report BLM asserted in responses to comments, under the heading "public health and safety" that it would analyze the impacts that may result from implementation of the 2014 RMP on "biological resources," "air and atmospheric values," and "water resources." While hydraulic fracturing may impact all of these resources in ways connected to impacts to public health and safety, analysis of these impacts alone does not constitute a "hard look" at the impacts to public health and safety. This is why, when preparing the Central Coast supplemental environmental impact statement on the impacts of hydraulic fracturing, BLM included a section on hazardous materials and impacts to public health and safety. Despite the serious risks posed by the chemicals and other materials used in the hydraulic fracturing process on workers and members of the public, the DSEIS completely fails to analyze or disclose any of those risks.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
21881	Public Health and Safety	The DSEIS should incorporate a literature review of the harmful effects of each of these chemicals known to be used in fracking and other types of oil and gas operations. The DSEIS must be amended to analyze the impacts on worker health and safety posed by hydraulic fracturing (using a realistic and substantiated RFDS), and the risks to water resources. This must include a health impact assessment, or equivalent, of the cumulative impact that unconventional extraction techniques, including fracking, will have on human health and nearby communities.	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the "2014 RMP," identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
21881	Public Health and Safety	Ultimately, however, the impacts from fracking operations can reach far and wide with the ability of fracking to pollute air hundreds of miles from the well pad. For example, ethane pollution in Baltimore, Maryland and Washington, D.C, has been attributed to the rapidly increasin~ natural gas production in the upwind, neighboring states of Pennsylvania and West Virginia. 99 Only with a full accounting of potential chemical exposures from	As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the "2014 RMP," identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.

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		fracking activities can a complete assessment of public health risks be presented. The DSEIS must be amended to address this deficiency.	<p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>

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21881	Seismic Activity	Research also indicates that maximum earthquake size induced by fracking may be controlled by the size of the fault surface in a critical stress state, rather than the net injected fluid volume, meaning that large fracking-induced earthquakes are possible. Moreover, the DSEIS irrationally assumes that "a very small component of all wastewater disposal" compared to overall injections would have "negligible" impact but this reasoning overlooks the cumulative nature of the problem. Cumulative pressure from numerous injections can trigger an earthquake. It also lacks any factual basis, failing to analyze the volumes of wastewater fluid at issue and whether they would be enough to trigger an active fault. As the CCST observes, considering the state's "numerous active faults," the seismogenic consequences of even a few induced cases can be devastating." Possibly, the location of injection could be of greater concern than the total volume of injection; active faults within the planning area have been triggered by wastewater injections from nearby. But the DSEIS fails to even consider the increased risk posed by active faults in the region, and the proximity of injection wells to these faults. Nearly one-third of active California wastewater injection wells are within one mile of a fault (350 wells), white half are within five miles of a fault (808 wells). The DSEJS's exclusive focus on the relative proportional volume of wastewater injections traceable to fracking activities instead of on their absolute volumes or proximity to active faults is arbitrary.	<p>Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.</p> <p>With regards to the numerous active faults in California, the CCST 2016 report states that the magnitudes of earthquakes induced at reservoir depths in California are likely to be limited.</p> <p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21881	Seismic Activity	The DSEIS must be amended to address the inadequate analysis of induced seismicity associated with hydraulic fracturing.	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p>

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			It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21881	Seismic Activity	The SDEIS dismisses the impact of induced seismicity from wastewater disposal on the basis that "wastewater disposal volumes associated with hydraulic fracturing activities would be a very small component of an wastewater disposal and would be temporary (during hydraulic fracturing operations);" it concludes "negligible impacts related to earthquake potential from oil and gas disposal wells associated with hydraulic fracturing alone would be expected." The DSEIS's narrow focus on the wastewater disposal volumes associated with hydraulic fracturing activities" is improper as the 2012 FEIS did not previously analyze induced seismicity from all federal wells that could be developed in the planning area, or their cumulative induced seismicity effects in connection with all other wells in the planning area. BLM must take a broader look at the aggregate impact of wastewater disposal from all wells in the planning area. Notably, the DEIS fails to disclose that fracking can induce larger earthquakes than previously thought, and that fracking is increasingly recognized as a significant source of seismic hazard. Scientific research has linked fracking with induced earthquakes ranging up to magnitude 4.6. Induced earthquakes have been linked to fracking in Ohio and Oklahoma, England, British Columbia and Alberta, including larger events of magnitudes 3 and 4.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
21881	T&E Species	BLM cannot rely on the 2017 Biological Opinion to fulfil its consultation obligations, because it does not consider effects of the Proposed Plan on steelhead or their habitat.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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21881	T&E Species	BLM cannot rely on the 2017 Programmatic Biological Opinion to satisfy its obligations under the ESA.500 The 2017 FWS Programmatic Biological Opinion covers only eight federally protected species. As stated by the USFWS in the Biological Opinion, BLM requested formal consultation on the effects of SLM-approved oil and gas activities on only eight species: San Joaquin kit fox, blunt-nosed leopard lizard, giant kangaroo rat, Tipton kangaroo rat, Kern mallow, San Joaquin woolly-threads, Californiajeweltlower, and Bakersfield cactus.501 Yet according to BLM's 2012 FEIS, 86 federally listed species occur within the Planning Area, of which 38 are known to occur on public lands and three more of which may occur on split estate.502 The FEIS reports that public lands provide "important habitat" for 16 listed species and provide "potentially important habitat" for 16 additional listed species.503 The FEIS also states that critical habitat for 25 animal species and 20 plant species occurs within the Planning Area, with twelve species with critical habitat on public lands in the Decision Area, and six additional species having critical habitat on split estate.504 BLM must satisfy its obligations under the ESA by engaging in formal consultation with FWS for the other listed species known to occur in the Planning Area before making any decision about the Proposed Plan.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21881	T&E Species	BLM must consult with the NMFS regarding impacts to steelhead trout (Oncorhynchus mykiss) in the Planning Area, as the ESA requires.505 including the South-Central Coast Distinct Population Segment ("DPS") of steelhead, the Central Valley DPS of steelhead, and the southern California DPS of steelhead. Areas designated as open for oil and gas leasing in the Planning Area overlap with important rivers for protected steelhead trout populations, including designated critical habitat (see Map 1, attached). BLM has not made a "no effect" determination with respect to this species. As discussed further, below, a decision on this DSEIS may have adverse effects on listed fish species, including steelhead.506 Yet nothing in the record indicates that BLM has initiated, let alone completed, the required consultation.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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21881	T&E Species	The decision that BLM proposes to make upon completion of the environmental impact statement (as required by the settlement agreement) undoubtedly triggers BLM's duty to consult with FWS and National Marine Fisheries Service ("NMFS") under the ESA. It is without doubt that a decision on a land use plan is an "agency action" within the meaning of the ESA, as it is a discretionary decision whereby BLM designates which public lands and mineral estate are available for oil and gas leasing and development, imposes conditions on such uses, 497 and thereby satisfies the legal~ binding preconditions leasing mineral estate in the Planning Area for oil and gas development. 498 The decision is an action that "may affect" listed species: it is the required first decision that decides exactly where and how oil federal mineral estate may be developed. BLM's own DSEIS, which concludes that there will be impacts to species, 499 shows that the BLM's decision on the RMP easily meets the ESA 'slow threshold for consultation.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21881	T&E Species	While there is a programmatic Biological Opinion from FWS that purports to protect species within the purview of FWS, BLM cannot make a decision unless and until it consults with FWS with respect to species not covered by the 2017 programmatic Biological Opinion and completes consultation with NMFS.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21881	Water Resources	An indirect effect of increased fracking in the planning area is increased enhanced oil recovery operations, which, in turn, entails increased risks of water contamination and greater water supply depletion. The DSEIS fails to acknowledge these reasonably foreseeable effects. Moreover, the SDEIS fails to acknowledge the cumulative effect of fracking in connection with past, present, and future enhanced oil recovery operations in the planning area.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
21881	Water Resources	Another significant risk of fracking is the contamination of groundwater, including drinking water protected under the Safe Drinking Water Act. The CEQ regulations define "... reasonably foreseeable" to include "... impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason." Even if the loss of a drinking water or irrigation supply due to tracking has a low probability, in a drought-	As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the "2014 RMP," identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.

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		prone state like California the consequences may be catastrophic. Accordingly, such impacts must be disclosed in the SEIS. However, the DSEIS minimizes and ignores the risk of the loss of drinking water sources through groundwater contamination. The DSEIS seems to acknowledge injection of frack fluid underground poses some risk to groundwater resources, but suggests that given the low level of well activity in the planning area, the potential for contamination would be negligible: Impacts to groundwater from loss of well integrity or out-of-zone migration of fracturing fluids from an average of zero to four wells would be negligible. If	<p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
21881	Water Resources	As discussed above and below, the DSEIS vastly underestimates the total water use resulting from tracking by lowballing the total number of wells that could be fracked in the planning area and by ignoring water use from enhanced oil recovery activities enabled by fracking. Further, the DSEIS minimizes the impact of increased water withdrawals for fracking by improperly comparing it to water use in Kern County overall:	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
21881	Water Resources	BLM must amend the DSEIS to analyze the risk of contamination via well failure.	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p>

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21881	Water Resources	<p>Contamination of aquifers via leaky wells is well-documented. Studies show that well casing failures are a chronic problem regardless of whether wells are old or new, fracked or not fracked.322 A ProPublica review of well records, case histories and government summaries of more than 220,000 well inspections found that structural failures inside injection wells are routine. From late 2007 to late 20 JO, one well integrity violation was issued for every six deep injection wells examined - more than 17,000 000 violations nationally. More than 7,000 wells showed signs that their walls were leaking. Records also show wells are frequently operated in violation of safety regulations and under ~o.nditions that greatly increase the risk of fluid leakage and the threat of water contamination. The DSEIS provides no assurance that BLM and/or the state would perform regular inspections of wells to detect well failures.</p>	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
21881	Water Resources	<p>continued illegal injections and contamination of protected aquifers, and could render them unusable. The DSEIS must acknowledge this impact. Further, BLM should consider mitigation that prohibits disposal of any waste fluids via injection into a Class n well unless the operator can demonstrate that the receiving aquifer is not a protected aquifer under the Safe Drinking Water Act.</p>	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p>

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21881	Water Resources	Despite a state-wide prohibition against the use of unlined pits to store or dispose of fracking wastewater, California regulators still allow disposal of such wastewater in unlined pits or sumps, contrary to the DSEIS's representations, ³⁴⁷ and despite the CCST having recommended that the practice be phased out. In light of this evidence, BLM cannot assume compliance with existing laws, and must instead analyze the impacts of disposal of fracking wastewater via unlined pits.	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>

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21881	Water Resources	Finally, the DSEIS's discussion of the impacts from wastewater injection is narrowly confined to the issues of ••well integrity ... and movement of disposed fluids out of the intended injection zone and potential impacts to USDWs." It entirely omits any discussion of illegal injections into protected aquifers. The primary method for disposing of hydraulic fracturing wastewater in California is via injection into disposal wells. DOGGR has allowed widespread contamination of aquifers intended to be protected under the Safe Drinking Water Act by allowing companies to inject wastewater directly into these groundwater resources. DOGGR has admitted that thousands of injection wells, mostly in Kern County, have been pennitted to inject oil and gas wastewater into aquifers that are supposed to be protected from such injection under federal law.3s4 In many cases, operators are continuing injection into these protected aquifers even after it has become clear that an aquifer should not be subjected to ongoing operations. DOGGR currently has no planning for requiring these injection wells to cease operations. In sum, increased fracking and wastewater production is likely to result in	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
21881	Water Resources	In addition. EOR operations rely on produced water for injection to enhance oil recovery.363 The increased injection, handling, transport, and storage of produced water for these operations will increase the risk of spills and leaks. As discussed in our Scoping Comments, 364 produced water is highly saline and laced with an array of toxic substances; its accidental release could result in contamination of streams and groundwater. Again, the DSEIS fails to acknowledge the foreseeable increase in EOR operations that would result from fracking, much less the increased cumulative contamination risks to surface and groundwater.	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p>

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21881	Water Resources	<p>In California, the CCST estimates well stimulation (including fracking) has enabled fifteen-to-thirty percent of enhanced oil recovery, such as cyclic steam injection in recent years, resulting in billions of gallons of additional water use.³⁶¹ In addition, the CCST estimates operators used from 2 to 15 times more freshwater for EOR than they used for well stimulation in 2013. Accordingly, EOR could require nearly 3.2 million gallons of water for a single well (15 x 212,600 gallons of water for fracking estimated by the DSEIS). ³⁶² The DSEIS, however, fails to quantify the total water depletion from enhanced oil recovery operations that would indirectly result from fracking operations, instead narrowly focusing on the water depletion effects of fracking alone. The DSEIS's discussion of cumulative effects also fails to acknowledge EOR operations and their water use, whether or not enabled by fracking, and fails to analyze the cumulative effects of fracking in connection with this water use. The massive amount of water depleted as a result of these activities will exacerbate existing shortages in local water supply, which are already over-stressed due to climate change and overdraft from agriculture and development.</p>	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the "2014 RMP," identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
21881	Water Resources	<p>locations of these wells have not been independently verified, and their conditions are unknown; the locations of many older wells that have been improperly abandoned or plugged may also be unknown. ³⁴⁵ The CCST has warned that "wells constructed to less stringent regulations in the past or degraded since installation may not withstand the high pressures used in hydraulic fracturing."³⁴⁶ Thus, cross-communication between newly fracked wells and old, corroded inactive wells could lead to groundwater or surface contamination, but the DSEIS</p>	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the "2014 RMP," identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p>

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		fails to analyze this risk.Second, the DSEIS fails to provide any analysis of the existing fault network underlying the planning area, the likelihood of hydraulically induced fractures intersecting with natural faults and resulting in contamination of aquifers, or how this risk can be avoided or mitigated. Natural faults could also provide conduits between new hydraulically-induced fractures and old, abandoned wells. These risks must be disclosed and analyzed.	<p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
21881	Water Resources	NEPA requires full and accurate disclosure of the amount of water that would be depleted as a result of opening lands to fracking, and the resulting impact to local water resources.313 The DSEIS fails in both of these respects.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21881	Water Resources	present trends continue, the drilling and hydraulic fracturing of up to 40 wells on new leases over the 10-year planning period would also have negligible impact.This cursory reasoning not only improperly minimizes the potential for fracking to occur within the Planning Area but ignores the potential for catastrophic consequences to local residents, fanners, or communities, which could result from the contamination of a local aquifer with toxic	As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.

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		chemicals. It also ignores a report from the Central Valley Regional Water Quality Control Board showing a recent increase in fracking near protected groundwater in California.	<p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
21881	Water Resources	<p>The DSEIS suggests that because the exact location of usable drinking water supplies is unknown, the risk to underground sources of drinking water is unknown and further analysis of these risks will occur at the APO-stage:The other major pathway that poses a risk to aquifers is the migration of fracturing fluids from the target zone. The geological conditions in the San Joaquin Basin with regard to aquifer salinity make it difficult to assess the risk to protected water resources (TDS less than 1 0,000 mg/L}.Because of concerns about oil and gas activities and potential impacts to protected groundwater, an interagency partnership called the California Oil, Gas, and Groundwater Program has been fonned to study the problem. The United States Geological Survey is the technical lead supported by state and federal agencies, including BLM. The study will require several years and involves several activities in various locations, which include some of the study areas in this analysis. The activities include airborne magnetic surveys to measure salinities over large areas, direct sampling and analysis of groundwater samples, analysis of potential pathways, constructing three-dimensional geological models, and geochemical analysis (USGS 2018b). Products from this scientific effort will include publications documenting subsurface salinities in the Planning Area.As information from the aforementioned study becomes available, authorizing officers will be able to better assess subsurface conditions during the APO process and provide COAs that would protect useable aquifers. DOGGR is also collecting information on fracture heights and lengths that would be helpful in assessing APDs.However, the lack of precise information as to the location of protected drinking water aquifers does not excuse BLM from disclosing and analyzing the "readily apparent" problem of migration of fracking and drilling fluids from target formations to underground sources of drinking water and the potential contamination or irretrievable loss of these water sources.As the DSEIS acknowledges, "most of the hydraulic fracturing in the Planning Area occurs in vertical wells at relatively shallow injection depths," or wells less than 2,500 feet deep.336 Further, the general location and depth of aquifers is already known. Elsewhere, the SDEIS acknowledges spills and leaks would most likely impact groundwater resources "within the Tulare formation and overlying alluvium on the west side of the San Joaquin Valley, and</p>	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the "2014 RMP," identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>

Comment Number	Issue	Comment	Response
21881	Water Resources	The potential for contamination from unlined pits and the consequences of this contamination must be disclosed in the DSEIS. BLM should also consider prohibiting disposal of wastewater into pits on all BLM-managed land, and for all wells pennitted on federal mineral estate in the Planning Area.	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
21881	Water Resources	The SDEIS fails to discuss or acknowledge several other pathways for groundwater contamination that we discussed in our Scoping Comments-the potential for hydraulic fracturing to intersect other wells that could provide contamination pathways; the potential for natural underground faults to create new subsurface pathways for chemicals; and leakage of fracking wastewater from unlined pits.First, numerous inactive wells litter existing oil and gas fields in the planning area-over two-thirds of California's 29,000 idle wells are located in the San Joaquin Valley, and over half of California's nearly 116,000 abandoned wells are located in Kem County.344 However, the	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p>

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			<p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
21881	Water Resources	<p>those contained within the Kem River Fonnation on the east side of the San Joaquin Valley," because they "are the shallowest in the Planning Area." These aquifers are relatively close to target fonnations. Indeed, the CCST notes "[t]he shallow depths of fracturing, combined with the deep groundwater aquifer in the Central Valley, raise concern that fractures may intercept protected groundwater resources. Additional research is needed to detennine how often this occurs, if at all, and the consequences if it does occur. " The CCST is so concerned about the risks of water contamination from shallow fracking that it recommended the practice be prohibited, unless it can somehow be proven safe.Further, according to the California State Water Resources Control Board, in 2017 oil companies submitted 12 proposed groundwater monitoring plans that, if approved, would allow fracking near valuable underground sources of drinking water. In 2018 that number doubled to 24.34 It is therefore reasonably foreseeable that fracking will occur in close proximity to protected water sources. BLM, however, fails to acknowledge or analyze the increased risk to groundwater resources due to their proximity to target fonnations. That the precise extent of where protected groundwater resources exist does not excuse BLM from analyzing this risk.</p>	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p> <p>The cited reference, page 11 of the CCST 2015 states: Recommendation 5.1. Protect groundwater from shallow hydraulic fracturing operations. Agencies with jurisdiction should act promptly to locate and catalog the quality of groundwater throughout the oil-producing regions. Operators proposing to use hydraulic fracturing operation near protected groundwater resources should be required to provide adequate assurance that the expected fractures will not extend into these aquifers and cause contamination. If the operator cannot demonstrate the safety of the operation with reasonable assurance, agencies with jurisdiction should either deny the permit, or develop protocols for increased monitoring, operational control, reporting, and preparedness (Volume I, Chapter 3; Volume II, Chapter 2; Volume III, Chapter 5 [San Joaquin Basin Case Study]). This does not match the public comment interpretation, which claims the CCST report recommends prohibiting shallow fracking.</p>

Comment Number	Issue	Comment	Response
13184	Other	It is my understanding that this EIS is deeply flawed. The EIS predicts 0-4 hydraulic fracturing (fracking) wells will be opened in the next 10 years in 8 counties when Kern County alone projects 2,697 new wells per year for the next 20 years and beyond. The EIS relied on a 2015 California state report, which is not included with the EIS. That is a violation of the National Environmental Policy Act. Fracking creates air pollution which harms the residents of the area impacted. Fracking potentially pollutes ground water that residents of a wide area depend on for drinking. The water removed from the wells is being used to water crops which potentially harm those who eat the crops. Based upon the fact that this report underestimates the number of wells to be opened by a factor of thousands, and the fact there will be increased harm to the public, I oppose the proposed plan of opening additional wells to fracking.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
13550	Request for Extended Comment Period	I offered my comments on the Supplemental E.I.S. for B.L.M.'s Hydraulic Fracturing Plan at the podium on the evening of May 21st at the meeting held at the Kern County Administrative Office. I am dismayed that they were not officially "received" because they were given orally. That underscores a list of concerns that are apparent in the way this review process is being conducted. Along with 50 or so other folks from the Fresno area I had to make quite an effort to attend the presentation by B.L.M. staff and to exercise my right to comment. To hold only one public meeting for the Valley does not convey a sincere interest to garner public input. Though an evening meeting would normally accommodate the participation of working folks, a single meeting at the far southern end of the Valley made their participation impossible. A 90 day comment period would have offered more time for outreach and opportunity for input. After a 5 year period for resubmission of the E.I.S. a 45 day period for public review and comment is a perplexing time restraint. The procedures by which the meeting of May 21 was conducted left many in attendance, myself included, skeptical of the agency's sincerity in wanting public input to the process. I have never attended a meeting where public comment at the microphone was not officially entered into the public record. We were told that only written comments would be taken under consideration. Was the evening just an opportunity for those who spoke to "practice" their comments aloud before putting them to paper? And of course the lack of a Spanish translator was an oversight hard to imagine. There were probably 200 folks in attendance. Yesterday evening I attended an informational public meeting for a local Sustainable Groundwater Management plan. These occur quarterly so this was not a meeting of huge import (like B.L.M.'s on May 21). In attendance, about 15 interested people from the public- a translator was provided. For this whole process to be validated the portion seeking public review and input must be sincere in outreach and accommodating in accessibility. I do not feel that is the case. I hope that the B.L.M. will consider extending the review period for the Supplemental E.I.S. to 90 days and to host other meetings where public input is facilitated instead of thwarted. Thank you for the opportunity to comment, Roderick Webster Valley resident of 40 years	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). In order to complete the supplemental analysis following the guidance of Secretarial Order 3355 (https://www.doi.gov/sites/doi.gov/files/uploads/3355_-_streamlining_national_environmental_policy_reviews_and_implementation.pdf), BLM is not able to accommodate requests to extend the public comment period on the Draft SEIS. BLM was not able to anticipate specific needs and provide language interpreters for all potential non-English speakers who may have attended the public meetings on the Draft SEIS.
23784	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	hat?u mit? Sarah Biscarra Dilley wamit??n? yak?it??n?smu tilhink?tit?u k?ist?utit?u k?ituk?lhi nits?txala wats?mimu? watissimassu watqaya waelewexe watš?lk?ošoyo? watilhini wats?tqaw? k?isaq?n?lhi p?itaq?n? hatyu, my name is Sarah Biscarra Dilley and I am speaking as a representative of yak tit?u tit?u yak tilhini Tribe of San Luis Obispo County and Region on the 2019 Bureau of Land Management Bakersfield Field Office Hydraulic Fracturing Analysis and Proposal to expand oil and gas leases throughout our homelands. A PhD Candidate in Native American Studies at the University of California, Davis, current research focuses on social, political and environmental histories of yak tityu tityu yak tilhini Tribe of San Luis Obispo County and Region, told through the experiences of my own family. This statement has been shaped by my own lived experiences, work with our community, doctoral research, and intergenerational knowledge. This proposal is deeply personal. When I look at the map of areas for new oil and gas leases in San Luis Obispo County, I see my families' stories reflected in these orange outlines. I see a continuum of dispossession. I also see resistance in the relationships we continue to maintain, despite it all. Indeed, it is these intimate relationships, spanning millennia, that bring me here today to express our adamant dissent to any expanded oil and gas development throughout our homelands. We have witnessed the devastation of our homelands, survived many generations of violent dispossession, and have long memories as the Original People of what is now known as San Luis Obispo County. The proposed development of oil and gas resources, outlined in the 2019 Environmental Impact Statement is yet another example of our sovereignty as an independent nation being spoken over. In California, in the aftermath(s) of the Mission System and Rancho Period, eighteen treaties were negotiated with assumed representatives from less than half of California tribes after the inception of statehood in 1850, most of which promised large tracts of land, 8.5 million acres in total, in exchange for ceding land bases that ran from the edge of the Great Basin to the sea.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.

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		<p>These treaty negotiations were made in tandem with Congressional policy that transferred newly-acquired land in California to the public domain. Although terms were agreed upon, the treaties were not ratified. This means that all lands in California, including all of San Luis Obispo County, are unceded territories. Due to a congressional gag order, the unratified treaties remained unknown to the public until 1905. “Tar springs” are even mentioned for navigational context in the body of Treaty “D,” in an area now extensively developed for oil extraction and proposed for on the eastern side of the Temblor Range, which runs along the San Andreas fault at Carrizo Plain, near tšilkukun?tš (Heizer 38). These laws, and the silences that accompany them, shape the current moment; relegating them to the realm of the historical ignores the linear pattern of policy in the United States. By 1893, 24,341,000 barrels of oil were being extracted per year, making California the top producer of the era [1]. By 1981, there were over 5,500 miles of active pipelines within the state transporting petroleum [?2]. By 2012, Chevron, formerly Standard Oil, was noted as being engaged in 17 active pipeline or petroleum processing site clean-ups nitspu tilhin ktit?u alone, due to non-compliance with policy [3] [4]. In? 2018, the Trump administration approved new drilling near tšilkukun?tš, within the boundary of Carrizo Plain National Monument and overlapping with the landbase allegedly set aside for our people by unratified Treaty C. The profound absence of these histories when discussing recognition or sovereignty, traced through ongoing processes of displacement or gentrification, extraction and confinement, reflect the disturbing amnesia of a settler state. Considering legislation of erasure, foundational material, and narrative histories of the United States and the State of California as governing entities, our current moment and potential futurities must account for and remain in dialogue with these ongoing realities. Our long memory gives context for these ongoing political histories and the suspended moment of dispossession our people continue to survive. The current Environmental Impact Statement (EIS) is responding to the absence of focus on Native American Cultural Resources in the prior 2012 EIS. Many of the areas outlined as sites of possible expanded oil and gas leases, selected for viability to use hydraulic fracturing (“fracking”) to extract petroleum resources in the 2019 Environmental Impact Statement, overlap with significant villages, whose edges extend beyond a single location, encompassing miles that surround it, including but not limited to: tšilkukun?tš, wasna, nipumu?, ts?mosmu?, petepetsu?, tst??w?, ts?qsiteye, sqe?ele, ts?mimu?, tqaya, ts?monimu?, qmimu?. The proposed development will disrupt access to traditional materials and culturally-significant places, while dramatically effecting the overall environmental health of tšpu tilhin ktityu as well as the many neighboring nations impacted by the Los Padres National Forest-wide Proposals. We understand that “cultural resources” extend to include the places we are born for, the ground beneath us, the water that sustains us, and the air we breathe. Each will be negatively impacted by the further development of petroleum resources, especially hydraulic fracturing, in our homelands and well beyond them – evidenced by effects like soil and groundwater contaminants, coastal erosion, decreased air quality, increased seismic activity, non-compliance with NAGPRA, CAL NAGPRA, and CEQA, habitat destruction, increased noise pollution, endangered species of plant and animal life, oil spills like the 2015 Plains All American Pipeline Spill at Refugio Beach (also currently proposed for new (re)development) and 1969 Santa Barbara Spill, climate change, and environmental impacts that decide the overall health of all beings. yak tit?u tit?u yak tilhini Tribe of San Luis Obispo County and Region says NO to expanded oil and gas leases and NO to hydraulic fracturing in our homeland. 1 White, Gerald T. "California's Other Mineral." Pacific Historical Review 39, no. 2 (1970): 135-54. doi:10.2307/3637433. 2 State of California, Regional Water Quality Control Board, Central Coast Region. “Staff Report For Regular Meeting of March 14-15, 2012” (2012): 26-57. 3 Ibid. 4 nitspu tilhin ktit?u: in the land or world of the people of tilhini.</p>	

Comment Number	Issue	Comment	Response
12596	NEPA Process	<p>This document and its conclusions are deeply flawed. Significant impacts are incorrectly labeled as minimal. Where protective changes are proposed in the Preferred Alternative B, Table 2.1 outlines multiple avenues ("exceptions" and "modifications") for subverting those mitigations. Overall water use quantities for fracking cannot be compared to quantities used in other states where water is generally more abundant. Given California's historic scarcity of water, vastly oversubscribed water rights situation, increasing likelihood of drought due to climate change and critical groundwater overdraft in many of the study areas, even a relatively small amount of groundwater use for fracking in the study areas will have significant present and future impacts on groundwater basins in the immediate vicinity and regionally. Any amount of groundwater extraction will exacerbate already severe surface subsidence, which will further impact the effectiveness of canals and other water delivery systems. Disposal of waste fluids presents huge groundwater contamination issues. Potential surface spills and underground leaks of fracking fluids threaten land, water and biological resources, which this analysis incorrectly minimizes. Furthermore, the additional "effectiveness" gained from fracking wells in the study area will speed up and increase climate change impacts. Climate change is the greatest economic, environmental, social and national security risk facing California, the US and the world. It is causing loss of lives, homes, jobs, health, money. These impacts must be squarely addressed by a legitimate analysis. This document falls sadly short of a "hard look" at the impacts.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; and Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>
15705	NEPA Process	<p>Regarding the Bureau of Land Management proposal on oil & gas development and related hydraulic fracturing:This sweeping proposal must have a longer comment period. The 45-day comment period is inadequate and unfair because of a) the extensive area involved; b) the number and diversity of jurisdictions affected; c) the complexity of the proposal and its implications; and d) the need to translate materials and educate citizens who do not read English and would be disproportionately affected by leasing and fracturing.The BLM made the wrong decision in failing to update its now-outdated Resource Management Plan (RMP), which does not adequately address the impacts of increased oil and gas development and fracking on the sensitive landscapes, watersheds, and airsheds this proposal covers.The BLM states that conditions have not changed significantly since the RMP was released. This is false:Recent years of drought have reduced the quantity and quality of water already relied upon by existing residents, agriculture, and industry.Recent research from Tufts University indicates that fracking can indeed incite earthquakes both locally and a distance from the fracking site: “The practice of subsurface fluid injection used in ‘fracking’ and wastewater disposal for oil and gas exploration could cause significant, rapidly spreading earthquake activity beyond the fluid diffusion zone. Deep fluid injections -- greater than one kilometer deep -- are known to be associated with enhanced seismic activity—often thought to be limited to the areas of fluid diffusion. Yet the study, published today [May 3] in the journal Science, tests and strongly supports the hypothesis that fluid injections are causing potentially damaging earthquakes further afield by the slow slip of pre-existing fault fracture networks, in domino-like fashion.” (Bhattacharya, P. and Viesca, R.C. "Fluid-induced aseismic fault slip outpaces pore-fluid migration" Science, 364: 6439 DOI: 10.1126/science.aaw7354)The climate crisis continues to worsen. Many changes caused by it are proceeding at paces much faster than predicted by the statistical models of even a few years ago. The local and global efforts to reduce carbon emissions and protect landscapes will not succeed if we continue to access and use hydrocarbons.In the last two years, the current administration has reduced or removed many of the environmental protections that would have helped to mitigate the pollution caused by the proposed development.The DEIS assumption regarding the number of new wells (4) that would be drilled and/or fractured per year is ridiculously low, especially given the number of acres that it proposes to open. Some 3400 wells have been drilled in the past 6 or so years. Therefore, the DEIS is not honestly addressing the multiplication of impacts that are likely to result.The DEIS fails to adequately estimate the proposal's affect on air quality in an area that is already one of the very worst-polluted landscapes. Given the geography and meteorological conditions in this area, pollution does not remain localized; it circulates throughout the San Joaquin Valley. This includes problems with particulates (especially PM 2.5, the most dangerous to health) and ozone (very damaging of lungs and vegetation, including crops).The DEIS fails to address the impact on tourism caused by worsened air quality and damaged landscapes. Already, tourists arriving in our town are appalled by the lack of visibility and by the ugly,</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p> <p>In order to complete the supplemental analysis following the guidance of Secretarial Order 3355 (https://www.doi.gov/sites/doi.gov/files/uploads/3355_-_streamlining_national_environmental_policy_reviews_and_implementation.pdf), BLM is not able to accommodate requests to extend the public comment period on the Draft SEIS. In addition, BLM was not able to accommodate specific needs and provide language interpreters for all potential non-English speakers who may have attended the public meetings on the Draft SEIS.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.</p>

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		toxic landscapes through which they must travel when coming north from Bakersfield. They can, and will, continue to choose cleaner locales in which to spend their time and money. In addition, proposed leasing locations border important tourist destinations: national park areas (Sequoia, Kings Canyon, Yosemite, and Santa Monica NRA; national monuments (Cesar Chavez and Giant Sequoia National Monument); Carrizo Plain; national forests (Sequoia, Inyo, Sierra, and Los Padres; as well as state and regional parks and preserves. The DEIS does not adequately address the impact of such development on the tiny towns, such as mine, that would be affected. Many have one road in and out, often just one lane each way; the increased traffic and movement of large equipment would impact both resident and tourist safety and convenience. Many are low-income communities that would be affected by the influx of workers who could pay higher rents. Some, such as mine, are in canyons where noise and pollution in one location can affect the entire community. The DEIS does not adequately address the impacts on increasing water cost and reduced availability to residents, which is already dangerously affecting many communities. Water tables are being drawn down already in much of the San Joaquin Valley. Hydraulic fracking uses immense quantities of water, and leaves what it does use contaminated. The DEIS does not address the increased risk of wildfire that oil and gas operations pose to our communities via sparks, flares, burn-offs, equipment, and employee activity. I have lived here for 23 years and plan to stay for another 30, unless proposals like this make it even healthier to stay. The large population of economically disadvantaged people in this affected area do not have the luxury to move away. The proposal is unjustified and just plain wrong on so many levels.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21832		Attached is the Wishtoyo Chumash Foundation's comment and supporting attachments on the Hydraulic Fracturing DEIS.	
21832	Climate and Air Quality	The DEIS proposes that a significant portion of the proposed wells will use hydraulic fracturing for oil extraction. These techniques are some of the most carbon-intensive oil extraction techniques and can result in oil and hydraulic fluid seeps that contaminate critical groundwater resources. Climate change, associated sea temperature increase, and ocean acidification are causing catastrophic large-scale changes within Chumash traditional homelands (and throughout the globe). These impacts must be considered for all proposed carbon intensive projects, especially when the purpose of the project is to produce additional carbon releasing products such as fossil fuels.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values, including Climate. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
21832	Cultural Resources	Black Abalone is also an extremely important natural cultural resource for Chumash peoples. Black Abalone are used for a wide range of regalia, tools and fishing hooks, games, ceremonial items, inlay, decorating, giveaways, and food (Figure 1). The project's threat to Black Abalone habitat is also a serious threat to Chumash lifeways and the familial relationship Chumash people have with the environment.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21832	NEPA Process	The Bureau of Land Management's Draft Supplemental EIS has failed to properly supplement the 2012 FEIS. BLM has not taken a "hard look" at the real impacts of hydraulic fracturing on natural cultural resources, biological resources, and sensitive species. The DEIS must be redrafted to properly supplement the shortcomings of the 2012 FEIS and BLM must properly consider and analyze the impacts of oil development and hydraulic fracturing on indigenous peoples and cultural resources. The 2012 FEIS completely lacked a cultural	Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.

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		resources analysis and the DEIS has done little to supplement the lacking analysis. This DEIS must be redrafted to include these analyses.	<p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>It is important to note that this Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21832	Special Status Species	The Bureau of Land Management Bakersfield Field office has utterly failed to analyze the proposed project's impact to sensitive species and biological resources. As discussed, the DEIS includes multiple failures to consult with lead wildlife agencies about listed species, a violation of section 7 of the Endangered Species Act. The DEIS has also failed to supplement any of the shortcomings in the 2012 FEIS biological resources section and analysis of sensitive species. The DEIS needs to include sensitive species that have been listed since the 2012 FEIS analysis was completed and cannot fail to include a new, updated analysis of the project's impacts to listed and sensitive species. The DEIS was drafted to supplement the 2012 FEIS to include the impacts associated with hydraulic fracturing. The United States District Court Central District of California ruled that BLM's 2012 FEIS failed to take a "hard look" at the environmental impact of the resource management plan when 25% of the new wells will be expected to use hydraulic fracturing (Attachment 1211). BLM's complete failure to analyze the project's impact to sensitive species in the DEIS provides evidence that BLM has continued to fail to take a "hard look" at the environmental impact of the resource management plan.	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

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21832	Special Status Species	The DEIS and the 2012 FEIS failed to include the impacts the project will have on California Species of Special concern. Both Vaux’s Swift and Yellow-headed Blackbird are found within the project’s lands proposed for lease to oil development, but the DEIS and FEIS do not include them in their analyses of sensitive species. BLM must consider impact to all listed and sensitive species that the project may effect. This analysis must include California Species of Special concern (see range maps, Attachment 11).	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21832	T&E Species	(Attachment 8). THE DEIS needs to properly supplement the 2012 FEIS and include an impact analysis on the San Benito evening-primrose. Failure to analyze the substantial impact this project would have on this listed species would be a violation of both NEPA and the ESA.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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21832	T&E Species	Both the DEIS and 2012 FEIS failed to include the impacts the project would have on the federally endangered Riverside Fairy Shrimp (<i>Streptocephalus woottoni</i>). The Riverside Fairy Shrimp is known to occur in the region west of Santa Clarita, where there are multiple plots of land proposed for leasing (Attachment 11). Oil development in these areas could have a significant negative impact on fairy shrimp habitat. This includes impacts associated with oil pad construction, oil transportation, spills, and the degradation of groundwater aquifers. Riverside Fairy Shrimp depend on vernal pool	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21832	T&E Species	development (Attachment 22). BLM must include analysis of this project's impact on the Robust Spineflower.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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21832	T&E Species	ensure that their actions are not likely to jeopardize the continued existence of the Delta Smelt or result in destruction or adverse modification of critical habitat is a violation of Section 7 of the Endangered Species Act. Oil development and hydraulic fracturing in the proposed project areas will threaten Delta Smelt populations and their habitat. The proposed project could cause oil spills, degradation of natural hydrology, and severe declines in water quality. The DEIS must include analysis of the project's impacts on Delta Smelt and their critical habitat. The DEIS must also include consultation with the USFWS on the Delta Smelt's Critical Habitat.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21832	T&E Species	habitats that could be greatly altered and degraded by the development of oil pads and hydraulic fracturing operations.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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21832	T&E Species	The DEIS and the 2012 FEIS also failed to include the impacts the project will have on the federally endangered Black Abalone (<i>Haliotis cracherodii</i>). Black Abalone have designated critical habitat along the coast of Lompoc (Figure 2), where the DEIS proposes oil lease land. The lacking analysis of impacts to Black Abalone suggests that BLM did not consult with NOAA for this project. Bureau of Land Management's failure to consult with the National Oceanic and Atmospheric Administration to ensure that their actions are not likely to jeopardize the continued existence of the Black Abalone is a clear violation of Section 7 of the Endangered Species Act. BLM must consult with NOAA concerning Black Abalone critical habitat and must include analysis of impacts the project will have on the listed species.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21832	T&E Species	The DEIS and the 2012 FEIS also failed to include the impacts the project will have on the federally endangered El Segundo Blue Butterfly (<i>Euphilotes battoides allyni</i>). The El Segundo Blue butterfly is found on the Vandenberg Airforce base, where BLM plans to lease a significant amount of land for oil development and hydraulic fracturing (Attachment 9). Despite the overlap and the butterfly being listed since 1976, both documents fail to include analysis of the project's impacts to the endangered species.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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21832	T&E Species	The DEIS and the 2012 FEIS also failed to include the impacts the project will have on the federally endangered Leatherback Sea Turtle (<i>Dermochelys coriacea</i>). Leatherback sea turtles are known to nest along the California Coast (Attachment 33). The DEIS includes multiple coastal regions proposed for the oil leases. Oil developments along the California coast could be detrimental to Leatherbacks attempting to nest, especially on less developed and visited beaches like the ones found on Vandenberg Airforce Base. The DEIS must include analysis on the impacts the project will have on nesting Leatherback sea turtles.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21832	T&E Species	The DEIS and the 2012 FEIS also failed to include the impacts the project will have on the federally endangered Robust Spineflower (<i>Chorizanthe robusta</i> var. <i>robusta</i>). Robust spineflower is found in the San Jose area, where BLM plans to lease land for oil	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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21832	T&E Species	The DEIS and the 2012 FEIS also failed to include the impacts the project will have on the federally endangered Smith's Blue Butterfly (<i>Euphilotes enoptes smithi</i>). BLM plans to lease land for oil development along the coast between Big Sur and Monterey, which is important habitat for the endangered Smith's Blue Butterfly (Attachment 1010). Oil development will threaten the degradation of this endangered species' already declining habitat. The DEIS must include analysis of the project's impacts to the Smith's Blue Butterfly.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21832	T&E Species	The DEIS and the 2012 FEIS also failed to include the impacts the project will have on the federally endangered Vandenberg Monkeyflower (<i>Diplacus vanderbergensis</i>). BLM has proposed to lease land that significantly overlaps the Vandenberg Monkeyflower's critical habitat (Attachment 44). BLM's failure to consult with the US Fish and Wildlife Service to ensure that their actions are not likely to jeopardize the continued existence of the Vandenberg monkeyflower or result in destruction or adverse modification of critical habitat is a violation of Section 7 of the Endangered Species Act. The DEIS must include analysis of impacts to the Vandenberg monkeyflower and must consult with the USFWS to ensure the species' existence and critical habitat are not jeopardized.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
21832	T&E Species	The DEIS and the 2012 FEIS also failed to include the impacts the project will have on the federally threatened Delta Smelt (<i>Hypomesus transpacificus</i>). The DEIS includes maps of proposed lease land on designated critical habitat for the Delta Smelt (Attachment 5). BLM's failure to consult with the US Fish and Wildlife Service to	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21832	T&E Species	The DEIS and the 2012 FEIS also failed to include the impacts the project will have on the federally threatened San Benito evening-primrose (<i>Camissonia benitensis</i>). The San Benito evening-primrose's entire known range is threatened by BLM's proposed plan	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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21832	T&E Species	The DEIS and the 2012 FEIS also failed to include the impacts the project will have on the federally threatened San Joaquin Adobe Sunburst (<i>Pseudobahia peirsonii</i>). The San Joaquin adobe sunburst is found throughout the project's proposed land for lease in Fresno, Visalia, Delano, and Bakersfield (Attachment 66). The adobe sunburst's known range is almost entirely overlapping with land proposed for oil leases. Construction, transportation, risks of oil spills, and degradation of water quality caused by this project will severely threaten the remaining population of this listed species. The DEIS must include analysis of possible impacts to the San Joaquin adobe sunburst.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21832	T&E Species	The DEIS and the 2012 FEIS also failed to include the impacts the project will have on the federally threatened Yosemite Toad (<i>Anaxyrus canorus</i>). The DEIS and 2012 FEIS include plans to lease land for oil development around Pine Flat Reservoir and Kings River (Attachment 77). The known range for the Yosemite Toad includes these two water bodies. The DEIS must include analysis of the impacts this project will have on this federally listed species.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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21832	T&E Species	The DEIS failed to include the analysis of the impact the project will have on eleven listed species protected by the Endangered Species act and two species listed as California Species of Special Concern. Failure to analyze impacts to sensitive species is a violation of the National Environmental Policy Act.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
16437	General	The SEIS correctly concludes that the 2014 ARMP accurately estimated the environmental impacts from oil and natural gas leasing in the planning area. BLM's Reasonable Foreseeable Development scenario anticipates fewer than 40 permits per year will be issued for oil and natural gas development, with hydraulically fractured wells comprising a subset of that total.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
16437	Mitigation	The final SEIS should simply incorporate the management actions outlined in the 2014 ARMP and continue oil and natural gas leasing pursuant to that document.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
16437	NEPA Process	the SEIS appropriately notes that individual wells must also undergo a site-specific environmental review that incorporates "design features, Conditions of Approval (COAs), BMPs [best management practices], and stipulations." Through that process, BLM ensures the wells are in compliance with the National Environmental Policy Act, the Mineral Leasing Act, and other applicable regulations.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
16437	Opinion - In favor of oil and gas exploration and development	While we maintain our position that an SEIS was unnecessary to satisfy National Environmental Policy Act requirements for leasing under the 2014 ARMP, as argued in an amicus brief filed in the lawsuit, we nevertheless believe the SEIS fully complies with the terms of the settlement agreement, and encourage BLM to resume leasing for hydraulic fracturing in the planning area once a Record of Decision is issued.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
14463		Attached please find comments from the California Independent Petroleum Association (CIPA). Thanks, Willie Rivera Vice President of Regulatory Affairs California Independent Petroleum Association (661) 477-0401	
14463	Opinion - In favor of oil and gas exploration and development	CIPA previously submitted comments to the BLM supporting the timely completion of this environmental analysis and encouraged the BLM to consider the full extent of statewide and federal regulatory oversight already provided by agencies such as the Division of Oil, Gas and Geothermal Resources, the State Water Resources Control Board and the federal Environmental Protection Agency. We believe the draft EIS accounts for this oversight, existing rules and regulations, relies on scientifically sound conclusions and has effectively reviewed the environmental effects of hydraulic fracturing.	
24660	Water Resources	P6,82 If drilling will use 25.4% of groundwater and 65.8% surface water what will the BLM do to assure adequate, safe, clean public water supplies?	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.

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12860	Other	Due to the great public interest in Ventura County in issues raised with the practice of tracking, and the potential impact on areas within Ventura County, The Board of Supervisors would like to request that BLM add a meeting in Ventura to its schedule to solicit public input on the environmental document.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). In order to complete the supplemental analysis following the guidance of Secretarial Order 3355 (https://www.doi.gov/sites/doi.gov/files/uploads/3355_-_streamlining_national_environmental_policy_reviews_and_implementation.pdf), BLM is not able to accommodate requests for additional public meetings.
24661	Water Resources	6.82 Why is the BLM allow our sources of drinking water, ag water to be compromised? Toxic chemicals cannot be drank.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
12875	Other	P. 57 & 58 hold errors. There should be a redaction and new public comment.	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). An incorrect assumption regarding estimated production per potential well was stated in the greenhouse gas calculation provided in Section 4.1.4 of the Draft SEIS. This has been corrected in the Final SEIS. Possible indirect emissions were estimated by integrating an annual production estimate of 8,614 barrels of crude oil per well. This is now reflected in the revised Section 4.1.4 text in the Final SEIS.
24662	NEPA Process	From Report p. 44 BLM state 'not possible to know where & How many potential new wells on new federal leases will be.' How then is a hard look being taken when the total impacts to Air, Soil, Water, and our quality of life has not been adequately address?	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24663	Climate and Air Quality	form report p. 52 "planning area is designated as Federal non-attainment for ozone & PM 2.5. Where is BLM's hard look at the impact Greenhouse gas emissions will have on our already poor air quality?	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.

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24664	Climate and Air Quality	from Report p. 36 Hydraulic fracturing wells flare off methane. Why has the BLM not even provided any data re: the amount each well burns daily & what impact these wells will have on adding more methane into our atmosphere?	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
12311	Request for Extended Comment Period	According to the Federal Register notice, comments must be received within 45 days of publication of the notice. That is, comments must be received by June 10. But BLM's own regulations clearly require a ninety-day period for public comment. It explicitly provides that, in the context of consideration of a resource management plan amendment, "[n]inety days shall be provided for review of the draft plan and draft environmental impact statement."2 We therefore write to request an extension of time to comment to 90 days, or July 25, 2019.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). In order to complete the supplemental analysis following the guidance of Secretarial Order 3355 (https://www.doi.gov/sites/doi.gov/files/uploads/3355_-_streamlining_national_environmental_policy_reviews_and_implementation.pdf), BLM is not able to accommodate requests to extend the public comment period on the Draft SEIS.
24665	Water Resources	P 6.82 If drilling will use 25.4% of groundwater and 65.8% of surface water what will the BLM do to assure public water supplies are sufficient?	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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24666	Water Resources	P. 6,86 BLM cites Kern River formation to be one of the groundwater sources most likely affected. Why is the BLM allowing Bakersfield's source of drinking water to be endangered?	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21731	Oil and Gas Leasing and Development	I just want to make a couple of points: • The supplemental EIS assumes that only 4 new wells per year will be fracked on the one million plus acres up for leasing, this when Kern County alone permits about 2000 new wells per year, many of which are fracked. How does the BLM justify assuming only 4 new fracked wells per year? • The fewer the wells that are drilled, the less impact that the EIS has to address. In this case, by assuming only 4 wells per year, the EIS asserts that “the drilling of up to 40 wells over the 10-year planning period would also have negligible impact.” The EIS is deficient in not assessing the impact of fracking more than 4 wells per year. What happens if 400 wells per year are fracked? • Kern County collected more than \$32 million in air pollution mitigation fees from new oil well drilling in 2018. How does the BLM justify requiring no mitigation whatsoever for air pollution from new drilling in arguably the most polluted region of the US. At the very least, the BLM should be following Kern County’s precedent in requiring air pollution mitigation. • If oil companies can drill on BLM land without having to pay the Kern County air fee, why wouldn’t they choose the cheaper way and drill on BLM land? And why wouldn’t this incentivize the drilling of way more than 4 wells fracked per year? The EIS is deficient in not assessing the impact of fracking more than 4 wells per year and of not requiring mitigation for the impacts.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
12515	Cumulative Impacts	Dear Persons, Your EIS supplement supports fracking in a large area of California, Fresno, Kern, Kings, Madera, San Luis Obispo, Santa Barbara, Tulare, and Ventura Counties. This EIS is inadequate and filled with errors in fact and judgement as detailed below. On page 35 (Chapter 3, Section 3.111) your EIS minimizes the levels of carbon dioxide which are in the atmosphere relative to pre-industrial revolution. These values are well known in the scientific literature, and should be quoted accurately. You state that present carbon dioxide levels are more than 40% of pre-industrial revolution values. The present carbon dioxide levels are 410 ppm and the average level over the 880,000 years previous to the industrial revolution is 232 ppm. So the present levels are 77 % above pre-industrial revolution levels. When the carbon dioxide levels reach 464 ppm we will have increased the levels to 100% above pre-industrial revolution levels or doubled the amount of carbon dioxide in the atmosphere. This is and will have expensive and destructive consequences. Methane is a powerful greenhouse gas, 18 times more than carbon dioxide, as you have stated. A recent Nature journal article measuring methane emissions found that the EPA is underestimating the amount of methane released by the oil and gas industry by 60 %. This means that the US contributes 28 % of the global methane emissions from oil and gas production. Fracking well construction regulations have been weakened by the present administration, especially in the area of well head construction and leak control. In Pennsylvania ground and drinking water was contaminated by poorly constructed fracking wellheads. Water is relatively scarce in California and ground water is used for agriculture,	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p>

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		industry and drinking. We cannot afford to have large amounts of ground water to be contaminated by fracking. Laser methane detectors have become inexpensive and very accurate. This makes finding methane leaks inexpensive and easy. The present administration has downgraded methane leak standards. Each gas production company loses millions of dollars worth of product every year due to detectable leaks. Often stopping a leak involves tightening a fitting with a wrench. California air quality does not need the addition of methane from leaks into the air. This EIS assumes business as usual and does not require leak tests and remediation. An expansion of fracking wells should require more strict leak detection and prompt remedy of leaks and stopping releases of methane. Cowboy oil and gas exploration should be a thing of the distant past. The large area which you are proposing to open to fracking clearly contains different topology and air pollution threats. It seems impossible to generalize to the extent which is done in this document. Each large area has challenges which require customized EIS's.	The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.
10177	Seismic Activity	<p>4.10.3 California Induced Seismicity California has a long history of induced seismicity. This includes the first documented case of hydraulic fracturing induced seismicity [Kanamori and Hauksson, 1992] and many other causes of induced seismicity, for example*: mining induced seismicity [Yerkes et al., 1983], geothermal energy production induced seismicity [Eberhart-phillips et al., 2006], oil and gas production induced seismicity [Kovach, 1974], groundwater withdrawal induced seismicity [Amos et al., 2014], enhanced oil recovery induced seismicity [Teng et al., 1973], and wastewater injection induced seismicity [Goebel et al., 2016].</p> <p>4.10.3.1 Hydraulic Fracturing Induced Seismicity The Foulger (2018) and CCST (2015) documentation of frac-induced seismicity are out of date and incomplete. In the past 5 years, many additional cases of frac-induced seismicity have been documented, including earthquakes as large as M4.6 in Canada [Mahani et al., 2017] and earthquakes as large as M5.7 in China [Lei et al., 2019], which was linked to 1 death. There are many additional documented cases of frac-induced seismicity in the United States beyond what is listed in the report, e.g., [Yoon et al., 2017; Skoumal et al., 2018b]. Frac-induced seismicity is believed to account for approximately 2% of all seismicity in Oklahoma [Skoumal et al., 2018a]. This number may be misleading, though, because in some counties hydraulic fracturing can be linked to more than 90% of all seismicity. To date, the largest documented case of hydraulic fracturing induced seismicity in the United States was M3.5 [Skoumal et al., 2018a]. As noted on p. 92, the amount of fluid injected and duration of hydraulic fracturing are smaller and shorter than typical wastewater disposal operations. This likely lowers the probability of inducing larger earthquakes, but the above discussed occurrences of frac-induced seismicity demonstrate that larger earthquakes can occur.</p> <p>4.10.3.1 SB4 regulations of seismic monitoring Per SB4, it is our understanding that seismic monitoring of all frac-operations is required. To our knowledge, this monitoring does not require any additional instrumentation beyond what is provided by the Southern California Seismic Network and the Northern California Seismic Networks. This should be verified. The catalogs from these networks contain all earthquakes M1.8 and M1.8 and larger respectively, but earthquakes below these thresholds may not be included in these earthquake catalogs.</p> <p>4.10.3.2 Wastewater Disposal and Induced Earthquakes This section requires corrections of a few factual errors: The largest wastewater disposal induced earthquake was the 2016 M5.8 Pawnee, Oklahoma earthquake [Chen et al., 2017] The earthquake in the Raton Basin in 2011 was induced by the disposal of produced water, not spent frac fluid [Rubinstein and Mahani, 2015]. In fact, no hydraulic fracturing occurs in the area. To our knowledge the largest earthquake induced by the disposal of frac-fluids was the 2010 M4.7 Guy, Arkansas earthquake [Horton, 2012]. A more complete list of wastewater injection induced earthquakes can be provided upon request. *This is not an exhaustive list of references, simply an example of each kind of induced seismicity. Bibliography Amos, C. B., P. Audet, W. C. Hammond, R. Bürgmann, I. a Johanson, and G. Blewitt (2014), Uplift and seismicity driven by groundwater depletion in central California., Nature, 509(7501), 483–6, doi:10.1038/nature13275. Chen, X., N. Nakata, C. Pennington, J. Haffener, J. C. Chang, X. He, Z. Zhan, S. Ni, and J. I. Walter (2017), The Pawnee earthquake as a result of the interplay among injection, faults and foreshocks, Sci. Rep., 7(1), 1–18, doi:10.1038/s41598-017-04992-z. Eberhart-phillips, D., D. H. Oppenheimer, and U. S. Geological (2006), Induced Seismicity in The Geysers Geothermal Area, California, , 89(September), 3–8. Goebel, T. H. W., S. M. Hosseini, F. Cappa, E. Hauksson, J. P. Ampuero, F. Aminzadeh, and J. B. Saleeby (2016), Wastewater disposal and earthquake swarm activity at the southern end of the Central Valley, California, Geophys. Res. Lett., 43, 1092–1099, doi:10.1002/2015GL066948.1. Horton, S. (2012), Disposal of Hydrofracking Waste Fluid by Injection into Subsurface Aquifers Triggers Earthquake Swarm in Central Arkansas with Potential for Damaging Earthquake, Seism. Res. Lett., 83(2), 250–260, doi:10.1785/gssrl.83.2.250. Kanamori, H., and E. Hauksson</p>	Thank you for your contribution of new information and data to the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). Upon review of the materials forwarded, information regarding California in Kanamori and Hauksson (1992) has been integrated into the Final SEIS.

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		<p>(1992), A Slow Earthquake in the Santa Maria Basin, Bull. Seismol. Soc. Am., 82(5), 2087–2096. Kovach, R. (1974), Source Mechanisms for Wilmington Oil Field, California, Subsidence Earthquakes, Bull. Seismol. Soc. Am., 64(June 1974), 699–711. Lei, X., Z. Wang, and J. Su (2019), The December 2018 ML 5.7 and January 2019 ML 5.3 Earthquakes in South Sichuan Basin Induced by Shale Gas Hydraulic Fracturing, Seism. Res. Lett., (December 2018), 1099–1110, doi:10.1785/0220190029. Mahani, A. B., R. Schultz, H. Kao, D. Walker, J. Johnson, and C. Salas (2017), Fluid injection and seismic activity in the Northern Montney Play, British Columbia, Canada, with special reference to the 17 August 2015 Mw 4.6 induced earthquake, Bull. Seismol. Soc. Am., 107(2), 542–552, doi:10.1785/0120160175. Rubinstein, J. L., and A. B. Mahani (2015), Myths and Facts on Wastewater Injection, Hydraulic Fracturing, Enhanced Oil Recovery, and Induced Seismicity, Seism. Res. Lett., 86(4), 1060–1067, doi:10.1785/0220150067. Skoumal, R. J., R. Ries, M. R. Brudzinski, A. J. Barbour, and B. S. Currie (2018a), Earthquakes Induced by Hydraulic Fracturing Are Pervasive in Oklahoma, J. Geophys. Res., 123(12), 10,918–10,935, doi:10.1029/2018JB016790. Skoumal, R. J., M. R. Brudzinski, and B. S. Currie (2018b), Proximity of Precambrian basement affects the likelihood of induced seismicity in the Appalachian, Illinois, and Williston Basins, central and eastern United States, Geosphere, 14(3), 1365–1379, doi:10.1130/GES01542.1. Teng, T. L., C. R. Real, and T. L. Henyey (1973), Microearthquakes and water flooding in Los Angeles, Bull. Seismol. Soc. Am., 63(3), 859–875. Yerkes, R. F., W. L. Ellsworth, and J. C. Tinsley (1983), Triggered reverse fault and earthquake due to crustal unloading, northwest Transverse Ranges, California., Geology, 11(5), 287–291, doi:10.1130/0091-7613(1983)11<287:TRFAED>2.0.CO;2. Yoon, C. E., Y. Huang, W. L. Ellsworth, and G. C. Beroza (2017), Seismicity During the Initial Stages of the Guy-Greenbrier, Arkansas, Earthquake Sequence, J. Geophys. Res., 122(11), 9253–9274, doi:10.1002/2017JB014946.</p>	
12442	Climate and Air Quality	<p>My scoping comments noted that:“The Supplemental EIS should include a robust discussion of the project’s impacts on climate change. NEPA requires than an EIS disclose the reasonably foreseeable effects that may result from a federal agency’s proposed actions, and the approach taken in the 2012 EIS is wholly inadequate: ‘In absence of final Departmental and/or CEQ guidance, the Bakersfield RMP analysis relies on the continued development of local or regional policy and guidance addressing GHG impacts under CEQA.’ The impacts of climate change are reasonably foreseeable, and as has been disclosed in the Intergovernmental Panel on Climate Change’s 2018 report, Global Warming of 1.5 °C, climate change is a critical issue that demands immediate attention. If the BLM has not developed an appropriate methodology to evaluate such impacts, I suggest using the Council on Environmental Quality’s Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews, which was shamefully and short-sightedly withdrawn by the Trump Administration. The argument in the 2012 EIS that “It is not possible to discern whether global climate change is affecting resources in the analysis area of the plan” is not valid, and the Supplemental EIS should rely on sources such as the California Natural Resources Agency’s California’s Fourth Climate Change Assessment, which includes information on climate change impacts at a regional level. The analysis should clearly document the cumulative impacts to which the project would contribute on physical resources, such as floods, fires, and sea level rise; as well as on social and environmental resources. The economic costs of climate change should also be disclosed—as we have seen in just from dealing with the effects of increasingly severe fires and floods, the costs are considerable. The Supplemental EIS also should include mitigation measures that offset greenhouse gas emissions generated by the project, which could include but not be limited to carbon capture and carbon sequestration (e.g., forest, agricultural soils, and coastal habitat restoration).” Instead, the Supplemental EIR described the impacts of emitting over 220,000 MTCO₂e per year of as “minor,” stating without substantiation that “these direct and end use emissions would not be likely to conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions,” apparently hoping that California’s cap-and-trade program would take care of any impacts. How this would work is not explained, however, and in light of California’s ever-increasing targets for reducing greenhouse gas emissions, seems highly implausible.</p>	<p>Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.</p>
12442	Cumulative Impacts	<p>Moreover, the jurisdictions where hydraulic fracturing could occur are known, and the Supplemental EIS should have contained a detailed evaluation of consistency with State and local plans and policies, including those intended to reduce the impacts of climate change. For example, Santa Barbara County has established a “bright line” threshold of 1,000 MTCO₂e threshold per year for all industrial stationary-source projects to determine if greenhouse gas emissions constitute a significant cumulative impact. Annual greenhouse gas emissions that are</p>	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p>

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		<p>equivalent to or exceed the threshold are determined to have a significant cumulative impact on global climate change unless mitigated. Clearly, the BLM's project would not be consistent with that threshold. In particular, the Supplemental EIS should evaluate the project's consistency with State of California regulations intended to reduce greenhouse gas emissions. The EIS also should evaluate consistency with the California Coastal Act and local coastal plans where relevant because it appears that a portion of the planning area is within the Coastal Zone. This would be consistent with Title II, Section 202 of the FLPMA, which provides, consistent with the public lands laws, that the BLM coordinate planning efforts with land use planning and management programs of Native American Indian tribes, other federal departments, and agencies of state and local governments. To accomplish this directive, the BLM, to the extent practicable, is instructed to keep informed of state, local, and tribal plans; assure that consideration is given to such plans; and to assist in resolving inconsistencies between such plans and federal planning. While the State is authorized to furnish advice regarding revision of land use plans for the public lands, the Secretary of the Interior is directed to develop land use plans consistent with State and local plans to the maximum extent found consistent with Federal law and the purposes of FLPMA. 43 U.S.C. 1712 (c)(9).</p>	<p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
12442	Mitigation	<p>The Draft SEIS inappropriately defers identifying mitigation measures until project-specific analyses are conducted. As noted in comment 3, had the impact analysis been conducted in an appropriately rigorous manner, specific types of impacts would have been identified. The CEQ's Effective Use of Programmatic NEPA Reviews notes that "A thoughtful and broad-based approach to planning for future development can include best management practices, standard operating procedures, adaptive management practices, and comprehensive mitigation measures that address impacts on a broad programmatic scale (e.g., program-, region-, or nation-wide)." Thus, mitigation measures could have and should have been included.</p>	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the "2014 RMP," identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>

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12442	NEPA Process	As noted in the BLM's NEPA Handbook, "the affected environment section succinctly describes the existing condition and trend of issue-related elements of the human environment that may be affected by implementing the proposed action or an alternative." It further notes, "Your description of the affected environment will provide the basis for identifying and interpreting potential impacts in a manner." The Draft SEIS does not do this. Except for certain resources where new information is available, it merely refers readers to the 2012 Final SEIS. Although the NEPA Handbook indicates that "a supplemental EIS may incorporate by reference the relevant portions of the EIS being supplemented," this does not relieve the SEIS of the responsibility to provide enough information to allow the reader to understand the conditions that would be affected should the project be implemented. The CEQ's NEPA Regulations §1502.21 specifies that "Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described" (emphasis added). The BLM's Draft SEIS does not meet this standard, in most cases providing no information that can be used to support the conclusions of the impact analysis. In addition, the Draft SEIS does not describe where the 2012 Final EIS can be found. It is not in the project folder; rather, the reader must click on "Links," then on the 2014 approved Resource Management Plan, before at last finding a link to this document. This is not intuitive and adds to the difficulty the average reader encounters when reviewing large, technical documents.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
12442	NEPA Process	Thank you for the opportunity to provide comments on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). Despite being directed to take a "hard look" at the impacts of hydraulic fracturing, the BLM has failed to do so as detailed in the comments below and has therefore deprived the public of the opportunity to fully understand the impacts of the proposed action.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
12442	NEPA Process	The impact analysis is so generic, it is essentially useless in allowing the reader to know what the actual impacts in their area would be. The BLM knows the locations in which hydraulic fracturing could occur, and should have described the potential types of impacts that could occur given in each area given, for example, the types of biological or water resources that are present.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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12442	Request for Extended Comment Period	Representative Salud Carbajal, who represents California's 24th District, requested that the 30-day scoping period be extended to allow for more public and agency input into this controversial project and ensure that all relevant concerns were addressed. This was not done, nor were comments that were received after the close of comment period addressed by the scoping report. In more than 30 years of environmental consulting for numerous agencies, I have never worked on a project where comments received after the close of the official comment period were not considered. This was to ensure that no information relevant to the analysis was omitted and to ensure that all who took the time to comment had an opportunity to provide input. BLM purports to have not been able to extend the scoping period in order to comply with the 2017 Secretarial Order 3355, which sets a target of completing an EIS 1 year from the issuance of the Notice of Intent. Even if the scoping period were not formally extended, the additional comments could have been considered during the 8.5 months spent preparing the Draft SEIS (which seems like a very long time given the lack of specific analysis). I am attaching my original scoping comments as Attachment 1 in order to ensure that they are part of the official record. As noted in these comments, "Per the BLM's NEPA Handbook, 'you should not limit scoping for an EIS to the formal scoping period.'" The BLM therefore was negligent in not considering the additional comments that were received.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). In order to complete the supplemental analysis following the guidance of Secretarial Order 3355 (https://www.doi.gov/sites/doi.gov/files/uploads/3355_-_streamlining_national_environmental_policy_reviews_and_implementation.pdf), BLM is not able to accommodate requests to extend the public comment period on the Draft SEIS.
15773	NEPA Process	Dear BLM: I am a retired earth science professor from UCSB, and I am writing to express my deep concerns about the draft Supplemental Environmental Impact Statement (SEIS) for the Bakersfield Field Office Resource Management Plan (RMP). With regard to hydraulic fracturing specifically, I urge BLM to add another alternative to the SEIS for a full moratorium on any new hydrofracturing until risks to groundwater quality and seismic safety are fully studied and understood. I also ask BLM to add a moratorium alternative in the RMP, for hydrofracturing specifically, and preferably for all new oil and gas extraction in central CA. Appallingly, the BLM has systematically opted throughout the SEIS for assumptions that minimize the unknown and very serious risks of hydrofracturing. Here are a few examples of how BLM has downplayed in the SEIS the risks of groundwater contamination and induced earthquakes associated with disposal of produced water. 1) The BLM makes a projection, based on past history, that in ten years there will be no more than forty new hydrofracturing wells (4/year) in the RMP area, but in fact there is no such limit in the RMP, and in future companies may considerably ramp up their use of hydrofracturing to recover more oil from depleted oil reservoirs. As the number of these wells increases, the risks increase proportionally. 2) The risks from these wells will not go away after 10 years, yet cumulative long-term risk is entirely ignored in the SEIS. 3) On July 1, 2015, the CA Office of Administrative Law approved the Final Permanent Well Stimulation Treatment Regulations. In the SEIS, BLM assumes that existing regulations, testing, and reporting are sufficient to limit risks of hydrofracturing, but we need look no farther than the contamination of the Santa Maria and San Antonio groundwater basins by Orcutt oil field fluids to dispute this assumption. 4) Most importantly, BLM asserts that the NEPA process will allow them to adequately assess risks for individual projects, but this is alarmingly false. As it is now, there are no adequate scientifically-established standards for proper risk evaluation of new hydrofractured (or steam and acid-stimulated) wells, and hence the NEPA process required for approval of individual wells is seriously inadequate for protection of public health and safety and the environment. In July 2015, at the same time when new regulations were implemented, the CA Council on Science and Technology (CCST) issued An Independent Scientific Assessment of Well Stimulation in California: An Examination of Hydraulic Fracturing and Acid Stimulation. In this report, the CCST makes it very clear that there are serious risks, and that there is insufficient data and knowledge to assess risks. If scientists don't know the risks, how can BLM assess them in NEPA? Let me quote from the executive summary of the CCST report: "Conclusion 4.2. The chemistry of produced water from hydraulically fractured or acid stimulated wells has not been measured." "Recommendation 4.2. Evaluate and report produced water	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p> <p>Neither a state-wide leasing moratorium, nor the choice of a 'no leasing' alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.</p>

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		<p>chemistry from hydraulically fractured or acid stimulated wells.” “Conclusion 4.3. Required testing and treatment of produced water destined for reuse may not detect or remove chemicals associated with hydraulic fracturing and acid stimulation.” “Conclusion 4.5. Disposal of produced water by underground injection has caused earthquakes elsewhere...disposal of produced water by underground injection could cause felt or damaging earthquakes... it can be very difficult to distinguish California’s frequent natural earthquakes from those possibly caused by water injection into the subsurface.” “Recommendation 4.5. Determine if there is a relationship between wastewater injection and earthquakes in CA. Conduct a comprehensive multi-year study to determine if there is a relationship between oil and gas-related fluid injection and any of CA’s numerous earthquakes...develop and apply protocols for monitoring, analyzing, and managing produced water injection operations to mitigate the risk of induced seismicity. Investigate whether future changes in disposal volumes or injection depth could affect potential for induced seismicity.” “Conclusion 5.1. Shallow fracturing raises concerns about potential groundwater contamination. In CA, about three quarters of all hydraulic fracturing operations take place in shallow wells less than 2,000 feet (600 meters) deep. In a few places, protected aquifers exist above such shallow fracturing operations, and this presents an inherent risk that hydraulic fractures could accidentally connect to the drinking water aquifers and contaminate them or provide a pathway for water to enter the oil reservoir. Groundwater monitoring alone may not necessarily detect groundwater contamination from hydraulic fractures.” “Recommendation 5.1. Protect groundwater from shallow hydraulic fracturing operations.” “Conclusion 5.2. Leakage of hydraulic fracturing chemicals could occur through existing wells.” “Recommendation 5.2. Evaluate the effectiveness of hydraulic fracturing regulations designed to protect groundwater from leakage along existing wells....DOGGR should conduct or commission an assessment of the regulatory requirements for existing wells near stimulation operations and their effectiveness in protecting groundwater...from well leakage.” “Conclusion 7.1. Data reporting gaps and quality issues exist. Significant gaps and inconsistencies exist in available voluntary and mandatory data sources, both in terms of duration and completeness of reporting....hydrologic and geologic conditions and stimulation practices in CA differ from other unconventional plays in this country, many data gaps are specific to CA.” “Recommendation 7.1. Improve and modernize public record keeping for oil and gas production.” “Conclusion 7.2. Future research would fill knowledge gaps. Questions remain at the end of this initial assessment of the impacts of well stimulation... Has any protected groundwater been contaminated with stimulation chemicals in the past, and what would protect against this occurrence in the future?...What environmental risks do stimulation chemicals pose, and are there practices that would limit these risks?... How does oil and gas production as a whole (including that enabled by hydraulic fracturing) affect CA’s water system?... Does CA’s current or future practice of underground injection of wastewater present a significant risk of inducing earthquakes? How can the public best be protected from air pollution associated with oil and gas production? What are the ecological impacts of oil and gas development in CA?” “Recommendation 7.2. Conduct integrated research to close knowledge gaps. Conduct integrated research studies in CA to answer key questions about the environmental, health, and seismic impacts of oil and gas production enabled by well stimulation. Integrated research studies should include regional hydrologic characterization and field studies related to surface and groundwater protection, induced seismicity, ecological conditions, as well as air and health effects.” Please do not ignore the advice of the independent CCST scientists. BLM’s assumptions in the draft SEIS have no sound basis. It is imperative to allow more time for adequate research, needed for critical understanding of the risks that arise from well stimulation and fluid disposal, and to develop better regulations that will come from this increase in our knowledge. The BLM must not imperil Californians, against their will (as stated in 8400 scoping comments and in verbally expressed comments at public hearings), by risking our precious groundwater or potentially triggering dangerous earthquakes. Rushing this wholesale opening of our lands to massive oil and gas development, including well stimulation by hydrofracturing and other methods, is ill-advised and dangerous. It is your primary responsibility to prevent harm on public lands and protect the health and safety of all Americans, please do your job! In closing, I would like to say how astounded I am at the mockery BLM has made of the SEIS public comment process. After shortening the scoping comment period, BLM still received 8400 comments by the deadline, almost all of which expressed strong and well-reasoned opposition to the draft SEIS and to elements of the RMP (most people, myself included, want the current moratorium on new drilling to continue, an alternative not offered). This many comments is a huge response, and yet, in spite of the many excellent comments made, BLM found no reason to change a single word of the RMP, or make hard copy of the scoping comments available to the public. WHY? My own scoping comment submitted in August 2018 (#2627) was apparently a waste of time, as I think no one read it, nor did BLM tabulate the comments beyond identifying categories of issues addressed, and number of unique</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

Comment Number	Issue	Comment	Response
		comments made. My scoping comment covered some other topics not covered above, and also detailed my concerns as a geologist who has studied fluid flow in the earth's crust. Please note that it contained my concerns about impacts to wildlife, and worsening the devastating effects of climate change on all people. I beg of you to do what is right. Save your fellow citizens, and the BLM itself, from the very risky consequences of forcing this faulty SEIS and RMP upon us. The harms cannot be undone. Yours sincerely, Dr. Rachel Haymon (Santa Barbara, CA) 6/9/2019	
16291		Attached file is an updated (corrected) and formatted version of my comments submitted on June 9	
16291	Alternatives	and to develop better regulations that will come from this increase in our knowledge.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement. Neither a state-wide leasing moratorium, nor the choice of a "no leasing" alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.
16291	Alternatives	BLM's assumptions in the draft SEIS have no sound basis. A moratorium allows more time for adequate research, needed for critical understanding of the risks that arise from well stimulation and fluid disposal,	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement. Neither a state-wide leasing moratorium, nor the choice of a "no leasing" alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.
16291	Alternatives	With regard to the hydraulic fracturing specifically, I urge BLM to add another alternative to the SEIS for a full moratorium on any new hydrofracturing until risks to groundwater and seismic safety are fully studied and understood. I also ask BLM to add and adopt moratorium alternatives in the RMP, for hydrofracturing and for all new oil and gas extraction in the RMP area.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement. Neither a state-wide leasing moratorium, nor the choice of a "no leasing" alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.
16291	General	Appallingly, the BLM has systematically opted throughout the SEIS for assumptions that minimize the unknown and very serious risks of hydrofracturing. Here are a few examples of how BLM has downplayed in the SEIS the risks of groundwater contamination and induced earthquakes associated with disposal of produced water. 1) The BLM makes a projection, based on past history, that in ten years there will be no more than forty new hydrofracturing wells (4/year) in the RMP area, but in fact there is no such limit in the RMP, and in future companies may considerably ramp up their use of hydrofracturing to recover more oil from depleted oil reservoirs. As the number of these wells increases, the risks increase proportionally. 2) The risks from these wells will not go away after 10 years, yet cumulative long-term risk is entirely ignored in the SEIS. 3) On July 1, 2015, the CA Office of Administrative Law approved the Final Permanent Well Stimulation Treatment Regulations. In the SEIS, BLM assumes that existing regulations, testing, and reporting are sufficient to limit risks of hydrofracturing, but we need look no farther than the contamination of the Santa Maria and San Antonio groundwater basins by Orcutt oil fields to dispute this assumption. 4) Most importantly, BLM asserts that the NEPA process will allow them to adequately assess risks for individual projects, but this is alarmingly false.	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.</p>
16291	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	I beg of you to do what is right. Save your fellow citizens, and the BLM itself, from the very risky consequences of forcing this faulty SEIS and RMP upon us. The harms cannot be undone.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

Comment Number	Issue	Comment	Response
16291	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	The BLM must not imperil Californians, against their will (as stated in 8400 scoping comments and in verbally expressed comments at public hearings), by risking our precious groundwater or potentially triggering dangerous earthquakes. Rushing this wholesale opening of our lands to massive oil and gas development, including well stimulation by hydrofracturing and other methods, is ill-advised and dangerous. It is your primary responsibility to prevent harm on public lands and protect the health and safety of all Americans, please do your job!	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
19808	Climate and Air Quality	I object to this entire SEIS, which addresses the environmental impacts of fracking in the Central Valley and Central Coast and minimizes the effect that this activity will have on climate chaos by listing numbers of millions of metric tons of CO2 released worldwide and the smaller amount released by California, seeming to say that a little more fossil-fuel burning and CO2 in the atmosphere is too trivial to be concerned about. This is ridiculously wrong. We are 'way overdrawn on the atmosphere's carbon budget. This section should go into this detail. Also California is seeking to, and the United States should, be leaders in climate-chaos avoidance, and selling new oil well leases is no way to exercise this leadership. One of the options the SEIS describes should be no oil drilling and fracking.	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.
24672	Climate and Air Quality	We need to shut down oil wells, not drill them, to avoid climate catastrophe. The EIS section on climate change cites worldwide figures to try to minimize the impact on carbon in the atmosphere, but this is wrong thinking for the U.S., which should be a leader in climate action.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
20774		Please find attached my comments on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental EIS. Submitted by Dr. Timothy Krantz, this day, 8 June 2019, at 23:44PM.	
20774	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	my conclusion and the conclusion of the BLM's Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement should be very clear: the potential environmental impacts and risks of the proposed actions far exceed the relatively meager and short-term benefits of the project. The proposal to lease BLM lands in Central California for hydraulic fracturing and other forms of "enhanced oil recovery" should be denied.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
20774	Seismic Activity	Comment 3: the BLM has not adequately analyzed the potential seismic risks associated with the proposed hydraulic fracturing and wastewater injection.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Comment Number	Issue	Comment	Response
20774	Seismic Activity	The SEIS map, Figure 3.10, displays the magnitude of earthquakes in the proposed BLM lease area between 1922 and 2018. The striking thing about this map is that the majority of these seismic events are not associated with the major faults that transect the plan area (refer back to the California Department of Conservation map, http://maps.conservation.ca.gov/cgs/fam/). Rather, the faults are mostly clustered in the middle of the south San Joaquin Valley area precisely where the bulk of the existing oil and gas extraction operations are already occurring. These earthquakes are more strongly associated with oil and gas extraction in the Valley than they are to known fault lines!The SEIS greatly downplays the significance of the seismic impacts of hydraulic fracturing and the injection of fracking-produced wastewater back into the groundwater aquifer. In fact, there are numerous earthquake swarms that can be attributed to injection well activities related to fracking. The Mettler earthquake cluster of September 2005, which produced three shocks larger than magnitude 4, correlated to the opening of a new disposal well in the Tejon Oil Field about five miles away just five months earlier. http://www.scsn.org/index.php/earthquakes/speqrep/20050921-m4-7-mettler/ The cluster was very close to the White Wolf fault (south central San Joaquin Valley), which was responsible for one of California's largest earthquakes on July 21, 1952.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Seismicity. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
20774	Seismic Activity	The seismic risks of wastewater injection into groundwater aquifers so close to very dangerous active fault systems—none other than the San Andreas Fault itself—are too great to justify the proposed BLM oil and gas leases for hydraulic fracturing. The risk of a catastrophic fracking-related seismic event on one of these major fault systems, in close proximity to millions of people in the Central Valley and Los Angeles metropolitan areas, far exceeds fracking-related seismic risks in Oklahoma. The potential damages of a major fracking-related seismic release on the SAF would be on the order of tens of billions of dollars and hundreds or thousands of human lives.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources and Seismicity. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
20774	Water Resources	As highlighted above, the SEIS defers the potential significant impacts to surface water resources to the application and enforcement of SPCC best management practices when individual lease permits may be issued in the future. To defer the potential significant adverse impacts of hydraulic fracturing on BLM lands to the regulatory enforcement of federal water resources laws and legislation (ie. the Federal Clean Water Act and Safe Drinking Water Act)	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
20774	Water Resources	Comment 1: the SEIS greatly minimizes the potential significant adverse environmental impacts that may occur with regard to contamination of surface and groundwater resources. The risk of contamination of surface and groundwater resources from hydraulic fracturing is substantial and highly significant. Although the SEIS states that the average amount of water used in fracking a well is “only” about 100,000 gallons per well (not an insubstantial quantity even by itself, if these same chemicals were released at the surface and subject to State and Federal regulatory water standards), the chemical constituents included in these fracking fluids are extremely toxic, even in reduced volumes. Table 4.8 Typical Constituents of Hydraulic Fracturing Fluids, (p. 86 of the SEIS) identifies these constituents in only generic terms, such as: “petroleum distillates” or “aromatic hydrocarbons”. The fact of the matter is that typical fracking solutions include a mix of solvents, including petroleum distillates such as benzene, toluene, ethylbenzene, and o-, m-, and p-xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs) and a “proprietary” mixture of some 700 other compounds. Many of these are highly toxic and regulated by the U.S. Environmental Protection Agency (USEPA), under the auspices of the Federal Clean Water Act and Safe Drinking Water Act.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
20774	Water Resources	Comment 2: the SEIS greatly underestimates the potential for contamination of surface and groundwater resources as a result of hydraulic fracturing.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Comment Number	Issue	Comment	Response
20774	Water Resources	obviates the very purpose of the Supplemental EIS, which is to openly disclose the environmental impacts of the proposed actions of the project (the leasing of BLM property for hydraulic fracturing) on surface and groundwater resources.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
20774	Water Resources	The potential for hydraulic fracturing and injection wastewaters to “move” toward the surface are exacerbated by the fact that petroleum wastes are lighter than water and will rise to the surface of the groundwater table (oil floats on water); and by the fact that during seismic events, sediments and geologic strata settle by the process of liquefaction—similar to tamping on a sand castle and it turns to into a liquid slurry—and groundwater rises toward the surface aquifer.If one overlays the hydraulic fracturing lease areas, as illustrated in Figure 4.1, with a map of California earthquake faults (http://maps.conservation.ca.gov/cgs/fam/), one can see that the area is a virtual spaghetti plate of faults, with the San Andreas Fault (SAF) running southeast to northwest up the middle of the proposed lease areas, the Kern Fault Complex on the east, the White Wolf and Wheeler Ridge Faults on the south, and the Santa Ynez and Santa Maria Fault Complexes to the southwest. The result of this interwoven network of fault systems throughout the proposed lease areas is that there are no impermeable “aquicludes.” All of the geologic strata that comprise the groundwater aquifers in the region are fragmented to the degree that the risk of communication of contaminants from deep aquifers used for disposal of fracking fluids into surface aquifers used for municipal and agricultural use is very high.Furthermore, once these groundwater aquifers are contaminated with fracking fluids, it is virtually impossible to clean them up. These aquifers are contaminated in perpetuity, as far as human use of those groundwater resources are concerned.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources and Seismicity. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
22014	Opinion - opposed to hydraulic fracturing	Re. BLM Bakersfield Field Office Hydraulic Fracturing Draft Supplemental EIS DOI-BLM-CA-C060-2018-0082- EIS I am writing to highlight a number of serious shortcomings with this draft EIS and to oppose in the strongest possible terms the leasing of more public lands for oil and gas extraction (in California or elsewhere). The negative impacts of hydraulic fracking cross multiple scales - local, regional, and global. These negative impacts include, among others: water and air contamination; habitat loss; grave environmental inequalities and injustice; and exacerbated effects of climate change. The finding of the draft EIS that there are no environmental impacts that are so significant that they cannot be mitigated is inaccurate and unjustifiable. The scope and contents of the draft EIS downplay and misrepresent negative consequences of increased fracking activity across California - the report also draws on insufficient data sets and samples to reach its conclusions. The use of hydraulic fracking for oil extraction, in any context, not only intensifies fossil fuel production (and subsequent combustion and use) but also emits an array of toxic pollutants harmful to humans and the environment. According to the California Air Resources Board, oil and gas production in 2016 (including but not limited to fracking) was responsible for about 20% of the PM2.5 and 17% of the volatile organic compounds emitted by all stationary sources in the state.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.

Comment Number	Issue	Comment	Response
		<p>Adding to these figures - by allowing more extraction and fracking to take place on BLM lands - adds to unacceptable levels of air pollution and of greenhouse gases. These impacts are insufficiently detailed or calculated in the draft EIS. The current EIS document (and the 2014 document it supplements) acknowledge that fracking in this region would involve some environmental impacts - impacts that include disruption of the ground; toxic air emissions; risk of groundwater contamination if wastewater isn't disposed of properly (the kind of malpractice that has occurred widely and regularly throughout California's history of oil extraction); and risk of disrupting irreplaceable tribal assets (that are already the subject of historic and ongoing forms of marginalization and toxicity). The finding, in this report, that these impacts would be insignificant is unacceptable - not least because that finding is in part based on the assumption that only 0 to 4 wells would use fracking on this land each year. Despite claims to contrary regarding anticipated rate and scale of uptake and operations on any new BLM fracking leases, this is a gross underestimate. In this case, past trends are not necessarily the best guide for future practice. Already within this state (for example in Public Hearings regarding the redevelopment of the Cat Canyon oil field), oil industry representatives (including employees of the company ERG) have openly stated that the state's transition to non-fossil-fuel energy sources is already happening and that its advancement (and the ultimate end of oil extraction in California) is inevitable. As such, oil companies are heavily incentivized to maximize production on any and all leases they have at their disposal. As such, the draft EIS woefully and inaccurately underestimates the amount of fracking that is likely to take place on any newly-released leases. As such, most of the calculations in the draft EIS are highly inaccurate and unreliable. Many more likely anticipated well counts and levels of activity need to be included and calculate in future revisions of the EIS. According to Gabe Garcia, field manager of the BLM's Bakersfield field office, the estimate is based on data on oil and gas development over many decades on other federal lands. As is, the current draft EIS is rendered unreliable (at best) and void (in all practical respects). The Central Coast of California is already facing severe impacts from climate change. Forms of evidence for this are all around, and increasing in frequency and gravity. Persistent and intense drought conditions, sea level rise (expected to devastate large areas of the state as a direct result of increased fossil fuel production and use driving climate change), and what has become a nearly year-round fire season (at great expense to human, ecological, and economic life). Given these impacts and the increasingly urgent warnings from our scientific community on the unchecked effects of ongoing - and worsening - climate change, the proposal to open up more BLM land to fracking and oil development is a step backward and in the wrong direction - a devastating mistake. California has been a global leader in some respects with regard to environmental and climate policies and action. That long history of environmental stewardship must continue - and doing so involves protecting all available land, air, and water: protecting clean air, open landscapes, wildlife habitat, and invaluable sites of social, cultural, and ecological importance. The draft EIS fails to calculate the full extent and full range of these negative impacts. Any comprehensive EIS will reveal that there is no way to adequately avoid the harm from the kinds and degrees of oil extraction being proposed. There is evidently only one safe course of action: this proposal should be withdrawn.</p>	<p>Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.</p>
23660	Alternatives	<p>I am a physician and public health professional with a strong interest in seeing that my fellow Californians drink clean water and breathe clean air. I find myself both deeply saddened and angry to see that the authors of this draft report ignore the actual purpose of an EIS and the instructions of the court in order to reach a conclusion that allows pollution of our water and air. This Supplemental EIS defies logic. The proposed actions would take place in one of the most polluted airsheds in the country. The Independent Scientific Assessment of Well Stimulation in California concluded that well stimulation increases the emission of criteria pollutants and HAPs, yet the Draft Supplemental EIS finds the impact would be "negligable". Similarly, the proposed actions would take place in the context of increasingly frequent drought and a crisis in the availability of clean drinking water in the Central Valley. According to a 2016 report from the Community Water Center, 1 in 4 schools in the Central Valley has unsafe drinking water. The Independent Scientific Assessment of Well Stimulation found significant impacts to usable groundwater, yet again the Draft Supplemental EIS finds "negligable" impacts. This Draft Supplemental EIS does not meet the requirements of the court to consider the information in the CCST report. If that information had been taken seriously, other alternatives with lesser impact would have been considered.</p>	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>
23368		Please find attached USEPA's comments on the Bakersfield Field Office Hydraulic Fracturing DSEIS.	

Comment Number	Issue	Comment	Response
23368	Biological Resources	The DSEIS provides an overview of the 2017 USFWS Programmatic Biological Opinion (BO) for oil and gas activities on BLM lands in the San Joaquin Valley; however, specific mitigation and monitoring measures that would apply to future hydraulic fracturing jobs were not identified. Recommendation:• Include, in the FSEIS, any mitigation and monitoring measures that result from consultation with USFWS to protect sensitive biological resources as well as from the 2017 USFWS Programmatic BO for oil and gas activities.	Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis.
23368	Climate and Air Quality	and 100 feet, respectively. This is informed not only by impacts during completion/fracturing, but also based on air toxics impacts during production. Larger distances may be appropriate for sources with highly variable emissions (e.g. evaporation ponds) and large emission profiles, such as gas plants and compressor stations and oil and gas resources with high HAPs content, higher explosive potential, or high sulfur or hydrogen sulfide content.	BLM requires project compliance with all federal, state, and local laws, including setback distances.
23368	Climate and Air Quality	Clarify whether emission estimates for well stimulation are based on horizontal or vertical drilling and whether historical California averages for development and production are representative of the drilling and fracturing that has occurred in the planning area since the 2012 Final EIS. Provide an emissions comparison between vertical and horizontal drilling.	Analysis assumptions are presented in the introductory text to Chapter Four and Section 4.1.1 of the Draft SEIS and include Table 4.1.
23368	Climate and Air Quality	Consider avoiding the use of highly variable sources of toxic air pollutants during completion and production operations, such as pit flares. Consider capturing emissions from all tanks, separators, and glycol dehydrators; and implementing stringent fugitive vapor controls.	Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis.
23368	Climate and Air Quality	Consider requiring the use of Tier 4 engines for all nonroad vehicles and equipment due to the planning area's compromised air quality. Using lower emitting equipment would also be expected to reduce regional impacts that could affect Air Quality Related Values at Class I areas within the planning area.	Potential project-specific development requirements would be addressed through subsequent processes and site-specific NEPA analysis.
23368	Climate and Air Quality	Consider seasonal timing limitations to limit exposure to visitors during the peak recreation season. To reduce possible impacts to human health during the remainder of the year, we recommend BLM implement a method for notifying visitors of the potential risk for exposure.	Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis.
23368	Climate and Air Quality	Consult with the federal land managers and EPA to identify appropriate near-field modeling that could be useful for informing potential modifications to the 2014 RMP. In the absence of a near-field analysis, and in order to protect air quality and human health, we recommend that BLM discuss with the federal land managers, EPA and the San Joaquin Valley Air Pollution Control District the appropriate default setbacks for oil and gas operations from residences and occupied structures, and apply those setbacks as lease stipulations in the RMP.	BLM requires project compliance with all federal, state, and local laws, including setback distances.
23368	Climate and Air Quality	Discuss Hazardous Air Pollutants (HAPs) that may be constituents of the fracturing fluid (such as Methanol) and include combustion HAPs as part of the emissions inventory.	Typical constituents of hydraulic fracturing fluids are presented in Table 4.8 of the Draft SEIS. Potential project development would be addressed through subsequent processes and site-specific NEPA analysis.
23368	Climate and Air Quality	Document how state or federal regulations, and any assumed controls of mitigation, affect the calculation of emissions. Such assumptions may include, but are not limited to: dust control, Tier 2 or Tier 4 fracturing pump engines, emission factors, whether gas is captured, vented or flared during flowback/completion, and assumptions for capture efficiency and destruction efficiency (for flaring).	As noted throughout the Draft SEIS, the supplemental analysis this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations. Potential emissions from potential project development would be addressed through subsequent processes and site-specific NEPA analysis.
23368	Climate and Air Quality	Emission estimates in Chapter 4 are presented in tons per year. Short-term emission rates (lbs/hour or grams/second) could provide a different perspective on the potential for impacts to short-term National Ambient Air Quality Standards (NAAQS) such as the 1-hour NO ₂ , 24-hour PM _{2.5} , and 24-hour PM ₁₀ .	Potential emissions from potential project development would be addressed through subsequent processes and site-specific NEPA analysis.
23368	Climate and Air Quality	Following our review of the DSEIS, EPA has identified areas for additional analysis and disclosure regarding impacts to air quality and water resources as the Final Supplemental Environmental Impact Statement (FSEIS) is being prepared. EPA recommends that BLM include details for the air emissions estimates, as well as a more detailed description of the fracturing process, to validate that the inventory is comprehensive and representative of the estimated fracturing processes that will be implemented given the potential impacts to nonattainment and Class I areas. We further recommend updated air quality impact information be incorporated into a revised discussion of General Conformity, possible mitigation measures, and cumulative impacts analysis.	Emissions from potential development would be addressed through subsequent processes and site-specific NEPA analysis. Site-specific development proposals could require a demonstration of conformity, if activities could generate emissions exceeding the applicable <i>de minimis</i> levels.

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23368	Climate and Air Quality	Given the poor air quality in the planning area, BLM should provide sufficient information in the FSEIS to understand the contribution of the planning area's oil and gas development to cumulative impacts on ambient ozone and PM2.5 concentrations and on Class I Air Quality Related Values. The 2011 Draft EIS indicated the no action alternative would result in 3,600 new wells over the 10-year planning period on existing leases and the proposed action would result in an additional 400 new wells over that period on new leases (EIS pg. A-18). These 4,000 new wells are in addition to the 7,259 active wells in the planning area as of 2011 (EIS 2011). According to the DSEIS, hydraulic fracturing would also occur on about 400 non-federal wells per year over the planning period (p. 84).Recommendations:• Calculate emissions from existing active wells within the planning area in addition to the approximate 4,000 new wells expected to be drilled over the next 10 years. Include emission estimates for the estimated 400 non-federal hydraulically fractured wells per year as well as estimates for nonhydraulically fractured new wells on non-federal lands.• Account for potential cumulative impacts to air quality from reasonably foreseeable wells in the planning area in light of the region's non-attainment status for ozone and PM25 and analyze the cumulative impact of the associated greenhouse gas emissions.• Discuss how BLM will disclose, qualitatively or quantitatively, future cumulative impacts from well drilling, completion and production operations.• Identify a strategy for reasonable assurance that future hydraulic fracturing will not contribute to elevated pollutant concentrations in NAAQS non-attainment areas. Elements of the strategy could include an emission balance sheet (targeting as close to net zero as possible for the pollutants of concern), enhanced directed inspection and maintenance (e.g. optical gas imaging), regular monitoring with thresholds for corrective action, and operator training.	The emissions from existing active wells in the Planning Area are presented in the 2012 Final EIS and were included in the 2012 Final EIS cumulative impact assessment.
23368	Climate and Air Quality	If Tier 4 engines are not required, we recommend that the air quality analysis identify additional RMP stipulations that would be necessary to reduce impacts such as the appropriate buffer distances if Tier 2 drill rigs and fracturing pumps are used.	Potential emissions from potential project development would be addressed through subsequent processes and site-specific NEPA analysis.
23368	Climate and Air Quality	Include current State of California established minimum setback distances from occupied structures. There may be a need for larger setbacks than cited in the E112 for homes and public use areas, 300 feet	BLM requires project compliance with all federal, state, and local laws, including setback distances.
23368	Climate and Air Quality	Include the details of the greenhouse gas (GHG) calculations for each individual GHG rather than total CO2.e	Potential emissions from potential project development would be addressed through subsequent processes and site-specific NEPA analysis.
23368	Climate and Air Quality	NAAQS. EPA recommends that the FSEIS disclose the potential for elevated pollutant concentrations for these pollutants.Recommendation:• Consider including a quantitative analysis based on a Monterey formation hydraulic fracturing job, as well as a standard California fracturing job, that would allow for a better determination of appropriate mitigation including engine technology and any necessary buffer distance from receptors of emissions. When considering short-term standards for NO2, PM2.5 and PMio there may be a potential for concentrations to approach the NAAQS and therefore it may be appropriate to disclose likely impacts by using dispersion modeling (e.g. AERMOD).	Analysis assumptions are presented in the introductory text to Chapter Four and Section 4.1.1 of the Draft SEIS and include Table 4.1. Potential emissions from potential project development would be addressed through subsequent processes and site-specific NEPA analysis.
23368	Climate and Air Quality	Provide the basis for the emission estimates in Tables 4.1.1 and 4.1.2. Include a breakout of emissions calculated for individual equipment and area sources, as well as emission estimates for transportation (e.g. number of truck trips for set-up, fracturing, take-down). Provide emission factors and required horsepower (hp) for all equipment. For each fracturing job, include the number of pumps to be used simultaneously (rather than "pump days") and engine type, Tier rating and specifications (including hp). Include the duration of pumping and the number of fracking stages and specifically highlight the differences between standard California fracturing jobs versus Monterey formation fracturing jobs and provide justification for which type is assumed. Include the number of blenders, chemical injection trailers, sand trailers and water trailers. Provide barrels/minute injection rates as well as target fracturing pressures to substantiate the horsepower estimates. Describe whether green completions are assumed and clarify whether the gas is captured, vented or flared.	Analysis assumptions are presented in Section 4.1.1 of the Draft SEIS , including Table 4.1. Emissions from potential project development would be addressed through subsequent processes and site-specific NEPA analysis.
23368	Climate and Air Quality	The DSEIS does not include any mitigation measures and does not clearly identify any required mitigation from other state or Federal regulations. It is difficult to understand potential impacts occurring close to oil and gas development activities associated with criteria pollutants and HAPS because the air quality analysis in the DSEIS does not include near-field modeling. Therefore, the DSEIS does not include sufficient information on the need for mitigation that could reduce the likelihood for near field air pollution to approach health-based standards, and the need for setbacks from occupied structures to minimize the public's exposure to adverse impacts. While we note that the green polygons in Figure ES-1 are identified as the areas where hydraulic fracturing is most likely to occur, the DSEIS indicates that BLM is not limiting hydraulic fracturing to only these areas and fracking could occur in locations closer to sensitive receptors or Class I areas in the future. EPA provides the following recommendations for the FSEIS.	BLM requires project compliance with all federal, state, and local laws including setback distances. Emissions from potential project development would be addressed through subsequent processes and site-specific NEPA analysis. Project-specific mitigation measures would be applied at the time of project evaluation and potential approval.

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23368	Climate and Air Quality	The DSEIS estimates that zero to four wells will be hydraulically fractured each year of the 10-year planning horizon for this Resource Management Plan (RMP). Tables 4.1.1 and 4.1.2 present criteria pollutant air emissions that could result from conventional drilling in addition to the contribution from hydraulic fracturing; however it is not clear how these emissions estimates were prepared. This information, as well as a sufficiently detailed description of the fracturing process, is necessary to validate that the inventory is comprehensive and representative. The referenced 1,200-page 2015 Environmental Impact Report (EIR) - "Analysis of Oil and Gas Well Stimulation Treatments in California" - does include an emission inventory in Appendix E; however, the format and information provided still lacks the detail to interpret the emission estimates presented and the operating equipment assumed. Additionally, the EIR depicts notable differences between a standard California fracturing job and a Monterey formation fracturing job (e.g. two hydraulic fracturing engines required for standard fracturing jobs versus 14 engines for Monterey formation jobs) (pgs. 7.29-7.39). The DSEIS does not discuss this distinction nor does it clarify which type of fracturing jobs were assumed for the emissions presented. The DSEIS also indicates that only vertical fracturing jobs are expected (pg. 6) while the document later states that horizontal drilling is prevalent in the planning area (pg. 83).	<p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018).</p> <p>All methods used in the planning level of impact analysis to air and atmospheric values is detailed in Section 4.1.1 of the Draft SEIS. This includes incorporating by reference the Central Coast Field Office Draft RMPA/EIS (BLM 2017).</p> <p>Text on page 83 of the Final SEIS has been revised as follows to clarify this point:</p> <p>Hydraulic fracturing has been integral over 40 years into the development of oil fields in the southern San Joaquin Basin. Although many wells in the southern San Joaquin Basin are directionally drilled, only a small percentage of them have been horizontally drilled. Of these horizontal wells, it is possible a few may have been hydraulically fractured. In 2013, most (99 percent) of the permits for horizontal wells were in existing producing areas (CCST 2014). Barring a major change in economic conditions (oil prices), drilling would occur primarily in established field areas, and most of the 0 to 40 new hydraulically fractured wells under consideration would be vertical wells.</p>
23368	Climate and Air Quality	The emission estimates presented in the DSEIS are used to demonstrate that emissions are below the de minimis levels for General Conformity. However, the necessary calculations are not in the SDEIS and the format of the details of the emission calculations in Appendix E of the EIR do not allow for a full understanding of the emissions. EPA recommends that BLM supplement the current information with those details to support the conclusion that a Conformity Determination is not required. Recommendations:• Update the discussion on general conformity, as necessary, based on the detailed emission calculations requested above.• Include a commitment that BLM will confirm, during future NEPA analyses at the Application for Permit to Drill (APD) phase, that development and operation of all wells covered by the Bakersfield RMP would fall within the scope of the preferred alternative (e.g. consistent with the Reasonably Foreseeable Development (RFD) assumptions for conventional drilling and hydraulic fracturing) and not exceed de minimis.	The emissions from existing active wells in the Planning Area are presented in the 2012 Final EIS and were included in the 2012 Final EIS cumulative impact assessment. The emissions inventory in the Draft SEIS shows that general conformity does not apply to the proposed action and demonstrates that development and operation consistent with the RFD Scenario would not be likely to exceed <i>de minimis</i> levels. The BLM would confirm general conformity requirements for site-specific project development proposals at the leasing and APD phase of NEPA analysis.
23368	Climate and Air Quality	The EPA, U.S. Department of Agriculture and U.S. Department of Interior entered into a "Memorandum of Understanding (MOU) Regarding Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions through the National Environmental Policy Act Process" on June 11, 2011.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
23368	Climate and Air Quality	The signatory parties agreed to follow the MOU to ensure effective and efficient air quality evaluations for NEPA documents. As noted in our scoping comments, EPA believes that the MOU is applicable to the DSEIS, even though the MOU's provisions were not applicable to the Bakersfield EIS because that document was issued prior to the MOU's effective date. Recommendation:• Utilize the MOU's stakeholder process to share the emissions inventory information requested above to determine appropriate steps for the air quality analysis. Prior to issuing a FSEIS, coordinate a meeting of a technical working group, including Forest Service, National Park Service, US Fish and Wildlife Service, EPA and BLM to confirm the additional information that would be most useful in the FSEIS.	The MOU facilitates completion of NEPA analyses for Federal land use planning and oil and gas development decisions. The DSEIS does not propose changes to the decisions made in the 2014 RMP, therefore it does not initiate the requirements of the MOU.
23368	Cultural Resources	The DSEIS indicates that BLM sent three notification letters to the Native American Tribes listed in Table 5.1 soliciting the Tribes' concerns related to the potential impacts of hydraulic fracturing technology and inviting the Tribes to initiate government-to-government consultation. No additional information is provided in the DSEIS regarding the status of coordination. The DSEIS indicates that scoping letters from the Tribes did not document	The Final SEIS provides updated information regarding consultation and coordination between the BLM and the tribal governments contacted, as appropriate for government-to-government communications.

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		any known or potential concerns within the green polygon areas where future hydraulic fracturing is most likely to occur.Recommendations:• Provide, in the FSEIS, an update on consultation and coordination between the BLM and the tribal governments contacted to date. Discuss issues that were raised, how those issues were addressed in relation to future BLM-authorized activities, and how impacts to tribal or cultural resources will be avoided or mitigated, consistent with Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, Section 106 of the National Historic Preservation Act, and Executive Order 13007, Indian Sacred Sites.• Discuss how Tribal government concerns will be addressed if hydraulic fracturing occurs outside the green polygon areas identified in Figure ES-1. Include a commitment to reinstitute consultation at the APD phase should such activity occur.	As noted in the Draft and Final SEIS, potential impacts to Native American values would be addressed through guidance and policies provided in the BLM Handbook 1780-1 <i>Improving and Sustaining BLM-Tribal Relations</i> (BLM 2016), which promote meaningful and effective tribal consultation. In addition, for federally permitted projects, implementation of Section 106 compliance, BMPs, SOPs, and stipulations as outlined in Section L.6 of Appendix L in the 2014 RMP would avoid, minimize, or mitigate potential adverse effects to historic properties with religious and cultural significance to tribes.
23368	Mitigation	Appropriate groundwater protection measures can vary depending on hydrologic conditions and the presence of drinking water resources. EPA recommends that the FSEIS include mitigation measures that could be required at the project level or the APD phase to minimize impacts to groundwater resources from hydraulic fracturing.We recognize that regulations and guidance documents exist to guide the BLM and the operator in protecting water resources during oil and gas development and production operations (e.g., BLM Gold Book, Onshore Order #2, State regulations, etc.). We recommend that the FSEIS discuss how groundwater would be protected according to existing regulations and guidance. In many cases, existing regulations and guidance leave much of the decision-making regarding water resource protection to determinations by the authorized officer on a well-by-well basis. We recommend the BLM utilize the NEPA analysis to streamline or add consistency to these decisions where possible. For example, an understanding of hydro-geological features can help to identify critical elements of well design that will likely be necessary to achieve effective protection of USDWs at the APD stage. In other cases, adequate information may exist at the RMP stage to identify stipulations that will apply to future leases, such as for protection of existing public and private drinking water supply wells.	Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
23368	Mitigation	Consider including the following mitigation measures in the FSEIS. If any are sufficiently covered by existing State of California (State) requirements, note such RMP stipulations in the FSEIS.o COAs requiring closed loop drilling, monitoring of water quality and water levels, closure and monitoring of reserve pits, and lining and monitoring of evaporation ponds.o Setback stipulations, such as No Surface Occupancy (NSO) for oil and gas activities, where appropriate, to minimize the potential for impacts to current and potential drinking water resources, including both domestic and public water supply wells. EPA recommends a minimum 500-foot setback for private wells. Setbacks provide an opportunity for released contaminants to attenuate before reaching a water supply well, and may afford an opportunity for a release to be remediated before it can impact a well, or for an alternate water supply to be secured.o A mitigation plan for remediating future unanticipated impacts to groundwater or drinking wells from future oil and gas activities, such as requiring the operator to remedy those impacts through treatment, replacement, or other appropriate means.	Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
23368	Mitigation	Consider requiring fracture monitoring, where appropriate, to protect surface water and groundwater resources. Fracture monitoring uses microseismic and tiltmeter surveys to achieve real-time mapping of a hydraulic fracturing treatment in progress.	Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis.
23368	Mitigation	EPA believes that NSO buffers are, in most circumstances, an effective method to protect aquatic resources, particularly in areas where high value water resources are near areas with oil and gas development potential that may result in a high density of wells. We recommend NSO to minimize potential deterioration of water quality and to maintain natural hydrologic function of stream channels, stream banks, floodplains and riparian communities. Consider the following best practices for setback and avoidance requirements as the FSEIS is being prepared:Recommendations:• Update Section 4.2 to include current setback requirements that would be required to ensure that surface waters, including ephemeral streams and wetlands, are protected from the direct and	BLM requires compliance with all federal, state, and local laws including setback distances. No changes to lease stipulations included in the 2012 Final EIS will be made through this supplemental analysis process. Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis.
23368	Mitigation	Requirements established under State legislation, such as the Sustainable Groundwater Management Act, have timeframes that extend well into the 10-year planning horizon of this RMP. The DSEIS does not discuss the latest regional monitoring program requirements and whether their implementation timelines would sufficiently	Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis.

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		cover the oil and gas activities authorized under the Bakersfield RMP.Recommendations:• Clarify whether interim RMP stipulations would be necessary to ensure protection comparable to that which would be afforded through the implementation of state regulations such as the California State Water Resources Control Board's regional monitoring program and the Sustainable Groundwater Management Act.• Clarify, in the FSEIS, the BLM's authority and means to investigate any reports of potential USDW or drinking water well contamination occurring after well completion and, if necessary, require remediation.• In the absence of groundwater modeling to determine the distance from the project at which impacts may occur, consider adopting, in the FSEIS, requirements for monitoring to occur in private wells within one mile of an oil and/or gas project area. Such monitoring would help ensure that mitigation measures are adequate and water resources are being fully protected.	No changes to lease stipulations included in the 2012 Final EIS will be made through this supplemental analysis process.
23368	Mitigation	secondary impacts of well stimulation activities. The EPA recommends the following NSO setbacks as lease stipulations in the FSEIS:o Minimum 100-foot NSO setback from slopes greater than 30%;o Minimum 500-foot NSO setback for flowing waters (rivers and streams) or 100-year floodplain, whichever is greater;o Minimum 500-foot NSO setback for lakes, ponds and reservoirs, wetland and riparian areas and springs; o Minimum 750-foot NSO setback for 303(d) impaired waters;o Minimum 1,000-foot NSO setback for special or significant waters; ando Minimum 100-foot NSO setback for intermittent and ephemeral streams.• Consider including a COA to avoid all surface water resources (including ephemeral streams) during not only geophysical exploration, but also drilling, completion and production.• Codify page 71 ("the assumption is that future applicants would propose surface-disturbing activities to be located in such a way as to avoid riparian/wetland vegetation") as a requirement in the FSEIS.• Consider whether any high value wetland or riparian area, as well as Areas of Critical Environmental Concern, would warrant protection through a NSO stipulation and integrate such protections in the FSEIS.• Include a list of potential avoidance measures, mitigation requirements and BMPs that may be applicable at the project level to prevent adverse impacts to aquatic resources, including limited stream crossing or access points, silt fences, detention ponds and other stormwater control measures.• Include a mitigation measure to offset the loss of acreage and function of waters impacted.• Include, in the FSEIS, a commitment at the APD phase to conduct a hydrologic assessment to ensure all NSO stipulations are sufficient. Consider the geomorphological setting as well as the hydrology of the waters at risk.	BLM requires compliance with all federal, state, and local laws including setback distances. No changes to lease stipulations included in the 2012 Final EIS will be made through this supplemental analysis process. Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis.
23368	NEPA Process	When the FSEIS is released for public review, please send one hard copy and one CD-ROM to the address above (Mail Code: TIP-2). In addition, we acknowledge BLM's commitment to conduct future NEPA analyses at the Application for Permit to Drill phase of development, and request that BLM provide federal land managers, EPA, and the public with adequate notice and opportunity to provide further input at that time.	The EPA at the stated address is already on the stakeholder list for this project. All stakeholders will be notified of the availability of the Final SEIS. Potential leasing and project development would be conducted through subsequent processes and site-specific NEPA analysis. The BLM publishes all NEPA analyses and the front page of Applications for Permit to Drill on the public ePlanning website. Through ePlanning, BLM invites individuals and organizations to identify projects on which they would like to participate in the planning process.
23368	Water Resources	BLM's Central Coast Oil and Gas RMP/EIS estimated that water-intensive horizontal well stimulation treatments could require 3.2 to 6.5 million gallons per well. The Bakersfield SDEIS estimates between 100,000 and 200,000 gallons of water will be need for each fracturing job. As mentioned previously, it is unclear whether the assumed water use in the DSEIS is based on Monterey formation fracturing jobs as described in the ER. Water demand for well stimulation events occur over a short period of time; therefore, groundwater resources can be stressed if well stimulation occurs during the driest times of the year or if multiple well stimulation jobs are being conducted at the same time in the same geographic area.Recommendations:• Include, in the FSEIS, estimates of weekly or monthly water use that could occur if multiple stimulation jobs drawing from the same or connected groundwater resources were to occur at the same time.• Include an analysis of potentially affected groundwater basins/subbasins and identify, as appropriate, potential RMP stipulations that would ensure groundwater resources are not stressed by well stimulations during dry times of the year or from multiple well stimulation jobs in the same geographic area.	Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis.

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23368	Water Resources	CCST concluded that the potential for induced fractures to reach groundwater aquifers may be higher in California than in other states. CCST also noted that California tends to use well stimulation fluids that require smaller amounts of water than the national average, but contain higher concentrations of chemicals. Given that 85% of the hydraulic fracturing jobs in California occurs in relatively shallow wells (less than 2,500 feet) (pg. 6), this often results in fluids with concentrated chemicals being used in close vertical proximity (less than 2,000 ft) to usable groundwater. The CCST report referenced a study that suggested a minimum separation of 2,000 feet is recommended between shale reservoirs and overlying groundwater resources. Recommendation:• Consider whether more stringent measures to protect groundwater should be required in areas with less than a specified amount of separation between a shale reservoir and overlying non-exempt groundwater resource, and explain the basis for the amount of separation selected as the trigger. Incorporate such measures into the FSEIS and RMP, as appropriate.	Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
23368	Water Resources	Contamination associated with well stimulations in the planning area could threaten the suitability of the aquifers for future use. EPA is concerned about the presence of wells that could be intersected by induced fractures. If these wells are not constructed, closed, or sealed properly, they could provide a possible conduit for contaminant dispersal between the upper fresh water bearing formations and the lower oil,	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS).
23368	Water Resources	EPA is concerned that, should groundwater be used to supply the needs for future fracturing jobs, surface waters could be impacted due to hydrological connections. Recommendations:• Commit, in the FSEIS, to site-specific analysis of surface water/groundwater hydrologic connections and the potential impacts of proposed water usage for the future NEPA analysis for each APD decision.• Describe how water quality monitoring in the planning area will occur prior to, during, and after anticipated development to detect impacts to surface water from groundwater drawdown.• Consider, in the FSEIS, adopting a RMP stipulation that encourages operators to recycle produced water for use in well drilling and stimulation, and discuss to what extent this could help alleviate the need for water withdrawals and minimize associated impacts.	Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis. No changes to lease stipulations included in the 2012 Final EIS will be made through this supplemental analysis process.
23368	Water Resources	EPA recommends that the FSEIS describe the reach and extent of Waters of the U.S. in the planning area. Having such information readily available during future project planning would enable BLM to start to identify areas with aquatic resources to avoid, focus protective management practices on wetland and riparian areas where sensitive resources are most at risk of being impacted, and plan mitigation for unavoidable impacts to Waters of the U.S. Recommendations:• Include, in the FSEIS, a preliminary assessment of the reach and extent of Waters of the U.S., including wetlands. In the absence of a current National Wetlands Inventory for the full planning area, use aerial photography to identify the distribution of waters.• Include a COA, in the FSEIS, that jurisdiction will be confirmed in future NEPA analyses at the APD phase. EPA encourages BLM to require delineation and marking of waters (e.g. seeps, springs and wetlands) on maps and on the ground before development so operators can avoid impacts to them.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.

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23368	Water Resources	gas, saline/brine zones once fracking pressures have been applied nearby. Oil and natural gas drilling in the Bakersfield area for over a century has resulted in several hundred, if not thousands, of old abandoned wells. Many of these abandoned wells were left as holes in the ground, without casing, and with only the old drilling mud inside as a method for plugging (e.g. no cement plugs at the bottom of the fresh water zones for protection against contamination from below). EPA is also concerned about impacts to recharge areas, where water enters the aquifer and where deeper aquifers are vulnerable to both surface contamination and surface activities that limit water infiltration. Impacts to the aquifer at its recharge zone may affect the rest of the aquifer over time and stretch beyond the boundaries of the planning area. Include a map of proposed oil and gas wells, existing producing wells, and nonproducing wells in the area and describe each well's status (e.g., idle, shut-in, plugged, and abandoned), if available. Contact the Division of Oil, Gas and Geothermal Resources for all oil and gas well information and the California State Water Resources Control Board for water well information. • Consider adopting a Condition of Approval (COA) that a future operator complete an inventory of existing wells (including both old and abandoned wells) surrounding the proposed drilling site (Area of Review) within a radius equivalent to the planned and modeled hydraulic fracture length before well stimulation begins. EPA recommends that all wells within the Area of Review be examined for their mechanical integrity, and their construction records be evaluated to determine whether they have been sealed and cemented properly and to ensure that they do not provide a viable pathway for potential contamination associated with hydraulic fracturing, well stimulation, or other injection activity. • Incorporate abandonment procedures, as a COA, for sealing wells no longer in use, to reduce the potential for inactive wells to serve as the conduits for fluid movement between production zone(s) and aquifer(s). This is particularly important where existing wells do not have surface casing set into the base of USDWs and lack sufficient production casing cement. If these recommendations are covered by existing State of California requirements, note such RMP stipulations in the FSEIS. • Address whether there are any recharge areas in the planning area for any of the aquifers that are below the surficial aquifers. If there are recharge areas in the planning area, describe in the FSEIS ways in which possible surface contamination and impacts to infiltration will be minimized.	Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
23368	Water Resources	Regarding impacts to water resources, EPA recommends analysis of the potential for aquifer overdraft and pollution of current or future underground sources of drinking water; the potential deterioration of water quality and the hydrological function of surface waters; and the cumulative impact from the reasonably foreseeable number of wells in the planning area.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
23368	Water Resources	The California Council on Science and Technology (CCST) previously concluded that a more complete assessment of the hazards associated with well stimulation fluids in California is necessary. CCST's study did not include an assessment of fracturing fluids in flowback and produced water. Recommendations: • Provide, in the FSEIS, an update on current research to assess well stimulation fluids in flowback and produced water in California. Commit to incorporate future findings into subsequent NEPA documents for the APD phase projects in the planning area. • Sample the results of produced water following well stimulation and 30 days after commencing production. Identify sample result thresholds that would require corrective action.	New information regarding groundwater and field fluids used in oil and gas well stimulation treatments (hydraulic fracturing and acid well stimulation), published by the State Water Resources Control Board, became available after publication of the Draft SEIS (State Water Resources Control Board 2019). Results pertinent to this supplemental analysis will be included in the Final SEIS.
23368	Water Resources	The DSEIS did not identify any possible at-risk groundwater basins in the planning area based on the most recent California Department of Water Resource's Draft List of Critically Overdrafted Basins, which include	Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis.

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		federal mineral estate. The EIR found that any increase in groundwater use in a basin/subbasin in overdraft would contribute to overdraft conditions and be considered a substantial impact if not mitigated. EPA recommends that the FSEIS include any conclusions related to groundwater use presented in the EIR that are applicable. Recommendation:• Identify any Critically Overdrafted Basins, and which include federal mineral estate. Consider closing acreages overlying Critically Overdrafted Basins to leasing across all alternatives in the FSEIS. Consider including a RMP stipulation that would prohibit groundwater withdrawal from any Critically Overdrafted Basin.	
23368	Water Resources	The green polygon areas (Figure ES.1), which identify the most likely areas where future hydraulic fracturing will occur, include portions of the Los Padres National Forest and area immediately adjacent to the Carrizo Plain National Monument. Hydraulic fracturing could adversely affect these significant resource conservation areas by: 1) modifying stream hydrology through road or well construction; 2) discharging contaminants into waters; 3) modifying subsurface flows that currently support depressional wetlands, seeps and springs; and 4) fragmenting wildlife corridors. As the DSEIS does not limit future hydraulic fracturing to only these green polygon areas, such impacts could occur to similarly sensitive resources elsewhere in the planning area. Recommendation:• Include, in the FSEIS, an analysis of potential direct and indirect impacts from hydraulic fracturing to sensitive resource areas within or adjacent to water resources, including perennial as well as intermittent and ephemeral streams. Consider impacts from project activities to stream structure, instream habitats and channel stability; sediment supply and deposition of fine sediments on the streambed and spawning habitats; riparian vegetation and habitat corridors; and water quality and aquatic biota.	<p>The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species.</p> <p>The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>
23368	Water Resources	The planning area may include water bodies that are not meeting applicable EPA-approved State water quality standards and have been designated by the State or EPA as "impaired", pursuant to Section 303(d) of the Clean Water Act. Where Total Maximum Daily Loads (TMDL) have been established for such waters, restrictions on pollutant loading may be in effect. Surface disturbances near such waters could contribute to pollutant loading and exacerbate exceedance of water quality standards. Recommendations:• Identify, in the FSEIS, all water bodies or segments in the planning area that appear on the latest EPA approved 303(d) list and, for each, disclose the nature of the impairment, whether or not a TMDL has been established, and any load allocations in effect that may apply to projects conducted pursuant to the RMP.• Clarify, in FSEIS, any existing requirements for setbacks from impaired waters, and identify any COAs that would be required at the APD phase to ensure that impaired waters would not be further degraded from proposed development or operational activities within and/or downstream of the planning area.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
23368	Water Resources	To ensure that public drinking water supply sources (e.g., surface water sources, including groundwater under the direct influence of surface water sources, and groundwater sources) are protected from potential impacts associated with BLM-authorized hydraulic fracturing in the planning area, it is important to identify where these sources are located. Recommendations:• Include an updated map that delineates source water protection areas for public water supply wells and surface water intakes (streams, rivers, and reservoirs). Identify reservoirs that are drinking water sources. Include an updated analysis of the potential impacts to drinking water sources along with any possible measures to minimize impacts to drinking water.• Consider adding a RMP stipulation that identified fresh water zones are to be sampled and analyzed so that pre-fracking background levels of those fresh water zones (drinking water supply) can establish whether any existing contamination exists before fracking has been introduced in the vicinity. Establish baseline values for the fresh water zones near future fracking areas.	<p>Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis.</p> <p>No changes to lease stipulations included in the 2012 Final EIS will be made through this supplemental analysis process.</p>
23368	Water Resources	When Underground Sources of Drinking Water (USDWs) are used to supply fluids for well stimulations, the potential long-term impacts of well stimulations and dewatering on groundwater and potential sources of drinking water could be severe if not managed appropriately. Aquifers are presumed to be USDWs (as defined in 40 CFR§144.3) unless they have been specifically exempted by EPA, or clearly shown to not meet the definition of USDWs (e.g., total dissolved solids levels are higher than 10,000 mg/L). The Division of Oil, Gas and Geothermal Resources, the California State Water Resources Control Board, and EPA Region 9 have been working together for the last few years updating the numerous Aquifer Exemptions across the State of California. Recommendation:• Include a current map of the existing Aquifer Exemptions, including the names of the exempted formations imposed on the Planning Area Map. Include maps showing known, used and usable fresh water zones, including known or projected depths and thicknesses of the fresh water zones, and identify on these maps the areas where fracking is proposed or occurring.	Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis.

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24496	Other	Will every fracked well pad will be analyzed for soil inventory? Which counties have the BLM performed any detailed soil inventory on to detect Valley Fever?	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24496	Seismic Activity	According to the CCST 2016 REPORT COMMISSIONED BY THE BLM, they suggest these protocols: Is the BLM considering these recommendations? Has the BLM ever considered these recommendations? Will the BLM consider the public acceptance issues ? 1. Perform a preliminary screening evaluation. (Does the project pass basic hazard criteria, i.e. proximity to known active faults, past induced seismicity, near population centers, amount of injection and time of injection, public acceptance issues etc.)	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24496	Seismic Activity	BUREAU OF LAND MANAGEMENT, BAKERSFIELD FIELD OFFICE CHAPTER THREE DRAFT SUPPLEMENTAL EIS. Why does this earthquake map only show a small portion of San Luis Obispo county?	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Seismicity. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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24496	Seismic Activity	Did you conduct seismic surveys for the Draft SEIS 2019? Did you conduct seismic surveys in San Luis Obispo County for potential fracking wells?	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24496	Seismic Activity	This paper published May 2, 2019 needs to be considered. Fracking: Earthquakes are triggered well beyond fluid injection zones Computer model and field experiment data suggest a new link between subsurface injections and earthquake swarms May 2, 2019, Tufts University: Using data from field experiments and computer modeling of ground faults, researchers have discovered that the practice of subsurface fluid injection used in Tracking' and wastewater disposal for oil and gas exploration could cause significant, rapidly spreading earthquake activity beyond the fluid diffusion zone. The results account for the observation that the frequency of man-made earthquakes in some regions of the country surpass natural earthquake hotspots. This important paper should be considered: In the journal Science: 3 May 2019: Fluid-induced aseismic fault slip outpaces pore-fluid migration:	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Seismicity. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24496	Seismic Activity	What is the reason for stating "No earthquakes have been known to be caused by hydraulic fracturing in California"? There are recorded earthquakes identified in Kern County California.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Seismicity. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24496	Seismic Activity	Why is the following information not in the 2019 report? Will it be included? The USGS Earthquake Hazards Program states: "Seismicity can be induced at distances of 10 miles or more away from the injection point and at significantly greater depths than the injection point"	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Seismicity. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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24667	Water Resources	P6.47. If 65.8% of h2o for drilling comes from public surface supplies, what impact will all of these new leases have on groundwater if surface water supplies become unavailable?	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24680	Other	The Hydraulic Fracturing Project appears to negatively impact on all areas of natural resources in the Kern Valley which this community at large and the indigenous community enjoys. It is imperative that the Bureau of Land Management (BLM) and the Tribe meet one-to-one in a government-to-government meeting in order to discuss this issue. I look forward to meeting with you and/or your representative(s) in the near future.	<p>Potential Impacts to Native American values would be addressed through guidance and policies provided in the BLM Handbook 1780-1 <i>Improving and Sustaining BLM-Tribal Relations</i> (BLM 2016), which promote meaningful and effective tribal consultation. In addition, for federally permitted projects, implementation of Section 106 compliance, BMPs, SOPS, and stipulations as outlined in Section L.6 of Appendix L in the 2014 RMP would avoid, minimize, or mitigate potential adverse effects to historic properties with religious and cultural significance to tribes.</p> <p>On both BLM and non-BLM federal surface: when issuing permits related to the extraction of subsurface federal minerals, federal agencies must follow their specific agency guidance regarding consultation and coordination with Native peoples and at a minimum must include adherence to the National Historic Preservation Act (54 U.S.C. 306108) Section 106 guidelines and regulations, Executive Order (EO)13007, Indian Sacred Sites; American Indian Religious Freedom Act (42 U.S.C. 21.1 Sec. 1996 and 1996a); and the Religious Freedom Restoration Act of 1993 (42 U.S.C. 21B, Sec. 2000bb et seq.). Federal agencies will also follow any existing agreements with Tribes. This includes projects that employ hydraulic fracturing technology.</p> <p>BLM sent five notification letters to the Native American Tribes listed in Table 5.1 of the Draft SEIS on May 30, 2018, August 7, 2018, September 21, 2018, December 10, 2018, and April 22, 2019. BLM solicited the Tribes' opinions and/or concerns related to the potential impacts of hydraulic fracturing technology. The letters also invited the Tribes to initiate government-to-government consultation. BLM has continued correspondence with Tribes requesting government-to-government consultation.</p>
12873	Other	Why is there no spanish translation?	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). BLM was not able to accommodate specific needs and provide language interpreters for all potential non-English speakers who may have attended the public meetings on the Draft SEIS.
24587	Other	We have been unable to find a concise explanation or definition of what constitutes "high potential" or "moderate potential" for gas and/or oil in the SEIS. This is unnecessarily vague and leaves the intent and therefore the effect of the proposed action unclear. Also the areas shown as "high" or "moderate" potential are only a small portion of the entire study area, but it appears that the entire study area would be open to leasing and gas and oil exploration. This should be changed prior to any decision or action being taken.	<p>The following explanations were inserted into the Final Supplemental EIS in section 3.10 Minerals Management:</p> <p>Oil and Gas Occurrence Potential</p>

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			Occurrence potential is based upon demonstrated existence or indications of favorable geological features. It should be noted that the actual potential for economically recoverable reserves is much lower than the potential for occurrence. The planning area has been divided into three classes of potential for the occurrence of oil : High, Medium, and Low. High potential lands have produced oil and contain unknown amounts of undiscovered oil and gas. The rock in the subsurface has been heated sufficiently and buried deep enough to generate oil and/or gas. Adequate space exists between particles of rock to provide storage capacity for oil. Traps exist to stop the oil and form the reservoir or pool of oil. To be classified as having moderate potential, traps for the oil exist and source rocks are found in the region but no oil or gas has been produced in commercial quantities. Oil may be found in these areas with future exploration. If one or more of these factors is believed to be missing, the area is classified as having low potential. If all are lacking, the area is classified as No Potential or None. Map 3.14.1 Areas with Oil and Gas Potential and Current Closures is presented in the 2012 Final EIS.
24669	Water Resources	P.6.86 BLM cites the Bakersfield - Kern River formation to be one of the sources of groundwater likely to be affected. This endangers drinking water.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
12351	Request for Extended Comment Period	According to the Federal Register notice, comments must be received within 45 days of publication of the notice. That is, comments must be received by June 10. But BLM's own regulations clearly require a ninety-day period for public comment. It explicitly provides that, in the context of consideration of a resource management plan amendment, "[n]inety days shall be provided for review of the draft plan and draft environmental impact statement."2 We therefore write to request an extension of time to comment to 90 days, or July 25, 2019.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). In order to complete the supplemental analysis following the guidance of Secretarial Order 3355 (https://www.doi.gov/sites/doi.gov/files/uploads/3355_-_streamlining_national_environmental_policy_reviews_and_implementation.pdf), BLM is not able to accommodate requests to extend the public comment period on the Draft SEIS.
24589	Alternatives	Request for BLM to amend its EIS to include more specificity with regard to:1. "high potential for oil and gas and low potential for renewable energy" as cited in Section 4.25.5 below. "The Planning Area as a whole (reported as having low potential for most renewable sources)"	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Bakersfield Field Office Draft SEIS supplements BLM's previous environmental analyses in the 2012 Bakersfield Proposed Resource Management Plan (PRMP) and 2012 Bakersfield Final Environmental Impact Statement EIS (2012 Final EIS). This supplemental analysis was conducted in response to an issue identified in the PRMP and 2012 Final EIS by the U.S. District Court of California; that is, to take a "hard look" at the impacts of hydraulic fracturing that could occur as a result of implementation of leasable fluid mineral management decisions consistent with the PRMP. The Draft Supplemental EIS analyzes the five alternative fluid mineral management plan decisions from the 2012 Final EIS. The supplemental analysis incorporates new information. Results of the analysis were intended to inform BLM's consideration of whether to amend the existing 2014 RMP.

Comment Number	Issue	Comment	Response
			Major issues addressed in the supplemental analysis include impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species.
24589	Cumulative Impacts	Request for BLM to amend its EIS to include more specificity with regard to:2. Analysis of cumulative impact of each of the chemicals regularly used in fracking. See attached list.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The potential impact of hydraulic fracturing constituents is analyzed in Section 4.8.3.2 of the Draft SEIS.
24670	Water Resources	pg. 44. BLM cites the Kern River Formation to be one of the groundwater sources to be most likely affected. Why is the BLM allowing Bakersfield source of drinking water to be endangered?	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24671	Water Resources	P.6,86 - BLM cites the Kern River formation to be one of the groundwater sources to be most likely affected. This would endanger Bakersfield source of drinking water.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24658	Opinion - In favor of oil and gas exploration and development	Overall, we believe the BLM listened to many of the recommendations offered in our response to the agency's August 8, 2018 scoping notice and in the SEIS gave proper consideration to the scientific data, the available studies, state and federal regulatory frameworks, industry best practices, and the significant technology and engineering advancements in this industry that make safe and responsible oil and natural gas development possible. We endorse your conclusion that the existing controls (both mandatory and voluntary) are more than adequate to protect human health and the environment and the current 2014 RMP is effective policy for the Bakersfield Field Office, California, and the nation.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

Comment Number	Issue	Comment	Response
24679	Cultural Resources	Our Tribe considers the circled area to be of great cultural significance and meaningful landscapes of our Tribal history and being:	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Cultural Resources; Native American Values; and Visual Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24679	Cumulative Impacts	Recommendation: BLM not allow any oil and gas fracking near allotments and their water sources which included watersheds, ground basin water, rivers, and streams lake. Also, with oil and gas fracking, gas emissions from actual fracking sites, ground pounding/drilling, and transportation trucking and heavy equipment uses would also be negative environmental and noise factors.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24679	General	Comment – there may need to be a correction for the description of the location of the Tejon Tribe, the draft EIS has this description “The Tule River Reservation and the Tejon Indian Tribe are located in the Porterville vicinity”. Tejon Indian Tribe should be contacted to confirm this description. Recommendation: The description “The concerns of these groups overlapped considerably. Most commented on the potential for air and water pollution caused by hydraulic fracturing” on page 40, should also include this concern by our Tribe “impact on current day public domain lands (allotments lands held in Trust by U.S. Government) Tribal communities.	The document has been edited to read as follows: The Tachi Yokut Tribe of the Santa Rosa Rancheria historically occupied the San Joaquin Valley and today are located in Lemoore. The Tule River Reservation is located in the Porterville vicinity. The Tejon Indian Tribe is generally located in the southern San Joaquin Valley. The people of these groups occupied the western slope of the Sierra Nevada and ranged into the San Joaquin Valley.
24679	Lands and Realty	Recommendation: The draft EIS plan would impact future years, consideration of the State of California’s deployment of Sustainable Groundwater Management Act (SGMA) compliance should be mentioned in this EIS. Although the current land ownership of the proposed “Open Lease” lands are owned by Federal government. In the future, if these lands become available to the public for sale, new landowners must be in compliance with SGMA (see references for more information on SGMA).	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
24673	Water Resources	P.6. 82, If drilling will use 25.4% of groundwater and 65.8% surface water what will BLM doe to assure an adequate public water supply? In the event of a drought, surface water deliveries would become non-existent.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
12698	Opinion - In favor of oil and gas exploration and development	I represent the Coalition of Labor, Agriculture and Business (COLAB) of Santa Barbara County a non-profit organization formed nearly 30 years ago which consists of 1,000 members most of whom have lived in this region for their entire life. We support the EIS including the following comments and considerations: 1. We believe there is not much if any need to use fracking in our particular region because the Monterrey Shale comes fracked courtesy of Mother Nature. Having said that, if there is still oil to be developed within the forest boundaries we support opening up these lands accordingly fracking or no fracking. 2. The EIR must consider the benefits of multiple uses of forest lands according to our well known propensity to suffer the effects of horrofic wild fires. That is, we believe the roads and pads that would be constructed to make use of various resources in the forest would create the dual function/purpose of access for firefighters and fuel breaks that would help us prevent further completely out of control conflagrations. This is a positive environmental benefit that can't be understated as it relates to air quality, flora, fauna, wildlife and human life and public infrastructure. 3. The forest service must open these lands to clearing, fuel breaks, control burns and logging in order to cut down on the fuels that have a negative impact on the ability of animals to forage and that serve to build up a fire hazard that has killed people by way of fires and subesequent debris flows as the ground becomes sterile and prone to debris flows. Thank you for your consideration of these comments. Andy Caldwell Executive Director COLAB	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
13196	NEPA Process	The words "regulations", "regulatory" and variants appear almost 100 times in the document. For example:"California Senate Bill 4 (SB4) regulates the drilling, operation, maintenance, and abandonment of oil and gas wells in the state, including the use of hydraulic fracturing on federal mineral estate. Compliance with SB4 is overseen by DOGGR. The California Office of Administrative Law approved the Final Permanent Well Stimulation Treatment Regulations (Permanent Regulations), effective July 1, 2015 (DOGGR 2014). The Permanent Regulations are the result of multiple regulatory revisions and reflect extensive input from the public, industry, and various state agencies. Under the Permanent Regulations, DOGGR is required to ensure that well stimulation permitting is conducted safely and mandates operators to comply with public disclosure requirements and neighbor notification." The EIS assumes that operators understand and will comply with these regulations or that sufficient regulatory enforcement capacity exists to mandate compliance. In actual practice, neither of these are true. https://www.scpr.org/news/2018/04/11/82212/california-oil-firms-have-had-nearly-400-violation/ The EIS should evaluate impact based on real world experience with fracking and not on the idealized scenarios envisaged by the authors of the document.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
13488		<p>The EIS on page 8 states that "well stimulation fluids and waste must be properly stored and are prohibited from being stored in unlined sumps or pits (Section 1786)". The DOGGR regs that prohibit storage in sumps and pits refer to fluids but not waste: "Fluids shall be stored in containers and shall not be stored in sumps or pits." (1786(a)(4)). Section 1786(a)(8) refers to the handling of waste from fracking operations but only if the operator determines that the waste is toxic. There is too much wiggle room in this regulation to assure that wastes will be handled properly and not disposed of in unlined pits or sumps.</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
10172	Water Resources	<p>This also refers to Chapter 4.1 section 1.2. First, I would like to bring attention to the fact that no detailed attention is given to the fate of aromatic hydrocarbons in any part of the document. Of all the minor components of injection fluid used in hydraulic fracturing, aromatic hydrocarbons (AHCs), including benzene, toluene, naphthalene and others, deliver the most concerning threat to natural and common resources in proportion to their concentration and frequency of use. In other words, although AHCs may be used in very low concentrations and very infrequently during hydraulic fracturing operations, (as an additive to the fluid), their threat to human safety is still dramatic. The SEIS has disregarded AHCs completely. This SEIS is not complete without proper research/documentation of research regarding the AHC contamination of groundwater and air resources nearby and adjacent to hydraulically fractured wells. When no data taken from California is available, it is still very possible to extrapolate from studies conducted elsewhere by adjusting contamination/fate modelling to account for a difference in geology. Additionally, no reference is given to Arsenic, Barium, and Boron, which have been found to be elevated in California wells near hydraulically fractured wells. I request that these metal and metalloid elements be considered in the review of groundwater contamination as well. To begin the documentation of AHC and toxic metal and metalloid contamination related to hydraulic fracturing, I offer several links to begin the literature review. One of these, I admit, is a news article, but it provides contact information for an agency that can connect the EIS authors to a data source: "California Water Board Finds Oil-Industry Contaminants In Water Wells" https://www.wateronline.com/doc/california-water-board-finds-oil-industry-contaminants-in-water-wells-0001 "Produced Water Surface Spills and the Risk for BTEX and Naphthalene Groundwater Contamination" https://link.springer.com/article/10.1007%2Fs11270-017-3618-8 "Comparison of Hydraulic Fracturing Fluid Composition with Produced Formation Water Following Fracturing" https://www.epa.gov/sites/production/files/documents/comparisonofhffluidscompositionwithproducedformationwater.pdf I also believe that the report needs to provide a numerical estimate of the proportion of fracturing fluid that gets recaptured as flowback. Previous studies have estimated that the recovery rate is generally less than 30%, which has serious implications for groundwater contamination. This needs to be emphasized in the report, which it is not as far as I can tell. see "The fate of residual treatment water in gas shale" https://www.sciencedirect.com/science/article/pii/S2213397614000202?via%3Dihub Finally, as the state is still conducting a serious survey of the groundwater resources that will provide needed information on potential affects to groundwater, I think we ought to hold on any decisions for these leases' environmental impact until after the data from that survey is released (4.1: "Because of concerns about oil and gas activities and potential impacts to protected groundwater, an interagency partnership called the California Oil, Gas, and Groundwater Program has been formed to study the problem. The United States Geological Survey is the technical lead supported by state and federal agencies, including BLM. The study will require several years and involves several activities in various locations, which include some of the study areas in this analysis.") Thank you for your time.</p>	<p>As noted in the comment, aromatic hydrocarbons if present at all, represent very minor constituents of hydraulic fracturing fluids. The Draft SEIS impact analysis for air and atmospheric resources included only the most common and major hydraulic fracturing fluid constituents, for this planning level analysis.</p> <p>Further, as noted in Section 4.1 the Draft SEIS impact analysis for air and atmospheric resources followed methods and assumptions used for a similar analysis developed in the Central Coast Field Office Draft RMPA/EIS (BLM 2017). Analysis of aromatic hydrocarbons was not raised as an issue in the public scoping for either of these BLM analyses. Neither was it raised in public comments on the Central Coast Field Office Draft RMPA/EIS. Therefore, this analysis was not included in the Bakersfield Field Office Supplemental SEIS analysis.</p>

Comment Number	Issue	Comment	Response
9526	Alternatives	I am writing to comment on the April 2019 "Bakersfield Field Office Hydraulic Fracturing Draft Environmental Impact Statement (DOI-BLM-CA-C060-2018-0082-EIS) and to oppose Alternative B, the proposed plan. The Intergovernmental Panel on Climate Change has indicated in its 2019 "Global Warming of 1.5°C" report, https://www.ipcc.ch/sr15/chapter/summary-for-policy-makers/ , that global greenhouse gas emissions must be cut roughly in half by 2030, and aggressively reduced thereafter in order to avoid the worst impacts of climate change. The proposed plan, Alternative B, will result in additional fossil fuel extraction and greenhouse gas emissions and is therefore incompatible with the pattern of actions necessary to stabilize the global climate and achieve a sustainable future. BLM should instead analyze ways in which federal lands in the project area can be used for conservation and the development of solar energy, wind energy and energy storage projects. The Draft EIS fails to consider alternatives involving the production of renewable energy and energy storage and is thus fatally flawed and legally unsound. -- David J. Barboza	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>
17845	Seismic Activity	I attended BLM's public meeting in Bakersfield on May 21, 2019 regarding this Draft Supplemental EIS. Based on many comments I heard at this meeting, the public appears to be severely misinformed regarding the risk that hydraulic fracturing directly causes damaging earthquakes. Figure 3.10 in the Draft Supplemental EIS shows a map of locations and magnitudes of earthquakes from 1922 to 2018 within the SHF analysis areas. This map is missing some critical information that would help alleviate the public's concern in this area. Please note that many thousands of hydraulic fracture treatments have taken place over the last four decades across the South Belridge and Lost Hills Oil Fields without causing any damaging earthquakes. Perhaps this information could be added to the map? In fact, the areas above these oil fields appear to void of earthquakes entirely compared to all other areas! Also, the map depicted in Figure 3.10 should reference proximity to basement faults. You will find all of the higher magnitude earthquakes are natural events and directly related to active basement faults driven by California's natural tectonic forces. The public should be informed that to cause damage, earthquakes must release a very large amount of energy by involving slip across a large area. Crystalline basement rocks are stiff and are able to store such energy imposed by natural tectonic forces until they slip. Hydraulic fracturing in California occurs in soft sedimentary rocks far above the stiff basement rock and very far away from natural, active basement faults. Also, the slip area within a hydraulic fracture treatment is tiny in comparison, releases very little energy, and causes microseismic events that are not felt at the surface and require sensitive instruments to measure. You may receive comments describing that hydraulic fracturing is causing earthquakes in Oklahoma from misinformed public commenters. The BLM has an opportunity to set the record straight and add to the Draft Supplemental EIS to inform the public that the earthquakes in Oklahoma are due to re-injection of produced water in areas directly overlying critically stressed, active basement faults. Pore pressure changes from fluid injection in some cases has impacted the effective stress near some faults which has been known to trigger earthquakes in Oklahoma. Frequency and intensity of these earthquakes have been reduced as regulators have studied the problem and limited produced water re-injeciton near basement faults. There is no body of evidence that the widespread hydraulic fracturing of shale wells in other parts of the United States has been causing damaging earthquakes. And, again, in California, there is no evidence that the many thousands of hydraulic fracture treatments in our state have caused any damaging earthquakes.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
20301		Please see attached comment letter	

Comment Number	Issue	Comment	Response
20301	Biological Resources	In order to fully disclose the Project's potentially significant impacts on biological resources as required by National Environmental Policy Act, the SEIS must address the following:a. Conduct Protocol-level Surveys for Special-status Plant and Animal Species Prior to release of the SEIS: We have reviewed the 2012 Final EIS in concert with the Draft SEIS and do not see any protocol level survey data or references which leads us to believe that such work was not done in preparation of these documents. Protocol-level or "focused" surveys for special-status plant and wildlife species should be done before the SEIS is finalized in order to properly define the biological baseline setting for the SEIS's biological impact analysis.b. Biological Surveys Must be Conducted at the Correct Time of the Year: It is important to conduct wildlife surveys at the correct times during the year (e.g., seasonally or relative to rainfall events) in order to accurately identify target animal and plant species at the times when they are expected to be present.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
20301	General	As the Project pertains to Santa Barbara County, the proposed locations for new oil & gas leasing are generally not within State Designated Oilfields and are unlikely to contain developable oil and gas resources. With the exception of relatively small areas within Vandenberg Air Force Base and the Cuyama region, areas identified to be opened for oil and gas leasing are not located within State Designated Oilfields. As a result, it is unlikely that any mineral reserves are located in these areas and even less likely that perspective producers would attempt to develop these areas. The SEIS explicitly states that hydraulic fracturing activities are most likely to occur within Kern County. Moreover, the SEIS analysis related to water, biological and cultural resources focuses on impacts that could occur within Kern County with no specific mention of how and where they could potentially occur in Santa Barbara County. If portions of the project are planned to occur in Santa Barbara County, the impact analysis must specifically discuss where such impacts would potentially occur and identify measures to reduce their severity. Otherwise, the project should exclude Santa Barbara County and focus the analysis of future oil and gas development to areas that are likely to contain oil and gas resources, rather than all land within the Bakersfield Planning Area owned by the Bureau of Land Management (BLM).	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
20301	Other	The SEIS does not disclose the anticipated noise levels from the proposed hydraulic fracturing activities and must analyze potential effects on surrounding land uses, particularly any noise-sensitive receptors.	As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the "2014 RMP," identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.

Comment Number	Issue	Comment	Response
			<p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
20301	Water Resources	<p>The impact analysis for groundwater must analyze potential contamination resulting from hydraulic fracturing activities and should include mitigation measures that establish a baseline monitoring system of groundwater sampling before and after drilling and hydraulic fracturing has occurred.</p>	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>

Comment Number	Issue	Comment	Response
12620	Cumulative Impacts	1) The DSEIS fails to mention or address current biodiversity collapse taking place worldwide.On May 6, 2019, the United Nation's Intergovernmental Science Policy Platform on Biodiversity and Ecosystems Services estimated that one million species are threatened with extinction within the next generation. Human beings are completely dependent upon earth's rich biodiversity. Fracing activity will cause further mortality of special-status species already in decline. With knowledge of these facts, why is BLM allowing the fracing industry to monitor its own impacts instead of requiring them to retain professional, independent biological experts? 2) Why does The SEIS section on "Social and Economic Resources" focus on "jobs", failing to include the broader, negative, longterm impacts? A) What is the quantity of extracted product being exported? How much does that increase domestic user costs? B) The temporary nature of this employment versus the longer-term value of biodiversity protection? C) The addition to carbon-caused climate change by the consumption of anticipated quanities of extracted product? 3) What are the chemicals being used in this process? How long do they persist in the environment? How toxic are they? How can any EIS be complete without the public being informed of this?	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
12726	NEPA Process	U.S. District Court of California told BLM to take a “hard look” at the impacts of hydraulic fracturing. This report says your proposed action, “balances, resource conservation and ecosystem health with the production of commodities and public use of the land." This is not properly done! Your report fails to recognize that there are significant risks of land, water and air pollution and that these can shows major impacts on health and the area economy. The U.S. petroleum-industry history includes leaking of fracking fluids into drinking water, dumping fracking fluids in an unsafe manor, oil leaking into water aquifers, air pollution from fracking fluids storage in open pools, and use of inadequately cleaned fracking fluids to irrigate farm lands. These impacts are not fully visible due to petroleum-industry coverups (e.g., through “gag orders). Further, there is some scientific evidenceof increased birth issues for people living near oil wells. To balance the benefits and costs (including risks) BLM needs to place a value on both. First, the benefits of fracking in this area are small. There is no shortage of petroleum, both from U.S. sources and world sources.Fracking in this area will have no measurable impact on petroleum availability or price. Fracking in this area will provide only a few jobs. Although fracking in this area will provide oil companies additional profits, oil company profits should not be a BLM consideration, unless they are adjusted downward to only include benefits to U.S. citizens. The costs of allowing fracking are significant and include the risks of land, water and air pollution. If the risks are realized, there will be health issues, reduced tourism, and reduced agriculture. Reduced tourism agriculture means fewer jobs. Your report must estimate the probabilities and costs of each of these impacts. Finally, the residents of this area do not want fracking. Some grassroot propositions against fracking have passed (e.g., Santa Barbara County) and others were only defeated by huge (\$8,000,000) petroleum industry efforts to defeat them. Please abandon this proposal. Proteck our health and clean jobs.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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15846	Environmental Justice	The City of Lompoc is a California Disadvantaged Community (https://gis.waterca.gov/appiclacs/), reflecting lower incomes and higher poverty rates than other California cities. Potential fracking, in or adjacent to, the City of Lompoc should be evaluated for environmental justice impacts that address not the employability of environmental justice communities, but rather the potential for fracking to disproportionately contaminate this community's land, water and air. A discussion of potential adverse impacts to, or contamination of, Lompoc's land, air, and water should be included.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15846	Lands and Realty	The City owns property identified as potential fracking lease property, on the map entitled Drilling and Fracking leases on Central California BLM Land (Lease Map). https://forestwatch.maps.arcgis.com/apps/View/index.html?appid=96d9c40f4bdb48c880d19fb8d1229bc7 .	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
15846	Water Resources	A search of the DSEIS showed no discussion of Lompoc in relation to its groundwater aquifer. The City of Lompoc believes it is important to note in the DSEIS it relies solely on ground water from a discrete aquifer for its public drinking water source. Based on the definition included in the DSEIS, page 88, the Lompoc Aquifer qualifies as a Protected Aquifer. Any contamination of that aquifer could have far reaching impacts on the health and welfare of Lompoc's residents. Based on the Lease Map, fracking activities could occur in the immediate vicinity of the City's drinking water well field, and as close as 290-feet to one of the City's wells. Any change in the quality or volume of water in the Lompoc Valley aquifer as a result of fracking, could adversely impact Lompoc's residents. Table ES2 concludes — "Groundwater Use — negligible impacts in context of regional agricultural consumption." However, the DSEIS does not address potential impacts on ground-water used for municipal consumption.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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19175	Opinion - opposed to hydraulic fracturing	<p>June 3, 2019 Hello, I am asking you to stop fracking California. https://eplanning.blm.gov/epl-front-office/projects/nepa/100601/171488/208501/Bakersfield_Field_Office_Hydraulic_Fracturing_Draft_Supplemental_EIS.pdf I quote from the above 2018 document, "Bakersfield Field Office Hydraulic Fracturing Draft Supplemental EIS" and its "CHAPTER FOUR BUREAU OF LAND MANAGEMENT, BAKERSFIELD FIELD OFFICE DRAFT SUPPLEMENTAL EIS WATER RESOURCES 85 4.8.3.2 Impacts to Groundwater Water Use"... "According to the United States Environmental Protection Agency (USEPA) (2016), spills of hydraulic fracturing fluids have stemmed primarily from equipment failure or human error and mainly involved storage containers. The potential to impact, groundwater “depends on the composition of the spilled fluid, spill characteristics, spill response activities, and the fate and transport of the spilled fluid” (USEPA 2016). Because of these factors, impacts to groundwater may not be readily apparent for a number of years." You do not mention that the oil companies, like Chevron, are selling their toxic wastewater (clarification: any water the oil companies do not want is wastewater) to the farmers in and around Bakersfield to grow fruits, nuts, and vegetables for the people of the United States. If the Trump administration's plan to expand fracking on public and private land in California comes to pass, then there will be even more toxic chemicals in oil-drilling wastewater. https://www.blm.gov/press-release/blm-bakersfield-seeks-input-hydraulic-fracturing-analysis-Aug2018 At the May 9, 2019 Food Safety panel meeting convened by the Central Valley Water Board, Clay Rodgers, the assistant executive in the CVWB's Fresno office, made a comment to add fracking chemicals to the list of toxic chemicals that toxicologists should test for in the almonds, apples, carrots, cherries, garlic, grapes, lemons, mandarins, pistachios, potatoes, and tomatoes grown with oilfield wastewater. 1:55:50...https://www.youtube.com/watch?v=tTmFKIPUE2A&feature=youtu.be Yes, wastewater. Any water the oil companies don't want from their oil-drilling operations is wastewater; and it is full of toxic chemicals, which could become more toxic when mixed with other chemicals, especially disinfectants. The water the oil companies use for well-stimulation is wastewater. The water they separate from the oil is wastewater with toxic chemicals in it, too. It's all wastewater mixed together in the borehole. I quote from the 2018 document, "Bakersfield Field Office Hydraulic Fracturing Draft Supplemental EIS" and its "CHAPTER FOUR BUREAU OF LAND MANAGEMENT, BAKERSFIELD FIELD OFFICE DRAFT SUPPLEMENTAL EIS WATER RESOURCES 85 section 4.8 Water Resources"... "Data for California indicate that hydraulic fracturing consumes about 100,000 gallons (0.31 acre- feet) of water per well (DOGGR 2015a, 2016, 2018c). In addition, drilling would require 4,200 gallons per day (DOGGR 2015b). Wells take an average of 23 days to drill (Kern County 2015), which would consume about 100,000 gallons. Therefore, water consumption per hydraulically fractured well is assumed to be about 200,000 gallons (0.61 acre-feet). Water sources for hydraulic fracturing are produced water (8.8 percent), groundwater supply wells (25.4 percent), and surface water from public water sources (65.8 percent) (Kern County 2015). A maximum of 40 new wells on new leases would be hydraulically fractured during the planning period (10 years). These wells would have an average true vertical depth of 2,700 feet. However, it is possible that some of the wells could exceed 10,000 feet true vertical depth (DOGGR 2015b)." I am asking you to stop using any water for oil drilling, which contributes to global warming aka climate change aka the climate crisis, and pollutes our air, water, and soil with known and suspected human carcinogens. https://eplanning.blm.gov/epl-front-office/projects/nepa/100601/173735/211089/Bakersfield_PRMP-FEIS.pdf I quote from the above 2012 document, “Bakersfield Proposed Resource Management Plan & Final Environmental Impact Statement” and its section 3.1.1.1 Current Conditions"... “3.1.1.1 Current Conditions One of the reasons for concern with PM10 emissions is their adverse effect on human health. All of the PM10 particles are considered Respirable Particulate because they can be inhaled into the nose, throat and/or lungs. The fine PM10 particles are the largest threat to health because they tend to deposit in the air sacks. In addition, many of the fine particles are from precursor emissions, several of which are toxic or carcinogenic. Fugitive dust is primarily coarse particulate matter that are is not as likely to contain toxic materials. The national PM10 standards are considered to be establish a level at above which the whole population would have health effects from PM10. The State PM10 standards are considered public health goals. Hazardous Air Pollutants Hazardous air pollutants (HAPs) are those pollutants that are known or suspected to cause cancer or other serious health problems, such as chronic respiratory disease, reproductive disorders or birth defects. The EPA has classified 189 air pollutants as HAPs, including formaldehyde (CH2O), benzene, toluene, ethyl-benzene, xylene, and n-hexane. Air quality programs based on regulation of hazardous substances typically address chemicals used or produced by limited categories of industrial facilities. Programs regulating HAPs focus on substances that alter or damage the genes and chromosomes in cells (mutagens), substances that affect cells in ways that can lead to uncontrolled cancerous cell growth (carcinogens), substances that can cause birth defects or other developmental abnormalities</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>

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		(teratogens), substances with serious acute toxicity effects, and substances that undergo radioactive decay, resulting in the release of ionizing radiation. Federal air quality management programs for HAPs focus on setting emission limits for particular industrial processes rather than setting ambient exposure standards. Federal emission standards for HAPs have been promulgated as National Emission Standards for Hazardous Air Pollutants (NESHAPS) and as Maximum Available Control Technology (MACT) standards. The NESHAPS and MACT standards are implemented through federal and state air quality permit programs.” Stop using our precious resource of water for oil drilling. Thank you, Justin Bass	
11836	Water Resources	Risks of groundwater contamination from spills of fracking fluid and migration of fracking fluids out of the formation are both assessed as being "negligible" and yet there have been examples where fracturing has opened pathways for formation fluids (oil and gas) to flow into groundwater, permanently contaminating those aquifers. The results may be negligible to the state, but I can tell you that if the aquifer that I obtain drinking and irrigation water from is contaminated from operator error, well design flaws, or other unforeseen issues with just one well, it could have a profound impact on the lives of me and all of my neighbors. These impacts would be anything but "negligible" and in addition, there are no mitigation measures to control those risks once that aquifer is impacted.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
11836	Water Resources	The report provides an estimate of the water requirements needed to drill and fracture a well. It goes on to discuss the potential sources of water (surface water is scarce, so sources include produced water and groundwater. But I don't see any indication that BLM would mandate the use of produced water if available. This should be done to minimize potential impacts to groundwater, which is also becoming more scarce with droughts and development.	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>

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11836	Water Resources	Treatment and discharge or injection of flowback is fraught with issues, and there is a rich record of environmental damage that has been done my malicious or careless activities in handling these fluids. Again, once our groundwater is contaminated, it cannot be recovered.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
15903	NEPA Process	Dear Ms. Summers, Thank you for giving the San Joaquin Valley Air Pollution Control District (District) the opportunity to comment on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). The District offers the following comment: Based on information provided in the Draft SEIS the annual emissions from hydraulic fracturing is expected to be below the District significance thresholds for criteria pollutants. However, the Draft EIS should require that, if there is additional CEQA review, such as, but not limited to, requirements by the state's Division of Oil, Gas, and Geothermal Resources (DOGGR) for hydraulic fracturing projects, and such review concludes that emissions from fracking projects on BLM lands in the San Joaquin Valley are significant, the emissions should be mitigated to the extent feasible. The District is available to assist BLM or DOGGR in mitigating emissions from oil and gas production operations through the implementation of a Voluntary Emissions Reduction Agreement (VERA). A VERA is an agreement entered into between the District and the project proponent, in which funding provided by the project proponent is invested in emission reduction projects in the San Joaquin Valley by the District, achieving a predetermined degree of mitigation. Sincerely, Arnaud Marjollet Director of Permit Services For: Brian Clements Program Manager AM: mc	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24064	Alternatives	Throughout the expansive geography of the proposed planning area documented in the Draft SEIS, countless potential and known historic and cultural resources, including two national monuments, exist. None of these resources are documented and assessed for potential impacts in the Draft SEIS. Alternatives have not been presented that avoid these resources or provide a buffer to protect their integrity from activities proposed.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.
24064	Biological Resources	Section 4.2.4.3 Programmatic Biological Opinion of the Draft SEIS: Apparently this document was issued after the 2012 Final EIS was completed. It was issued before this Draft SEIS. We believe the consultation process should be reopened in light of the Judge's order to reconsider the impacts of hydraulic fracturing, which were clearly not included in the Final EIS, so they could not be considered the Biological Opinion.	Section 4.2.2 of the Draft SEIS acknowledges the December 22, 2017 publication of a Programmatic BO on oil and gas activities on BLM lands in the San Joaquin Valley (USFWS 2017). By its programmatic nature, this BO does not represent a project specific Section 7 consultation.

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			The BO covers surface and subsurface lands administered by the BLM Bakersfield Field Office, in Kings and Kern Counties and a small portion of San Luis Obispo County. It covers individual actions or groups of actions by a single applicant within a given lease and/or section that, within a given fiscal year, disturb less than 10 acres of habitat or, for linear actions, is less than 10 miles long. This would include any potential projects that may eventually arise out of the that could occur as a result of implementation of leasable fluid mineral management decisions consistent with the 2012 Bakersfield Proposed Resource Management Plan (PRMP).
24064	Climate and Air Quality	It is understood that this is a planning level document and sitespecific development plans are reviewed; however, what assurances would BLM be able to make that the development wouldn't be completed within a single county - constituting a major air pollution source in Kern County if the cumulative effect of the wells is accounted for? The SEIS needs to address this issue.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24064	Climate and Air Quality	Air a11d Atmospl,eric Values: CJ,apter 4, Sectio11 4.1.5 a11d Table 4.1. 7 This section indicates that General Conformity Review is not needed. However, based on a lack of clarity if criteria pollutant estimated emissions for the hydraulically fractured wells is estimated for the cumulative impact of all 40 potential wells by the end of the RMP timeline, there is little faith this statement is accurate. Again, if four wells produce 2.74 tons per year, then 40 wells would produce 27.4 tons per year.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
24064	Climate and Air Quality	Also, in light of how GHG production has a direct or indirect effect on precipitation, and precipitation is essential to farming communities and the livelihoods of the people Cesar Chavez fought for, calling 20,000 metric tons of carbon dioxide equivalent (MTCO2e) a year "well below" 25,000 MTCO2e per year seems a stretch. It is below, but not "well" below in popular understanding of the word "well." Not enough data is provided by this Draft SEIS to make an independent evaluation of the correctness of the calculations (i.e., no table of emissions factors per well or equipment usage are provided here), instead the reader must go and seek another BLM document.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24064	Climate and Air Quality	Also, Table 4.1 lists in the hydraulically fractures section that NOx are estimated at 4 .92 tons/year (no listing of the number of wells) and reactive organic gases (ROG) would be 7.56 tons per year. Table 4.1.1 has nitrous oxides listed at 2. 74 tons/year and ROG at 0 .21 tons per year. Table 4.1.2 lists totals at 4.92 tons per year and ROG at 7.56 for the combination of conventional and hydraulically fractured wells combined. Again, this appears to be per year of development, but not indicative of the cumulative impacts of the wells developed in the prior year(s), depending on the specific year (1-10) in the execution of the RMP.	Table 4.1.1 shows the estimated annual increase in direct and indirect emissions due to hydraulic fracturing of an average of four wells per year in the Planning Area. The emission sources involved in hydraulic fracturing include off-road items such as pumping units, blenders, and cranes and on-road trucks transporting material to and from the well site. Emissions from hydraulic fracturing well development are minimal, with the largest being NOX at 2.74 tons per year.

Comment Number	Issue	Comment	Response
24064	Climate and Air Quality	As stated on page 43, the potential activity on new leases covered under the planned RMP and EIS can be up to 40 in the 10-year period. If 400 wells (conventional and hydraulically fracked) are cumulatively operating by 2029, the total potential to emit would be more than 250 tons per year (if each set of wells emits either 2.74 or 2.18 tons per four wells per year, depending on development style). These would be distributed in an unknown distribution throughout the planning area. Therefore, the wells could be concentrated in Kern County and could be subject to a full General Conformity Review. The SEIS needs to address this issue.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24064	Climate and Air Quality	If Table 4.1.1 is not indicative of operation emissions, and the estimated cumulative increase above the baseline for the total development of 40 fractured wells is smaller than the emissions per year shown on Table 4.1.1, then the Table 4.1.1 title should be revised to accurately reflect that these represent construction emissions (not operational emissions) and after construction of the wells, these emissions would be a lower operational emission level.	Table 4.1.1 shows the estimated annual increase in direct and indirect emissions due to hydraulic fracturing of an average of four wells per year in the Planning Area. The emission sources involved in hydraulic fracturing include off-road items such as pumping units, blenders, and cranes and on-road trucks transporting material to and from the well site. Emissions from hydraulic fracturing well development are minimal, with the largest being NOX at 2.74 tons per year.
24064	Climate and Air Quality	If the BLM did not intend to update the data tables with new regulations, it should refrain from making misleading statements the 11 best and most recent 11 data was used in the introductory paragraph and instead reflect to the reader that the data in the Final EIS was reused in the Draft SEIS when appropriate, and was not updated.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
24064	Climate and Air Quality	In the San Joaquin Valley, the de minimis threshold for NOx is 10 tons per year before a General Conformity Analysis is required. If all 40 wells, by year 10, were developed inside the boundaries of the San Joaquin Valley Air Pollution Control District, then the cumulative effect of the emissions from the production wells would exceed the de minimis (27 being greater than 10), and the blanket statement provided in this document is misleading.	This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. BLM understands this analysis is sufficient at this planning level. Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis.
24064	Climate and Air Quality	Particulate matter smaller than 2.5 microns in diameter (PM2.5), is a key pollutant in this analysis as several of the air basins are in nonattainment for Particulate Matter (PM), is listed in the Draft SEIS referenced 2012 Final EIS as 15 µg/m3, where in the current 2019 EPA NAAQS table, the primary standard for PM2.5 is 12 µg/m3 (annual mean, averaged over 3 years) and this "most recent data available" is not addressed in the Draft SEIS. The PM2.5 NAAQS was lowered to 12µg/m3 and this was published on 15 January 2013 (78 FR 3085).	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.

Comment Number	Issue	Comment	Response
24064	Climate and Air Quality	The Draft SEIS referencing the 2012 Final EIS also results in the NAAQS for Lead (Pb) being inaccurate to "most recent data available" because in 2019, the Federal NAAQS is 0.15 µg/m3, not 1.5 µg/m3 as referenced in the 2019 Draft SEIS. The NAAQS value for lead, as published in 73 FR 66964 and retained in 2016 under 81 FR 71906 are primary and secondary standards of 0.015 µg/m3.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
24064	Climate and Air Quality	Therefore, why did the BLM not include or address 2015 updates (80 Federal Register (FR) 65292 Oct 26, 2015) to the Ozone (O3) Federal National Ambient Air Quality Standards (NAAQS) that resulted in a revised Ozone Primary Standard (8-hour) of 0.070 ppm versus 0.075 ppm as stated in the 2012 Final EIS?	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
24064	Climate and Air Quality	This section of the document does not provide emissions factors for methane (CH4) and nitrous oxide (N2O) specifically, nor does it address if the sources of the CO2 emission factors reference all of the same numbers. No additional detail (such as an appendix or technical documents) is provided in this Draft SEIS; instead, the user is referenced to the 2012 Final EIS. However, the references used in this document include a report by the California Department of Conservation was not published until June 2015. Therefore, how is the average reader to reconcile the new 2015 data with an existing air quality technical reference from 2012 with the data presented in this Draft SEIS?	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
24064	Climate and Air Quality	While the document discusses the annual increase expected in emissions for both the hydraulically fractured wells (at four per year) (Table 4.1.1) and the "Typical Annual Emissions from Conventional and Hydraulic Fracturing Well Development" (Table 4 . 1 . 1), Chapter 4 does not discuss cumulative effects from 10 years of development over baseline, but simply an annual increase. For example, at the end of year 10 the actual increase from baseline for NOx is 2.74 tons *10 Years = 27.4 tons per year above baseline if Table 4.1.1 is indicative of emissions both for construction and operations.	This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. BLM understands an annual estimate of estimated potential emissions is the most accurate way to express this calculation.
24064	Cultural Resources	After documenting and presenting a comparative analysis of alternatives and potential direct, indirect, and cumulative impacts, the Draft SEIS needs to identify standardized property-specific treatments that may help avoid, minimize, or mitigate significant impacts to historic and cultural resources including the La Paz NHL/CCNM	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
24064	Cultural Resources	BLM does not provide in its NEPA documentation any documentation and analysis related to historic and cultural resources that may be impacted and information and analysis of the potential for impacts to these resources.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24064	Cultural Resources	First, the NHP A/NEPA processes have not been conducted in keeping with the intent of these regulations with regards to historic and cultural resources. The entire documentation process thus far has avoided addressing where potential and known historic and cultural resources are located with relation to planning areas.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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24064	Cultural Resources	Further information is requested on when BLM first considered project areas near the La Paz NHL/CCNM and how the determination was made that the proposed activities would not be within close enough proximity to consider this resource.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24064	Cultural Resources	In avoiding documentation and analysis of historic and cultural resources, the Draft SEIS also fails to apply the National Park Service (NPS) Guidelines for the Treatment of Cultural Landscapes to the assessment of effects for the La Paz NHL/CCNM. In the necessary analysis that has not yet been provided, BLM must consider all aspects of integrity of the La Paz NHL/CCNM in the assessment of impacts.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
24064	Cultural Resources	The CCF and NCC are requesting that documentation and analysis of all potential and known historic and cultural resources within the planning area be presented prior to the finalization of the current NEPA documentation prepared by BLM. Specific documentation and analysis regarding the La Paz NHL/CCNM must be included in BLM's documentation efforts and should consider the resource information provided above.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24064	Cultural Resources	The CCF and NCC urge the BLM to provide a complete and comparative alternatives analysis in order to allow for a thorough consideration of the potential for direct, indirect, and cumulative impacts to historic and cultural resources and specifically the La Paz NHL/CCNM. The CCF and NCC implores the BLM to do so in a manner that ensures a full consideration of these resources supported by adequate public engagement, as is legally required by NEPA.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
24064	Cultural Resources	The Draft SEIS and previous EIS fails to identify and describe the La Paz NHL/CCNM, despite it being a nationally designated NHL and National Monument since 2012, listed in the NRHP, and an easily identifiable potential historic resource eligible for the NRHP prior to its designations.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24064	Cultural Resources	The Draft SEIS avoids documenting and considering potential and known historic and cultural resources altogether, stating first that the document effort is a planning document without site-specific analysis, and then that proposed planning and project areas are not within close enough proximity to the La Paz NHL/CCNM and Carrizo National Monument to require analysis. While the following description of historic properties applies to the La Paz NHL/CCNM, documentation and consideration is required for all potential and known historic and cultural resources within the planning and project area.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
24064	Cultural Resources	the Draft SEIS fails to present consideration of avoidance of impacts to the La Paz NHL/CCNM.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24064	Cultural Resources	The Draft SEIS needs to address whether there are potential impacts on the variety of uses within the boundary of La Paz NHL/CCNM.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
24064	Cultural Resources	the NEPA documentation must be amended to consider fully any and all environmental resources, including extensive documentation and analysis of the historic and cultural resources in proximity to the planning and potential project locations.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24064	Cultural Resources	The NRHP traditionally recognizes a property's integrity through seven aspects or qualities: location, design, setting, materials, workmanship, feeling, and association. An assessment of effect should consider the aspects of a historic resource's integrity that led to its designation. The Draft SEIS needs to identify impacts to three aspects of integrity: setting, feeling, and association.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
24064	Cultural Resources	There has been no documented attempt to survey resources and document this type of environmental resource. In keeping with this absence of these resources in the document, the potential for direct, indirect, and cumulative impacts to historic and cultural resources and specifically the La Paz NHL/CCNM is not addressed.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24064	Cultural Resources	These interactions between the surroundings that are within and outside of the historic resource boundary are significant and well documented and need to be considered in the Draft SEIS documentation as it relates to potential impacts.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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24064	Cultural Resources	Throughout the expansive geography of the proposed planning area documented in the Draft SEIS, countless potential and known historic and cultural resources, including the La Paz NHL/CCNM, exist. Yet, none of these resources are documented and assessed for potential impacts in the Draft SEIS.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24064	Cultural Resources	While the Draft SEIS does not clearly present if the proposed hydraulic fracturing sites are located near the La Paz NHL/CCNM, the Draft SEIS does indicate that there would be an average of four hydraulic fracking sites on BLM property per year. Given the proximity of the La Paz NHL/CCNM to the 17 sites and the lack of recognition/analysis in the Draft SEIS, we are very concerned about this oversight and lack of clarity.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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24064	Cumulative Impacts	It is imperative that BLM commit to a full documentation and analysis effort regarding all historic and cultural resources that may be impacted and include information related to the full extent of planning and project activities in proximity to these resources. This effort must be undertaken before BLM's documentation process enters a site-specific phase, in order to fully assess the total impact of planning and project activities on these resources.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24064	Cumulative Impacts	The Draft SEIS also falls short in analyzing impacts to air and atmospheric values, water resources, social and economic resources, cumulative impacts, and fails to contain any analysis related to environmental justice.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24064	Cumulative Impacts	The Draft SEIS does not consider the impacts of oil and gas development, including fracking, on any historic or cultural resources including the La Paz NHL/CCNM.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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24064	Cumulative Impacts	When one is reviewing potential cumulative impacts one has to take a reasonable look - at all activities Federal, State, Local and private - that might occur within a reasonable timeframe, here identified as 10-15 years and within a reasonable geographic area that might be impacted by the proposed Federal action. In this instance BLM has taken a cursory look at best of even the Federal activities and have ignored the other "foreseeable activities" that are likely to occur that could be considered cumulative as they relate to impacts on the resources identified. This critical oversight on the part of BLM in the Final EIS has tainted the Draft SEIS and must be remedied therein.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
24064	Environmental Justice	The Final SEIS must also contain an Environmental Justice assessment done in accordance with the CEQ's Environmental Justice Guidelines for NEPA (1997), Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (1994) and the Federal Interagency Working Group on Environmental Justice & NEPA Committee's Promising Practices Report (2016).	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
24064	NEPA Process	In addition, we attended two of the public meetings in Bakersfield and Santa Barbara (May 21 and May 23, respectively) and were dismayed that there was not a Spanish speaking interpreter, especially given the planning area spans several Spanish-speaking populations. We find this oversight (and corresponding absence of socioeconomics/environmental justice in the Draft SEIS) indicative of the lack of sensitivity to the issues associated with environmental justice.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). BLM was not able to accommodate specific needs and provide language interpreters for all potential non-English speakers who may have attended the public meetings on the Draft SEIS.
24064	Oil and Gas Leasing and Development	Section 4.6.1 of the Draft SEIS, the last paragraph of this section shows a general lack of information upon which this important discussion is based ... " lack of soil inventory that includes biological cuts and soil hosting high levels of pathogenic fungus causing valley fever ... " How can the Draft SEIS be relied on to accurately portray the impacts on soil from hydraulic fracturing without this basic information? This needs to be addressed in the SEIS.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24064	Oil and Gas Leasing and Development	The Draft SEIS assumption that only four new wells on new leases would be hydraulically fractured in a year is in stark contrast to CCST scientific data documenting as many as 150 hydraulically fractured wells per month in the San Joaquin Valley and Kern County. This disconnect must be addressed in the SEIS.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.

Comment Number	Issue	Comment	Response
24064	Oil and Gas Leasing and Development	The Draft SEIS contains contradictory or confusing statements about the number of new wells expected over the planning period, the number of new wells to be developed using hydraulic fracturing, and therefore total potentially disturbed acreage. We request that BLM address the inaccuracies and clarify the analysis.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
24064	Oil and Gas Leasing and Development	We request that BLM address the discrepancy between the Draft SEIS assumption that zero to four new wells on new leases would be hydraulically fractured per year, and the CCST data documenting up to 150 hydraulically fractured wells per month (1,800/year) in the San Joaquin Valley and Kern County area. We request BLM address the potential of hydraulic fracturing on some percentage of existing wells in the planning area and clarify the impact analyses appropriately, if nowhere else, then at least in the cumulative impact section.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
24064	Oil and Gas Leasing and Development	We request that BLM clarify that up to 400 wells could be developed during the 10-year RMP timeline: 360 conventional well developments (impacts not analyzed in this Draft SEIS document [but were included in 2012 Final EIS]), 40 wells would be developed using hydraulic fracturing at an assumed rate of up to four wells per year (impacts are analyzed in this Draft SEIS document), or clarify that up to 4,000 wells would be developed in the next 10 years, with 40 of them hydraulically fractured.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
24064	Oil and Gas Leasing and Development	We request the BLM address the potential for increased fire risk related to the hydraulic fracturing process and increased level/duration of site activity associated with a successfully fractured well.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.

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24064	Public Health and Safety	It must also contain drilling site-specific assessments where the fracking would occur so that the impacts of fracking can be determined related to potential transport of toxic materials (e.g., surface and underground water, wind patterns, etc.). This must be done so that potential impacts on human health can be determined. As a means of determining impacts to health, a Health Impact Assessment (HIA) should be included in the Final SEIS, as is recommended by The National Academy of Sciences' National Research Council, and endorsed by the Council on Environmental Quality (CEQ).	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24064	Public Health and Safety	The Final SEIS must contain an Environmental Justice assessment done in accordance with the CEQ's Environmental Justice Guidelines for NEPA (1997), Executive Order 12898 (1994) and the Federal Interagency Working Group on Environmental Justice & NEPA Committee's Promising Practices Report (2016). The primary focus of this assessment must be on the potential impacts of fracking on the minority populations within the Planning Area related to specific drilling sites, especially as those potential impact human health.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
24064	Seismic Activity	The Draft SEIS minimizes the information that exists concerning induced earthquakes based on a comparison from a study by the California Council on Science and Technology (CSST). In addition, the Draft SEIS may be underestimating the volume of water used during hydraulic fracturing by as much as 40% (discussed in more detail in section F and G below). The Draft SEIS' fundamental assumptions about the number of wells likely to be hydraulically fractured during the planning horizon appears low. Consequently, it is imprudent to dismiss impacts related to hydraulic fracture-induced earthquakes as negligible without additional discussion and justification.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
24064	Socioeconomic s	The Draft SEIS lacks any information on or analysis of Social and Economic Resources. Instead the Draft SEIS refers the reader back to the 2012 Final EIS which is a 7-year old document using 10 to 12-year old data. Thus, there can be no understanding of the current affected environment nor potential impacts from hydraulic fracturing to social and economic resources.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.

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24064	Socioeconomic s	The Final SEIS must contain up-to-date information on the current status of the social and economic resources in the Planning Area.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
24064	Water Resources	As discussed above, assumptions pertaining to the number of wells expected to be hydraulically fractured during the planning horizon should be clarified/updated and all associated impact analyses should be updated accordingly. Further, assessments of risk to various resources should consider both the likelihood and the severity of potential impacts.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
24064	Water Resources	Given the importance of hydraulic fracturing to development of the Monterey Formation, should it occur, the Draft SEIS should provide a more in-depth analysis of the likelihood of development of the Monterey Formation during the planning horizon.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
24064	Water Resources	Section 4. 8 .1 Water Resources - the quote " . . . the chemicals used in hydraulic fracturing maybe similar" to those used in routine oil field operations doesn't explain to the reader the risks associated with these chemicals to the ground or surface water or the air. The Draft SEIS should make affirmative statements about what these chemicals are and what their impacts would be to the resources involved in their use.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24064	Water Resources	Table 4 .8 finally tells us the chemicals used for hydraulic fracturing, but does not analyze potential impacts to surface or groundwater. The SEIS needs to analyze the potential impacts of these chemicals on receiving waters.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
24064	Water Resources	The Draft SEIS address the likelihood of a spill event by citing a short three-year spill record and, in our opinion, and underestimates the number of wells to be developed using hydraulic fracturing over the planning horizon. The Draft SEIS is silent on the potential severity of a spill of hydraulic fluids on water resources.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24064	Water Resources	We request BLM address the discrepancy between the Draft SEIS assumption that zero to four new wells on new leases would be hydraulically fractured per year, and the CCST data documenting up to 150 hydraulically fractured wells per month (1,800/year) in the San Joaquin Valley and Kern County area. BLM needs to address the potential of hydraulic fracturing on some percentage of existing wells in the planning area and clarify the impact analyses appropriately.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
24064	Water Resources	We request that BLM address the discrepancy between the Draft SEIS and CCST reported data pertaining to water consumption during hydraulic fracturing and clarify impact analyses appropriately. The Draft SEIS should be revised to also include analyses of potential longerterm resource impacts related to the increased production potential of stimulated wells, especially given the highly variable nature of precipitation (and associated water deliveries) in the Central Valley.	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p> <p>The comment references text in the CCST that is located under the header “Conclusion 1.3 Hydraulic fracturing does not use a lot of fresh water compared to other states and other human uses.”</p>

Comment Number	Issue	Comment	Response
18837	Cumulative Impacts	<p>Carly Summers Project Manager Thank you for the opportunity to comment on the Draft EIS. Please note that I am a retired BLM employee, and have been on your side of the table many times in putting forth natural resource management proposals. As an "old timer", I think it important to remember that the Federal Land Policy and Management Act of 1976 was to set a new direction for BLM, to "sustain the health, diversity and productivity of America's public lands". Over the years, one administration or another choose to emphasize certain aspects of FLPMA, such as when James Watt directed me to, "complete the EIS for the White Mountains National Recreation Area so that the area may be opened to mineral exploration at the earliest possible time."</p> <p>Administrations come and go, but the land -- and what we do to the land -- will remain for many years to come. The Draft EIR is an understandable response to the current administration. Your responsibility, however, is not to follow the political winds of the moment, but to follow the plethora of laws pertaining to public land management, your training, and your best judgement to sustain the health, diversithy and productivity of the public lands currently entrusted in your care. Within this context, I believe your Draft EIS would allow for an unwise allocation of public resources while causing excessive damage to the environment. In particular, I am concerned that your analysis of potential water quality impacts inadequately describe the potential for leakage of fracting fluids into the water table. Your geospacial assumptions regarding location of injection sites and the underground pathways these fluids may take are just that -- assumptions. The risks of catastrophic water quality impacts are too high a risk in hopes of extending the life of old oil production fields. Once this Genie is let out of the bottle, thousands of citizens will be affected by losing access to potable water, all at a time when freshwater resources are already constrained in the region. Public land management is all about choices. I can appreciate that you have a difficult choice ahead of you. Even setting aside concerns over the continued use of fossil fuels in an era where global climate change is an existential threat to humanity, the proposed fossil fuel development relying on fracking as proposed in the EIS is not in the public interest, and not in the interest of protecting the public land resources with which you have been entrusted. Sincerely, Richard Tobin Santa Barbara</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>
12474	Other	<p>A big NO to fracking. When we have new technology which is cleaner, such as solar energy, fracking is no longer an acceptable concept in the 21st century. We need to use only clean energy now. Even if there is economic suffering. The cost of fracking and, for example, nuclear energy, does not include the cost of cleanup nor the cost to society such as fouling a water aquifer or causing an earthquake. Make the person seeking a permit post a bond for possible cleanup, the real cost of cleanup, and possible collateral damage. It could be in the billions. BLM is not the federal governments land for producing income when the public objects or has a better use. It is the public's domain. The public says NO. In replying, please let me know where these emails are posted for public viewing. Thank you,</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. All public comments on the Draft SEIS will be available at publication of the Final SEIS.</p>
22146	General	<p>In 2015, the California Department of Conservation certified its Analysis of Oil and Gas Well Stimulation Treatments in California, Final EIR (SB4 EIR) which addressed the environmental effects of oil and gas well stimulation treatments in California. The SB4 EIR is instructive as a framework for analyzing the adequacy of the SEIS because it analyzed the impact of activities similar to those proposed under the SEIS. At a programmatic level of analysis, the SB4 EIR concluded that well stimulation has the potential to cause significant and unavoidable impacts to air quality; geology, soils, and mineral resources; and greenhouse gas emissions. Although not identified as significant and unavoidable, impacts to groundwater were also reviewed. The SEIS, however, concludes that similar activities will have no impacts that are significant and unavoidable—a conclusion insufficiently supported by the factual evidence in the record.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Soil Resources; Water Resources; Minerals Management; and Seismicity. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>
22146	Opinion - opposed to hydraulic fracturing	<p>Consistent with the goal of reducing greenhouse gas emissions, the Commission urges BLM to reconsider the need to initiate further development of oil and gas resources through the use of hydraulic fracturing. The current SEIS lacks sufficient analysis of induced seismicity impacts resulting from hydraulic fracturing and lacks sufficient discussion of the impacts to groundwater. The protection and preservation of public lands and resources for the people of California must be prioritized.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.</p>
22146	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	<p>Given the lack of certain critical data, the BLM's development program should be stayed in order to fully assess the risks and provide best management practices that could mitigate the threats addressed above. The need to develop this area for additional oil and gas production simply does not exist. California's transition toward a diverse renewable energy portfolio obviates the need for the development outlined in the SEIS.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.</p>

Comment Number	Issue	Comment	Response
22146	Seismic Activity	Although the SEIS states researchers have concluded that wastewater disposal is responsible for the majority of, and the most damaging, induced earthquakes associated with oil and gas development, it finds that “Impacts to groundwater from loss of well integrity or out-of-zone migration of fracturing fluids from an average of zero to four wells would be negligible.” Staff understands that to date, there have been no reported cases of induced seismicity associated with produced water injection or hydraulic fracturing wastewater in California (CCST 2015). Due to the complex fault systems in California however, we believe more information is needed to fully understand and avoid potential seismic events in the future. Therefore, based on documented concerns regarding impacts	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Seismicity. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p> <p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
22146	Seismic Activity	associated with wastewater disposal as described above, staff does not agree that the potential for seismic activity triggered by wastewater disposal (injection) is negligible. At the very least, BLM must revise its 2012 EIS analysis of wastewater disposal to reflect the 40 conventional wells and the four hydraulic fractured wells per year within the region be completed, instead of relying on its narrow focus of just the hydraulic fracturing wells.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.

Comment Number	Issue	Comment	Response
22146	Seismic Activity	Clearly, adequate monitoring and control of pressure and volume are crucial during wastewater disposal, yet the SEIS does not propose such controls or even evaluate how additional wastewater pressure may result from the addition of SEIS activities. Commission staff recommends BLM address the volume of wastewater proposed for a plan area in a manner similar to air quality emissions: “[a]s with all supplemental analyses, hydraulic fracturing emissions are added to the previously estimated total emissions, resulting in a new total emissions figure” (Air Quality section pg. 53). In other words, by evaluating all volumes associated with wastewater disposal within the plan area and how hydraulic fracturing activities affect those previously estimated volumes, the SEIS would provide a more complete and accurate analysis of the true breadth of hydraulic fracturing impacts.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
22146	Seismic Activity	Lastly, the SEIS states that the potential for induced earthquakes would be reduced by adherence to the Development, Regulation, and Conservation of Oil and Gas Resources’ (DOGGR’s) updated 2018 Underground Injection Control (UIC) Program regulations. We note, however, that the UIC Program no longer requires monitoring of seismic activity, instead relying on SB4 (MM GEO-1d). As a result, it is not clear whether that measure is required in wastewater disposal scenarios; Commission staff requests that BLM correct the SEIS discussion in this regard and confirm that seismic monitoring is required for wastewater disposal in addition to well stimulation treatment under SB4.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
22146	Water Resources	10933(b).1 In addition, the area has a high density of “disadvantaged” and “severely disadvantaged” communities.2 This omission should be corrected and the significance conclusion revised as appropriate. Commission staff suggests that alternate water sources such as recycled water, flowback water, or saline groundwater continue to be used to the extent feasible.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Comment Number	Issue	Comment	Response
22146	Water Resources	Groundwater Quality: Although many protective measures were identified in the SEIS, hydraulic fracturing and wastewater disposal may still result in significant impacts to groundwater quality. The SEIS, Section 4.8, states that “Impacts to groundwater could result from leaks and spills of fluids from storage containers, transportation incidents, flow lines, and leaks from impoundments.” In addition, the injection of hydraulic fracturing fluids and wastewater poses significant risks to groundwater. However, the SEIS determined that “impacts to groundwater from loss of well integrity or out-of-zone migration of fracturing fluids from an average of zero to four wells would be negligible. If present trends continue, the drilling and hydraulic fracturing of up to 40 wells on new leases over the 10-year planning period would also have negligible impact” based on implementation of protective measures to minimize the risk of contamination from accidental releases at oil and gas production and processing facilities pursuant to Spill Prevention, Control, and Countermeasure and emergency response plans. The previously-mentioned UIC Program, which was updated in 2018 (after the 2011 EPA audit and the closure of several wells), now has protective measures to ensure that injected fluids are contained. In addition, Federal UIC regulations require operators to monitor hydrostatic pressure in injection wells to prevent pressure build up and to keep the injected fluid within the permitted zone. Further, because of concerns about oil and gas activities and potential impacts to protected groundwater, an interagency partnership called the California Oil, Gas, and Groundwater (COGG) Program has been formed to study the problem.3 Staff agrees that more information is needed regarding groundwater quality impacts associated with injected fluids. The USGS is the technical lead supported by state and federal agencies, including BLM. The study will require several years and involves several activities in various locations; therefore, Commission staff suggests hydraulic fracturing activities be minimal until the COGG study is completed, and that the disposal of wastewater by injection only take place after extensive water quality treatments.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
22146	Water Resources	Groundwater Use: The SEIS considers both conventional wells and hydraulically fractured wells in its analysis. According to the SEIS “[o]ver the 10-year planning period, these new wells on new leases in the Planning Area would be expected to use up to an estimated 8.0 million gallons (25 acre-feet) of water compared to an estimated 800 million gallons (2,455 acre-feet) consumed by 400 wells per year over 10 years, as assumed for all of California.” The SEIS contends that this usage is negligible in comparison to the other 400 non-federal wells planned for all of California but neglects to disclose or analyze the potential for locally significant effects in a particular groundwater basin or sub-basin. In fact, the southern San Joaquin Valley, in which the Planning Area is located, is chronically water-stressed, experiencing frequent periods of drought and seasonal heat events along with a rapidly growing population and high levels of irrigated agriculture. The California Department of Water Resources, which administers the Sustainable Groundwater Management Act, lists the majority of the SEIS Planning Area as “high priority” for development of a groundwater sustainability plan based on components identified in the California Water Code Section	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
21320		Please see the attached comment.	
15902	Cumulative Impacts	Re: SEISMICITY: figure 3.10.1, p.42 Fracking in an area prone to earthquakes is more than problematic. It is dangerous. On p. 92 of your report it says, “...researchers have concluded that wastewater disposal is responsible for the majority of, and the most damaging, induced earthquakes associated with oil and gas development... increased fluid pressure is the probable driving mechanism for induced earthquakes, the wastewater disposal wells can raise fluid pressure...” Later on the same page, it says, “Although unlikely, induced earthquakes associated with wastewater disposal wells related to hydraulically fractured wells would be possible under All Action Alternatives.” In other words, fracturing can cause earthquakes. I am not confident that this is unlikely. A study published in Science magazine shows that wastewater injections, a process similar to fracking, causes earthquakes. https://science.sciencemag.org/content/359/6381/1251.full Oklahoma, an area rife with fracking activity, now has similar seismic activity to California. https://www.businessinsider.com/earthquakes-fracking-oklahoma-research-2018-2/ On May 2, 1993 a 6.5 earthquake occurred in Coalinga, CA (Fresno County). This was an area with no known faults, but a lot of oil drilling. The eight-block downtown was destroyed. There were many injuries and a loss of homes. My mother-in-law-had to leave the area after the earthquake, because her furniture kept falling over from the aftershocks.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Comment Number	Issue	Comment	Response
		<p>Other family members have since left the area. To quote the California Earthquake Authority, “Like all of California, the Central Valley which is ringed by faults is earthquake country. Shaking can begin suddenly....” To frack in earthquake territory shows lack of respect for the people who live nearby and for the people of California.SOIL DISTURBANCES and Valley Fever 4.6.1, p. 78-80 Valley Fever is mentioned in small print in your report without an answer to how they would prevent a spread in this disease. Because most of the places where people get Valley Fever have low populations, this disease, caused by a fungus in the soil, has not received a lot of press. Fracking and further oil development will disturb the soil that carries this fungus. My family in Coalinga, CA (Fresno County) have almost all had Valley Fever. They had to have long convalescences. My mother in law almost died from it. “The Lost Hills, Buena Vista and Bakersfield areas are known endemic areas for Valley Fever.” p. 78 SOIL AND WATER RESOURCES Section 4.6, p. 78; p. 83, figure 4.6.1 According to the report, “Prime or important Farmland Soil Including Farmlands of State Importance and Prime Farmlands if irrigated are present in the Lost Hills, Buena Vista, and Bakersfield supplemental hydraulic fracturing analysis areas.” We only have to look on the packaging of our fruits and vegetables to see how many of them are grown in this area. Over 1/3 of the country’s vegetables and 2/3 of their fruits and nuts come from California (California Department of Food and Agriculture).These valuable farmlands are subject to erosion if disturbed by fracturing. (table 4.6.1 p. 79)Meanwhile, recent storms in the Midwest have covered valuable farmland with flood waters. They are unable to plant their crops. We need to protect our farmlands by not further opening them to oil and gas drilling and fracturing. Agriculture, especially in this arid region, requires irrigation which means water.” Data for California indicates that hydraulic fracturing consumes about 100,000 gallons of water per well in addition to another 100,000 gallons for the drilling process. Farming, especially in this dry/desert area, requires a lot of water, something that is not in abundance especially in recent drought years. We may have to choose between eating and oil production. Furthermore, fracking and other oil production are a danger to the underground water table. (Note table 4.8 p. 86) Chemical types used in fracturing are listed. I’m sure this is not a complete list of chemicals which will be used and will become part of the water table. It appears that a complete study has not been completed (p.88). I found no assurances that fracking and oil development will not further poison the water table. This is dangerous since the water table sustains not only farming, but all human and animal life. GREENHOUSE GASES AND GLOBAL WARMING Section 3.1.1 and table 4.1.5 (p. 58) Recent events have shown how we are being impacted by climate change. The fires in California and the tornadoes and floods in the middle of the United States are just a small sample of the impact of weather changes. This section of the report seems to be short and doesn’t draw important conclusions about the impact of fracking and oil and gas development on global warming. I found table 4.1.5 on p. 58 to be significant. It tells us that 336,194,910 POUNDS of CO2 will be produced by 40 hydraulically fractured wells PER YEAR. I don’t have to be a scientist to tell that this will have an impact. This goes against what science tells us we need to do to protect ourselves from global warming. Adding to fracking and oil development in this area shows a lack of caring for the State of California and its people and for the world and its future.</p>	<p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.</p> <p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
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21181	Biological Resources	(a) substantially divert or obstruct the natural flow of any river, stream, or lake, (b) substantially change or use any material from the bed, bank, or channel of any river, stream, or lake (including the removal of riparian vegetation), (c) deposit debris, waste or other materials that could pass into any river, stream, or lake. "Any river, stream, or lake" includes those that are ephemeral or intermittent as well as those that are perennial. As noted above, CDFW's issuance of an LSAA may trigger CEQA compliance obligations. Also, pursuant to Fish and Game Code Section 5650 described above, it is unlawful to deposit in, permit to pass into, or place where it can pass into Waters of the State any substance or material deleterious to fish, plant life, or bird life, including non-native species. It is possible that without appropriate mitigation measures activities associated with oil and gas development activities could result in pollution of Waters of the State from construction-related erosion.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21181	Biological Resources	2004). Even aquatic species can be affected; movement of fish and amphibians can be negatively impacted by the presence of artificial lighting (Nightingale et al. 2006, Perry et al. 2008). Phototaxis, a phenomenon which results in attraction and movement towards light, can disorient, entrap, and temporarily blind wildlife species that experience it (Longcore and Rich 2004). CDFW recommends that the Final SEIS include an analysis of artificial lighting as it relates to biological resources and incorporate mitigation measures to decrease the impacts of artificial outdoor lighting on wildlife species. Potentially feasible mitigation measures include the following: motion sensitive lighting, mounting light fixtures as low as possible to minimize light trespass, use of light fittings that direct and confine the spread of light downward, and use of long-wavelength light sources. In addition, CDFW recommends that lighting is not installed in ecologically sensitive areas (i.e., streams, wetlands, and habitat used by special-status species, such as nesting/roosting sites and riparian corridors), and the use of the white/blue wavelengths of the light spectrum be avoided.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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21181	Biological Resources	<p>activities. Trapping and relocation activities may result in taking which is prohibited under Fish and Game Code Section 2080 except as otherwise authorized. Specific impact: Without appropriate avoidance and minimization measures for GKR and TKR, significant impacts resulting from ground-and vegetation-disturbing activities associated with construction of the Project include burrow collapse, inadvertent entrapment, reduced reproductive success, reduction in health and vigor of young, and direct mortality of individuals. Evidence impact is potentially significant: Habitat loss resulting from agricultural, urban, and industrial development, including petroleum and mineral extraction is the primary threat to GKR and TKR. Very little suitable habitat for these species remains along the western edge of the San Joaquin Valley (USFWS 1998). As a result, if the Planning Area and the Supplemental Hydraulic Fracturing Analysis Areas in particular is occupied by GKR and TKR, Project activities have the potential to significantly impact local populations of the species. Recommended Potentially Feasible Mitigation Measures To evaluate potential impacts to GKR and TKR associated with Project development, CDFW recommends conducting the following evaluation of project areas and implementing the following mitigation measures as conditions of approval for the Project. GKR and/or TKR Habitat Assessment CDFW recommends that a qualified biologist conduct a habitat assessment in advance of EIR development, to determine if the project area or its immediate vicinity contains suitable habitat for GKR. GKR and/or TKR Trapping Surveys If suitable habitat for GKR is identified on the Project site CDFW recommends that a trapping plan for determining presence of GKR be submitted to and approved by CDFW prior to subsequent trapping efforts. CDFW recommends these surveys be conducted by a qualified biologist who holds a Memorandum of Understanding for GKR. CDFW further recommends that these surveys be conducted between April 1 and October 31, when kangaroo rats are most active and well in advance of ground-disturbing activities in order to determine if impacts to GKR could occur. GKR and/or TKR Avoidance If suitable habitat is present and trapping is not feasible, CDFW advises maintenance of a 50-foot minimum no-disturbance buffer around all small mammal burrows of suitable size for GKR.</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21181	Biological Resources	<p>advance of Project implementation, to determine if individual Project sites or their immediate vicinity contains suitable habitat for SJKF. SJKF Surveys If suitable habitat is present, CDFW recommends assessing presence/absence of SJKF by conducting surveys following the USFWS "Standardized recommendations for protection of the San Joaquin kit fox prior to or during ground disturbance" (2011). Specifically, CDFW advises conducting these surveys in all areas of potentially suitable habitat no less than 14-days and no more than 30-days prior to beginning of ground disturbing activities. In addition, CDFW advises that these surveys extend out to 200-feet from the project area boundaries. SJKF Avoidance CDFW recommends implementing no-disturbance buffers, as described in the USFWS "Standardized recommendations for protection of the San Joaquin kit fox prior to or during ground disturbance" (2011) around den sites. SJKF Take Authorization SJKF detection warrants consultation with CDFW to discuss how to avoid take, or if avoidance is not feasible, to discuss how to acquire an ITP prior to ground-disturbing activities, pursuant to Fish and Game Code Section 2081(b).</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

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21181	Biological Resources	As currently drafted, the measures in the Draft SEIS described to mitigate impacts to biological resources may not be sufficient to reduce impacts to a level that is less than significant.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21181	Biological Resources	Blunt-nosed Leopard Lizard (BNLL)Issue: BNLL are known to occur within the Planning Area and in particular the Supplemental Hydraulic Fracturing Analysis Areas (CDFW 2019). Suitable BNLL habitat includes areas of grassland, upland scrub, and intermittent washes that contain requisite habitat elements, such as small mammal burrows. BNLL also use open space patches between suitable habitats, including disturbed sites and unpaved access roadways. Therefore, ground disturbance within the project area has the potential to significantly impact local BNLL populations, a Fully Protected Species. Further, the Measures for Minimizing Take in Appendix L.3 of the 2012 Final EIS and Appendix 3 of the 2014 RMP are not specific or enforceable such as "avoid burrows that may be used by blunt-nosed leopard lizards, to the greatest extent practicable" or they allow take such as "a flashing barrier may be installed around the work area to prevent blunt-nosed leopard lizards from entering the work area. The flashing barrier will be constructed of 18-inch or wider flashing, buried 6-inches in depth and reinforced with rebar or fence posts. Silt fencing will be used to isolate areas inside the exclusion fence. If a blunt-nosed leopard lizard is subsequently found within the fenced area, the fence will be removed (in that area) and the lizard will be allowed to leave the exclusion zone. Surveys will continue blunt-nosed leopard lizards are no longer observed inside the flashing barrier."Specific impact: Without appropriate avoidance and minimization measures for BNLL, potentially significant impacts associated with ground-disturbing activities associated with construction of the project include burrow collapse, nest abandonment, reduced nest success, reduced health and vigor of eggs and/or young, and capture within a fenced area in addition to direct mortality in violation of Fish and Game Code.Evidence impact is potentially significant: The BNLL, endemic to California, historically occurred throughout the San Joaquin Valley and adjacent foothills of central California. The species now inhabits only scattered locations within the Valley, less than 15% of their former range (USFWS 2010). Threats to the BNLL include habitat destruction, fragmentation, and degradation; pesticides; alterations of vegetation communities including spread of invasive plants that restrict movement of	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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21181	Biological Resources	<p>BUOW SurveysCDFW recommends assessing presence/absence of BUOW by having a qualified biologist conduct surveys following the California Burrowing Owl Consortium's (CBOC) "Burrowing Owl Survey Protocol and Mitigation Guidelines" (CBOC 1993) and CDFW's Staff Report on Burrowing Owl Mitigation" (CDFG 2012). Specifically, CBOC and CDFW's Staff Report suggest three or more surveillance surveys conducted during daylight with each visit occurring at least three weeks apart during the peak breeding season (April 15 to July 15), when BUOW are most detectable. In addition, CDFW advises that surveys include a 500-foot buffer around the project area.BUOW AvoidanceShould a BUOW be detected, CDFW recommends no-disturbance buffers, as outlined in the "Staff Report on Burrowing Owl Mitigation" (CDFG 2012), be implemented prior to and during any ground-disturbing activities. Specifically, CDFW's Staff Report recommends that impacts to occupied burrows be avoided in accordance with the following table unless a qualified biologist approved by CDFW verifies through non-invasive methods that either: a) the birds have not begun egg laying and incubation; or b) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.[see table in comment submission]BUOW Passive Relocation and MitigationIf BUOW are found within these recommended buffers and avoidance is not possible, it is important to note that according to the Staff Report (CDFG 2012), exclusion is not a take avoidance, minimization, or mitigation method and is considered a potentially significant impact under CEQA. However, if necessary, CDFW recommends that burrow exclusion be conducted by qualified biologists and only during the non-breeding season, before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance. CDFW recommends replacement of occupied burrows with artificial burrows at a ratio of 1 burrow collapsed to 3 artificial burrows constructed (3:1) as mitigation for the potentially significant impact of evicting BUOW. Because BUOW may attempt to colonize or re-colonize an area that will be impacted, CDFW recommends ongoing surveillance at a rate that is sufficient to detect BUOW if they return.</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21181	Biological Resources	<p>Burrowing Owl (BUOW)Issue: BUOW have been documented to occur within the Planning Area and in particular the Supplemental Hydraulic Fracturing Analysis Areas (CDFW 2019). BUOW inhabit open grassland containing small mammal burrows, a requisite habitat feature used by BUOW for nesting and cover. Habitat both within the Planning Area and the Supplemental Hydraulic Fracturing Analysis Areas, supports grassland habitat. Therefore, there is potential for BUOW to colonize the project areas.Specific impact: Potentially significant direct impacts associated with Project construction include burrow collapse, inadvertent entrapment, nest abandonment, reduced reproductive success, reduction in health and vigor of eggs and/or young, and direct mortality of individuals.Evidence impact is potentially significant: BUOW rely on burrow habitat year-round for their survival and reproduction. Habitat loss and degradation are considered the greatest threats to BUOW in California's Central Valley (Gervais et al. 2008). Therefore, subsequent ground-disturbing activities associated with the Project have the potential to significantly impact local BUOW populations. In addition, and as described in CDFW's "Staff Report on Burrowing Owl Mitigation" (CDFG 2012), excluding and/or evicting BUOW from their burrows is considered a potentially significant impact under CEQA.Recommended Potentially Feasible Mitigation Measure(s)To evaluate potential impacts to BUOW, CDFW recommends conducting the following evaluation of the project area and including the following mitigation measures as conditions of approval for the Project.</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

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21181	Biological Resources	<p>condor, the State fully protected golden eagle, and the State fully protected white-tailed kite, have the potential to nest and/or forage in the Planning Area and the Supplemental Hydraulic Fracturing Analysis Areas (CDFW 2019). Without appropriate mitigation measures, Project activities conducted within occupied territories have the potential to significantly impact these species. As discussed in Appendix L of the 2012 Final EIS and Appendix 3 of the 2014 RMP, the Condor Best Management Practices for Oil and Gas Operations developed by BLM and USFWS applies to oil and gas projects near condor roosting and nesting areas; which includes periods of restricted activities, but there is no requirement to consult with CDFW regarding these activities. These measures include that any take of California condor should be reported to the operator's Designated Representative and the Designated Representative shall immediately notify CDFW as appropriate. However, we recommend CDFW be contacted well in advance of any oil and gas operations in areas where this species occurs to determine appropriate avoidance measures as there can be no take of this species. Specific Impacts: Potentially significant impacts that may result from Project activities include nest abandonment, loss of nest trees, and/or loss of foraging habitat that would reduce nesting success (loss or reduced health or vigor of eggs or young), and direct mortality. Evidence impact would be significant: The Project will involve noise, groundwork, and movement of workers that may occur directly adjacent to habitat features with potential to serve as nest sites have the potential to significantly impact fully protected raptor populations. Recommended Mitigation Measure(s) To evaluate potential impacts to fully protected raptors, CDFW recommends conducting the following evaluation of individual Project sites, editing the Draft SEIS to include the following measures, and that these measures be made conditions of approval for the Project. Fully Protected Raptor Habitat Assessment CDFW recommends that a qualified biologist conduct a habitat assessment in advance of Project implementation, to determine if the Project site or its vicinity (within 0.5-mile) contains suitable habitat for fully protected raptors. Fully Protected Raptor Surveys CDFW recommends that focused surveys be conducted by experienced biologists at the Project site prior to Project implementation. To avoid impacts to these species, CDFW recommends conducting these surveys in accordance with any appropriate species-specific protocols developed for these species (i.e., USFWS 2010b). If</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21181	Biological Resources	<p>Evidence impact is potentially significant: SWHA exhibit high nest-site fidelity year after year and lack of suitable nesting habitat in the San Joaquin Valley limits their local distribution and abundance (CDFW 2016) and LBV also appear to display high site fidelity, even placing their nests in the same shrub used the previous year (Kus 2002). The Project as proposed will involve noise, groundwork, and movement of workers that could affect nests and has the potential to result in nest abandonment, significantly impacting local nesting special status avian species. Recommended Potentially Feasible Mitigation Measure(s) To evaluate potential impacts to SWHA, LBV, and WIFL associated with Project development, CDFW recommends conducting the following evaluation of project areas and implementing the following mitigation measures as conditions of approval for the Project. Special Status Avian Species Surveys To evaluate potential impacts, CDFW recommends that a qualified wildlife biologist conduct surveys for nesting following the species-specific survey methodology (SWHA TAO 2000, Bombay et al. 2003, Sogge et al. 2010, USFWS 2001) prior to project implementation. The survey protocol includes early season surveys to assist the project proponent in implementing necessary avoidance and minimization measures, and in identifying active nest sites prior to initiating ground-disturbing activities. Special Status Avian Species No-disturbance Buffer If ground-disturbing activities are to take place during the normal bird breeding season (March 1 through September 15), CDFW recommends that additional pre-activity surveys for active nests be conducted by a qualified biologist no more than 10 days prior to the start of Project implementation. CDFW recommends a minimum no-disturbance buffer of 0.5-mile be delineated around active nests until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. Special Status Avian Species Take Authorization CDFW recommends that in the event that an active State-listed avian species nest is detected during surveys, consultation with CDFW is warranted to discuss how to implement the project and avoid take. If take cannot be avoided, the taking in question may be prohibited under Fish and Game Code Section 2080.</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

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21181	Biological Resources	Fully Protected RaptorsIssue: The State fully protected and State and federally endangered California	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21181	Biological Resources	Giant Kangaroo Rat (GKR) and Tipton Kangaroo Rat (TKR)Issue: GKR and TKR and their habitat is known to occur within the Planning Area and in particular the Supplemental Hydraulic Fracturing Analysis Areas (CDFW . 2019). These species inhabit sandy-loam soils located in open grassland habitat containing widely scattered shrubs and alkali desert scrub. Therefore, there is potential for GKR and TKR to occur in and/or colonize project areas. Additionally, a measure for minimizing take of GKR and TKR in Appendix L of the 2012 Final EIS and Appendix 3 of the 2014 RMP allows for the capture of these species by requiring a project area to be trapped for these species prior to ground-disturbing	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
21181	Biological Resources	GKR and/or TKR Take AuthorizationIf GKR are found within the project area during preconstruction surveys or construction activities, consultation with CDFW is advised to discuss how to implement the Project and avoid take, or if avoidance is not feasible, to discuss how to acquire an ITP prior to any ground-disturbing activities, pursuant Fish and Game Code Section 2081(b).	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21181	Biological Resources	In Section 4.2.2.1 (Biological Resources — Upland Vegetation and Riparian/Wetland Areas), Pages 67-69, it discusses direct impacts to riparian/wetland areas that may include increased sedimentation due to local surface disturbance, soil and bank erosion, and changes to channel morphology, impacts resulting from diversions, culverted crossings, and low water crossings, and indirect impacts from increased erosion and sedimentation. Project-related activities that have the potential to substantially change the bed, bank, and channel of streams or alter riparian habitat, may be subject to CDFW's LSA regulatory authority pursuant to Fish and Game Code Section 1600 et seq.; which requires an entity to notify CDFW prior to commencing any activity that may:	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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21181	Biological Resources	In Section 4.2.4 (Biological Resources — Impacts Common to All Action Alternatives) on Page 70, it mentions the stipulation "Controlled Surface Use (CSU) — Sensitive Species", which is for the purpose of minimizing or eliminating adverse effects associated with fluid mineral development on federal candidate, State-listed and BLM sensitive species. This stipulation is not sufficient to protect State of California lands or even lands required as compensatory habitat mitigation under a CDFW-issued ITP or previously issued federal permit pursuant to ESA to non-federal entities, because it includes the statement "Presence of habitat or species may result in the proposed action being moved more than 200 meters (656 feet) but not more than a quarter-mile or off of the lease and prohibition of activities during seasonal use period"; and BLM can grant exceptions and modifications and does not require coordination with CDFW on state-listed and fully protected species. "BLM policy may (emphasis added) also require coordination with the USFWS or California Department of Fish and Game" (BLM 2014). Moreover, this stipulation only requires a preliminary environmental review to be conducted prior to surface-disturbing activities to determine whether the species or habitat is present. It does not require species-specific protocol-level surveys; also, it does not require consultation with CDFW if State-listed or fully protected species are present to determine if appropriate avoidance measures are feasible or to obtain an ITP.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21181	Biological Resources	In Section 4.7.3 (Visual Resources) on Page 82, it states that short-term visual impacts of night lighting of the well site, and night lighting of the rig mast, would be the same as for conventional wells. The artificial lighting discussion is only included in the Visual Resources section, and it is unclear if night lighting impacts were also analyzed for potential impacts to biological resources. Night lighting could result in disruption of wildlife behavior, inadvertent injury, or mortality and can disrupt the circadian rhythms of many wildlife species. Many species use photoperiod cues for communication (i.e., bird song [Miller 2006]), determining when to begin foraging (Stone et al. 2009), thermoregulation behavior (Beiswenger 1977), and migration (Longcore and Rich	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
21181	Biological Resources	Nesting BirdsHabitat within the Planning Area and the Supplemental Hydraulic Fracturing Analysis Areas likely provides nesting habitat for birds. CDFW encourages future oil and gas development activities that include hydraulic fracturing activities occur during the avian non-nesting season. However, if ground-disturbing activities must occur during the breeding season (February through mid-September), the oil and gas operators are	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21181	Biological Resources	Other State Species of Special Concern and Watch List SpeciesIssue: LeConte's thrasher, prairie falcon (Falco mexicanus), short-nosed kangaroo rat (Dipodomys nitratoides brevinasus), Tulare grasshopper mouse (Onychomys torridus tularensis), San Joaquin coachwhip (Masticophis flagellum ruddocki), California legless lizard (Anniella spp.), coast horned lizard (Phrynosoma blainvillii), and American badger (Taxidea taxus) can inhabit grassland and upland scrub habitats (Shuford and Gardali 2008, Thomson et al. 2016). All of the species mentioned above have been documented to occur in the vicinity of the Planning Area and in particular the Supplemental Hydraulic Fracturing Analysis Areas, which supports requisite habitat elements for these species (CDFW 2019).Specific impact: Without appropriate avoidance and minimization measures for these species, potentially significant impacts associated with ground disturbance include nest/den/burrow abandonment, which may result in reduced health or vigor of eggs and/or young, and direct mortality.Evidence impact is potentially significant: Habitat loss threatens all of the species mentioned above (Shuford and Gardali 2008, Thomson et al. 2016). As a result, ground-and vegetation-disturbing activities associated with development of the Project have the potential to significantly impact local populations of these species.Recommended Potentially Feasible Mitigation Measure(s)To evaluate potential impacts to special-status species associated with subsequent development, CDFW recommends conducting the following evaluation of project areas and implementing the following mitigation measures.Habitat AssessmentCDFW recommends that a qualified biologist conduct a habitat assessment in advance of project implementation, to determine if project areas or their immediate vicinity contain suitable habitat for the species mentioned above.SurveysIf suitable habitat is present, CDFW recommends that a qualified biologist conduct focused surveys for applicable species and their requisite habitat features to evaluate potential impacts resulting from ground- and vegetation-disturbance.AvoidanceAvoidance whenever possible is encouraged via delineation and observance a 50-foot no-disturbance buffer around dens of mammals like the American badger, as	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

Comment Number	Issue	Comment	Response
21181	Biological Resources	<p>Project activities are to take place during the typical bird breeding season (March 1 through September 15), CDFW recommends that additional pre-activity surveys for active nests be conducted by a qualified biologist no more than 10-days prior to the start of Project activity.Fully Protected Raptor AvoidanceIn the event that a fully protected raptor species is found within 0.5-mile of the Project site, implementation of avoidance measures is warranted. CDFW recommends that a qualified wildlife biologist be on-site during all Project-related activities and that a 0.5-mile no-disturbance buffer be implemented. If the 0.5-mile no-disturbance buffer cannot feasibly be implemented, contacting CDFW to assist with providing and implementing additional avoidance measures is recommended. Fully addressing potential impacts to fully protected raptor species and requiring measurable and enforceable mitigation in the MND is recommended.</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21181	Biological Resources	<p>Recommended Potentially Feasible Mitigation Measure(s)To evaluate potential impacts to special-status plants, CDFW recommends conducting the following evaluation of the project area, editing the Draft SEIS to include the following additional measures, and including the following mitigation measures as conditions of approval.Special-Status Plant Habitat AssessmentCDFW recommends that a qualified botanist conduct a habitat assessment in advance of project implementation, to determine if individual Project sites or their immediate vicinity contain suitable habitat for special-status plant species.Focused Botanical SurveysCDFW recommends that the Project site be surveyed for special-status plants by a qualified botanist following the "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities" (CDFW 2018). This protocol, which is intended to maximize detectability, includes the identification of reference populations to facilitate the likelihood of field investigations occurring during the appropriate floristic period.Special Status Plant AvoidanceCDFW recommends special-status plant species be avoided whenever possible by delineating and observing a no-disturbance buffer of at least 50-feet from the outer edge of the plant population(s) or specific habitat type(s) required by special-status plant species. If buffers cannot be maintained, then consultation with CDFW is warranted to determine appropriate minimization and mitigation measures for impacts to special-status plant species.State-listed Plant Take AuthorizationIf a plant species listed pursuant to CESA or the Native Plant Protection Act is identified during botanical surveys, consultation with CDFW is warranted to determine if the Project can avoid take. If take cannot be avoided, take authorization prior to any ground-disturbing activities may be warranted. Take authorization would occur through issuance of an ITP by CDFW, pursuant to Fish and Game Code Section 2081(b).</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

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21181	Biological Resources	responsible for ensuring that implementation of oil and gas activities does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes as referenced above.To evaluate Project-related impacts on nesting birds, CDFW recommends that a qualified wildlife biologist conduct pre-activity surveys for active nests no more than 10-days prior to the start of ground disturbance to maximize the probability that nests that could potentially be impacted are detected. CDFW also recommends that surveys cover a sufficient area around the work site to identify nests and determine their status. A sufficient area means any area potentially affected by the Project. In addition to direct impacts (i.e., nest destruction), noise, vibration, odors, and movement of workers or equipment could also affect nests. Prior to initiation of construction activities, CDFW recommends a qualified biologist conduct a survey to establish a behavioral baseline of all identified nests. Once construction begins, CDFW recommends a qualified biologist continuously monitor nests to detect behavioral changes resulting from the Project. If behavioral changes occur, CDFW recommends halting the work causing that change and consulting with CDFW for additional avoidance and minimization measures.If continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, CDFW recommends a minimum 250-foot no-disturbance buffer around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. These buffers are advised to remain in place until the breeding season .has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. Variance from these no-disturbance buffers is possible when there is compelling biological or ecological reason to do so, such as when the construction area would be concealed from a nest site by topography. CDFW recommends that a qualified wildlife biologist advise and support any variance from these buffers and notify CDFW in advance of implementing a variance.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21181	Biological Resources	San Joaquin Antelope Squirrel (SJAS)Issue: SJAS are known to occur within the Planning Area and in particular the Supplemental Hydraulic Fracturing Analysis Areas (CDFW 2019). Suitable SJAS habitat includes areas of grassland, upland scrub, and alkali sink habitats that contain requisite habitat elements, such as small mammal burrows. Therefore, ground disturbance within the Project has the potential to significantly impact local SJAS populations. The measure for minimizing take of SJAS listed in Appendix L of the 2012 Final EIS and Appendix 3 of the 2014 RMP directs oil operators to apply the measures for BNLL to SJAS, which is not appropriate and allows for take in the form of capture. Additionally, there is no requirement to conduct surveys for SJAS.Specific impact: Significant impacts resulting from ground-and vegetation-disturbing activities associated with construction include burrow collapse, inadvertent entrapment, reduced reproductive success, reduction in health and vigor of young, and direct mortality of individuals in violation of Fish and Game Code.Evidence impact is potentially significant: Habitat loss resulting from agricultural, urban, and industrial development, including petroleum and mineral extraction, is the primary threat to SJAS. Very little suitable habitat for this species remains along the	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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21181	Biological Resources	<p>San Joaquin Kit Fox (SJKF) Issue: SJKF is known to occur within the Planning Area and in particular the Supplemental Hydraulic Fracturing Analysis Areas (CDFW 2019). Presence/absence in any one year is not necessarily a reliable indicator of SJKF potential to occur on a site. SJKF may be attracted to project areas due to the type and level of ground-disturbing activities and the loose, friable soils resulting from intensive ground disturbance. As a result, there is potential for SJKF to colonize the project area or to occupy adjacent grassland. Implementation of several measures for minimizing take of SJKF listed in Appendix L of the 2012 Final EIS and Appendix 3 of the 2014 RMP could result in take of SJKF, and there is no requirement for operators to consult or coordinate with CDFW. Specific impact: Without appropriate avoidance and minimization measures for SJKF, potential significant impacts associated with oil and gas development activities include den collapse, inadvertent entrapment, entombment, reduced reproductive success, reduction in health and vigor of young, and direct mortality of individuals. Evidence impact is potentially significant: San Joaquin kit foxes are endemic to California and were historically distributed throughout the San Joaquin Valley, adjacent foothills, and valleys in the coastal mountains of central California (CDFG 1995). Habitat loss resulting from agricultural, urban, and industrial development is the primary threat to SJKF (Cypher et al. 2013). Therefore, ground-disturbing activities within the project area have the potential to significantly impact local SJKF populations. Recommended Potentially Feasible Mitigation Measures To evaluate potential impacts to SJKF associated with Project development, CDFW recommends conducting the following evaluation of project areas and implementing the following mitigation measures as conditions of approval for the Project. SJKF Habitat Assessment CDFW recommends that a qualified biologist conduct a habitat assessment in</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21181	Biological Resources	<p>Special Status Avian Species Issue: Southwestern Willow Flycatcher (WIFL), Least Bell's Vireo (LBV), and Swainson's Hawk (SWHA) have the potential to nest within the Planning Area and the Supplemental Hydraulic Fracturing Analysis Areas. There is the potential for these species to be impacted by oil and gas development activities related to hydraulic fracturing. Specific impacts: Without appropriate avoidance and minimization measures, potential significant impacts that may result from oil and gas activities include nest abandonment, loss of nest trees and habitat, loss of foraging habitat that would reduce nesting success (loss or reduced health or vigor of eggs or young), and direct mortality. Any take of WIFL, LBV, or SWHA without appropriate incidental take authorization would be a violation of Fish and Game Code.</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

Comment Number	Issue	Comment	Response
21181	Biological Resources	<p>Special-Status Plant Species Issue: Several special-status plant species have been documented to occur in the Supplemental Hydraulic Fracturing Analysis Areas (CDFW 2019). These areas contain habitat suitable to support numerous special-status plant species including, but not limited to, the State and federally endangered and California Rare Plant Rank (CRPR) 16.1 California jewelflower (<i>Caulanthus californicus</i>), the State and federally endangered and CRPR 16.1 Bakersfield cactus (<i>Opuntia basilaris</i> var. <i>treleasei</i>), the State and federally endangered and CRPR 1B.1 Gaviota tarplant (<i>Deinandra increscens</i> ssp. <i>villosa</i>), State and federally endangered and CRPR 1BA Ventura marsh milkvetch (<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>), the State Rare, federally endangered, and CRPR 1B.2 Lompoc yerba santa (<i>Eriodictyon capitatum</i>), and the State threatened, federally endangered, and CRPR 16.1 La Graciosa thistle (<i>Cirsium scariosum</i> var. <i>loncholepis</i>). One of the Measures for Minimizing Take in Appendix L of the 2012 Final EIS states, "impacts on extant populations may be considered minimized when: (a) the number of plants lost is cumulatively less than 3 percent of the impacted population and disturbance is temporary, or (b) the amount of habitat lost is less than 3 percent of the occupied habitat for the impacted population. Plants that are considered waifs or incidental, biologically marginal occurrences due to their presence on chronically disturbed habitat and a small population size (less than 50 individuals) may be disturbed at the USFWS / BLM's discretion." This measure allows for the take of State-listed plant species which would otherwise be prohibited under Fish and Game Code Section 2080 absent authorization under the Code. Specific impact: Without appropriate avoidance and minimization measures for special-status plants, potential significant impacts associated with subsequent construction include loss of habitat, loss or reduction of productivity, and direct mortality. Evidence impact would be significant: Special-status plants with potential to occur in the Supplemental Areas are threatened by habitat loss, development, vehicles, foot traffic, recreational activities, grazing, invasive, non-native plants, herbicides, and road maintenance (CNPS 2019). Many of these threats have the potential to occur as a result of the oil and gas activities.</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21181	Biological Resources	<p>the BNLL (USFWS 2010a). Habitat loss resulting from agricultural, urban, and industrial development, including petroleum and mineral extraction, is the primary threat to BNLL (ESRP 2019a). Therefore, ground disturbance within the Project has the potential to significantly impact local BNLL populations. Recommended Potentially Feasible Mitigation Measures To evaluate potential impacts to BNLL associated with Project development, CDFW recommends conducting the following evaluation of project areas and implementing the following mitigation measures as conditions of approval for the Project. BNLL Surveys Prior to initiating any vegetation- or ground-disturbance activities, CDFW recommends conducting surveys in accordance with the "Approved Survey Methodology for the Blunt-nosed Leopard Lizard" (CDFG 2004). This recommended survey protocol, designed to optimize BNLL detectability, reasonably assures CDFW that ground-disturbance will not result in take of this fully protected species. CDFW advises completion of BNLL surveys no more than one year prior to initiation of ground disturbance. Please note that protocol-level surveys must be conducted on multiple dates during late spring, summer, and fall and that within these time periods there are specific protocol-level date, temperature, and time parameters which must be adhered to. As a result, protocol-level surveys for BNLL are not synonymous with 30-day "preconstruction surveys" often recommended for other wildlife species. In addition, the BNLL protocol specifies different survey effort requirements based on whether the disturbance results from maintenance activities or if the disturbance results in habitat removal (CDFG 2004). BNLL Take Avoidance BNLL detection during protocol level surveys warrants consultation with CDFW to discuss how to implement ground-disturbing activities and avoid take.</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

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21181	Biological Resources	The mitigation lands could be impacted and presumably at some point that cumulative impact would trigger the needs to reevaluate the adequacy of the HCP, which relied upon the assumption that the surface habitat values of these compensatory habitat mitigation lands were to be protected in perpetuity. As a result, if any of these lands could have additional leases sold as a result of BLM's proposed action, BLM should coordinate with CDFW well in advance of allowing any surface-disturbing activities. It would be preferable that these leases include the major stipulation of 'No Surface Occupancy - General' which prohibits surface disturbance on an entire lease for the purpose of minimizing or eliminating adverse effects on unique or significant natural and cultural resources that are incompatible with fluid mineral development. At the least, BLM should also implement the stringent recommended avoidance and minimization measures below to conserve the resources that these lands were acquired to protect. Further, we recommend that habitat compensation be required by BLM of the lease holder(s) to offset the habitat impacts to lands that were intended to be conserved in perpetuity.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21181	Biological Resources	The Planning Area is not within an approved NCCP area. The fully protected blunt-nosed leopard lizard (<i>Gambelia sila</i>), California condor (<i>Gymnogyps californianus</i>), white-tailed kite (<i>Elanus leucurus</i>), American peregrine falcon (<i>Falco peregrinus anatum</i>), and golden eagle (<i>Aquila chrysaetos</i>) are known to occupy habitat within the Planning Area and the Supplemental Hydraulic Fracturing Analysis Areas. CDFW recommends the Draft SEIS be revised to include appropriate avoidance measures to ensure full avoidance of the above-listed species.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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21181	Biological Resources	Water Pollution: Pursuant to Fish and Game Code Section 5650, it is unlawful to deposit in, permit to pass into, or place where it can pass into "Waters of the State" any substance or material deleterious to fish, plant life, or bird life, including non-native species. It is possible that without mitigation measures, implementation of the Project could result in pollution of Waters of the State from storm water runoff or Project-related erosion. Potential impacts to the wildlife resources that utilize these watercourses include, but are not limited to, the following: increased sediment input from vegetation removal and ground disturbance causing increased erosion; toxic runoff associated with Project implementation; temporal loss of wildlife habitat; and/or impairment of wildlife movement along riparian corridors. The Regional Water Quality Control Board also has jurisdiction regarding discharge and pollution to Waters of the State.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21181	Biological Resources	well as burrows which can provide refuge for small mammals, reptiles, and amphibians, and 250-feet around nests of special-status bird species.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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21181	Biological Resources	western floor of the San Joaquin Valley (ESRP 2019b). As a result, ground-disturbing activities within the Planning Area have the potential to significantly impact local populations of SJAS. Recommended Potentially Feasible Mitigation Measure(s) To evaluate potential impacts to SJAS associated with Project development, CDFW recommends conducting the following evaluation of project areas and implementing the following mitigation measures as conditions of approval for the Project. SJAS Surveys In areas of suitable habitat, CDFW recommends that a qualified biologist conduct focused daytime visual surveys for SJAS using line transects with 10- to 30-meter spacing. CDFW further advises that these surveys be conducted between April 1 and September 30, during appropriate conditions. Conditions considered appropriate for SJAS include daytime temperatures between 68-86° F (CDFG 1990). SJAS Avoidance If suitable habitat is present and surveys or trapping are not feasible, CDFW advises maintenance of a 50-foot minimum no-disturbance buffer around all small mammal burrows of suitable size for SJAS. SJAS Take Authorization SJAS detection warrants consultation with CDFW to discuss how to avoid take, or if avoidance is not feasible, to discuss how to acquire an ITP prior to ground-disturbing activities, pursuant to Fish and Game Code Section 2081(b).	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21181	General	A major assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. According to the Draft SEIS, BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the life of the 2014 RMP and up to approximately 210 of the 416,515 acres in the supplemental hydraulic fracturing analysis area could be impacted by hydraulic fracturing operations. There is no mention in the Draft SEIS of what would happen if this assumption and impact estimate is exceeded. The Draft SEIS is unclear as to whether BLM would deny the Application for Permit to Drill or if BLM would continue to permit addition hydraulically fractured wells and exceed this estimate. Further, another assumption shown in Table 4.2 of the Draft SEIS is the estimated impacts of the up to 40 new wells completed by hydraulic fracturing on "BLM surface" and "non-BLM surface". The amounts given calculate to approximately 6.5 of these up to 40 new wells will create disturbance on "BLM surface" and approximately 33.5 of these up to 40 new wells will create disturbance on "non-BLM surface" based on new well pad for hydraulic fracturing averaging 4 acres (Table 4.1). The Draft SEIS is unclear how this was calculated as there is no explanation on how the percentage was estimated and also how there would be partial wells or well pads.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
21181	General	According to the Draft SEIS, total size of the Supplemental Hydraulic Fracturing Analysis Areas represents 11 percent (312,137 acres) of BLM lands and 4 percent (45,324 acres) of unleased federal minerals in the Planning Area. Chapter 4 of the Draft SEIS states that it is possible that hydraulic fracturing activities could occur on any federal mineral lease issued within the Planning Area, but then has a contradictory statement in Section 4.10 (Minerals Management) where it states, "new hydraulically fractured wells on new federal mineral leases would occur within the supplemental hydraulic fracturing analysis areas." It is unclear if the BLM would approve leases and	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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21181	General	oil and gas projects that engage in hydraulic fracturing activities outside of these Supplemental Hydraulic Fracturing Analysis Areas and if so, whether this Draft SEIS adequately analyzes the impacts of those potential future projects.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21181	General	whether that land is owned in total by the federal government or land that is under private ownership with federal mineral estate (split estate).The issuance of any State or local permit for project-specific activities related to hydraulic fracturing occurring on federal lands ("BLM surface") or private lands with federal mineral estate ("non-BLM surface" or split estate) is potentially subject to CEQA. Such permits may include, for example an Incidental Take Permit (ITP) pursuant to Fish and Game Code Section 2081(b) if those activities could result in take of species listed pursuant to CESA (Fish & G. Code, § 2050 et seq.), and/or an LSA Agreement (LSAA) pursuant to Fish and Game Code Section 1600 et seq., if there is potential to change the bed, bank, and channel of streams or lakes, including alterations to riparian vegetation. Based on the information contained within the Draft SEIS, and CDFW's knowledge of the Planning Area and Supplemental Hydraulic Fracturing Analysis Areas, BLM's approval of leases and projects that engage in hydraulic fracturing have the potential to impact numerous special-status species and could have significant impacts on the sensitive habitats that support these species.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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21181	General	While BLM, as the Federal Lead Agency, is submitting a Draft SEIS to satisfy the requirements of the National Environmental Policy Act (NEPA), please note that private entities conducting oil and gas extraction activities, including hydraulic fracturing activities, on federal lands and on federal mineral estate lands still need to comply with all State laws, including California Environmental Quality Act (CEQA), CESA, and Fish and Game Code. In several locations throughout the document including in Table 2.2 and Section 4.2.2, there is a distinction made between "BLM surface" and "non-BLM surface" with regard to the applicability of State law and regulations to oil and gas operators. The State's regulatory and permitting authority and processes apply to third party (i.e., nonfederal) oilfield operations in California on all land administered by BLM	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21181	Mitigation	are private entities conducting activities on federal land. As noted above, the issuance of permits or other authorizations under the Fish and Game Code may trigger additional environmental impact analysis under CEQA.	
21181	Mitigation	Finally, Table 2.2 states, "Required surveys, mitigation, and monitoring from the Programmatic BO (United States Fish and Wildlife Service [USFWS] 2017) would apply to all T&E species on BLM surface." Also as mentioned above, Section 4.2.4.1 on Page 71 states that disturbance would be minimized by compliance with requirements outlined in the Programmatic BO and Section 4.2.4.3 on Page 72 states that the BLM would require species-specific conservation measures, as well as general project surveys, monitoring, and reporting for potential hydraulic fracturing activities required in the Programmatic BO. However, this Programmatic BO only extends to federal lands under BLM control in Kings and Kern Counties and a small portion of San Luis Obispo County. The Planning Area includes numerous other counties, and this would not apply to the Sespe Supplemental Hydraulic Fracturing Analysis Area in Ventura County. Further, this federal take authorization does not provide operators with incidental take coverage of State-listed species in any geographic area. As stated previously, private entities conducting project activities on federal lands still may need to comply with State laws, including CESA and Fish and Game Code.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21181	Mitigation	In Table 2.2, the Draft SEIS states that as applicable, the protective measures, mitigation, and BMPs from the Kern County Zoning Ordinance, Chapter 19.98 (Oil and Gas Production) would apply to mitigate potential impacts. The Mitigation Monitoring and Reporting Plan included as Appendix B of the Revised Kern County Zoning Ordinance Chapter 19.98 only applies to oil and gas activities within Kern County, and the Ordinance (and associated BMPs) only apply on lands over which Kern County has jurisdiction, specifically non-federal	As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the "2014 RMP," identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.

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		lands. The Planning Area includes numerous other counties and even two of the Supplemental Hydraulic Fracturing Analysis Areas extend or are entirely outside of Kern County. The Lost Hills Analysis Area extends into Kings County and the Sespe Analysis Area is in Ventura County. Additionally, operators would need to be aware that these activities may result in taking that is prohibited unless otherwise specifically authorized by the Code.	<p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>
21181	Mitigation	Pursuant to NEPA, BLM is required to review and address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. During project-specific analyses, BLM will finalize project mitigation measures, Best Management Practices (BMPs), and stipulations from the 2014 RMP. However, as currently written, the 2014 RMP does not include mitigation measures, BMPs, or stipulations that are adequate to conserve, protect, and manage the fish, wildlife, native plants, and habitats necessary for biologically sustainable populations of those species within the Planning Area, specifically for State-listed threatened, endangered, and fully protected species. CDFW recommends that all subsequent environmental analysis and authorization address the impacts to State-listed threatened, endangered, fully protected species, and species of special concern and include the mitigation measures stated below.	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>

Comment Number	Issue	Comment	Response
21181	Mitigation	<p>Table 2.2 states, "On BLM surface, BMPs, SOPs, and lease stipulations, in Sections L3 and L.7, Appendix L in the 2014 RMP, would mitigate potential impacts to Biological Resources." Also, Section 4.2.4.1 on Page 71 states "Disturbance would be minimized on areas with ecologically important resources by compliance with requirements outlined in the Programmatic Biological Opinion (Programmatic BO), as well as appropriate BMPs (Appendix L) and conditions in Appendix G and Appendix B of the 2012 Final EIS." First, the 2014 RMP does not have an Appendix L, but the 2012 Final EIS does which includes a list of BMPs, SOPs, and lease stipulations. Appendix 3 of the 2014 RMP contains a very similar list of BMPs, SOPs, and lease stipulations. However, these measures are not sufficient to fully avoid the take of State-listed species, especially fully protected species, and in many instances, even allow for the take of State-listed threatened, endangered, and/or fully protected species. These measures only include species-specific take minimization measures for a small subset of southwest San Joaquin Valley species even though the entire Planning Area includes 86 federally-listed species and 70 State-listed species according to Section 3.2.1 (Special Status Species within the Biological Resources section) of the 2012 Final EIS. These species-specific measures are not adequate to avoid take of State-listed and fully protected species. Further, as stated above, activities on "BLM surface" are still subject to State law, including CESA and Fish and Game Code, because oil and gas operators</p>	<p>As noted in the Draft SEIS, activities on BLM surface are subject to State law, including CESA and Fish and Game Code, because oil and gas operators.</p> <p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the "2014 RMP," identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>

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21181	Water Resources	<p>commencing any activity that may: (a) substantially divert or obstruct the natural flow of any river, stream, or lake, (b) substantially change or use any material from the bed, bank, or channel of any river, stream, or lake (including the removal of riparian vegetation), or (c) deposit debris, waste or other materials that could pass into any river, stream, or lake. "Any river, stream, or lake" includes those that are ephemeral or intermittent as well as those that are perennial. The issuance of an LSAA by CDFW is potentially subject to CEQA. For additional information on notification requirements, please contact our staff in the LSA Program at (559) 243-4593.</p> <p>Water DiversionIn the event that stream diversion is necessary, CDFW advises that diversions: (a) be conducted in a manner that prevents pollution and/or siltation, (b) provides flows to downstream reaches during all times that the natural flow would support aquatic life, (c) that said flows are of sufficient quality and quantity, and of appropriate temperature to support aquatic life, both above and below the diversion, and (d) that normal flows be restored to the affected stream immediately upon completion of work. With regards to cofferdams, CDFW recommends that they not be made of silt, sand and gravel, or other substances subject to erosion unless first enclosed by protective material and that the enclosure and supportive material be removed as soon as the work is completed. With regards to dewatering, CDFW recommends: (a) that water pumped from the Project site be discharged to a location outside the wetted channel to allow sediment to drop out, (b) water be allowed to return to the stream below the Project site to maintain water flow, (c) temporary diversion structures used to isolate the Project site be constructed in a manner that prevents seepage into the Project site; and (d) the structure, including all fill, enclosure material, and trapped sediments, be removed when the Project is completed.If it is necessary to dewater the Project site, either by pump or gravity flow, CDFW recommends that the suction end of the intake pipe be fitted with fish screens meeting CDFW and National Marine Fisheries Service (NMFS) criteria, as outlined in the NMFS (1997) "Fish Screening Criteria for Anadramous Salmonids," to prevent entrainment or impingement of small fish and other wildlife. CDFW recommends development of a wildlife removal and rescue plan and that this plan be submitted to CDFW for approval prior to the start of Project activities. As part of the wildlife removal and rescue plan, CDFW recommends that a record be maintained of all wildlife rescued and moved, including information on the date of capture and relocation, the method of capture, location of relocation in relation to the Project site, and the number and type of wildlife captured and relocated.</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
21181	Water Resources	<p>III. LSA AuthorityIssue: There are numerous streams within the Planning Area and the Supplemental Hydraulic Fracturing Analysis Areas. According to Section 4.8.3.1, Impacts to Surface Water, there is the potential for adverse impacts to these streams "should mitigation measures and protective measures fail or be misapplied. These in turn could indirectly affect surface water during subsequent precipitation events". However, BLM states that BMPs for well construction and drilling would minimize impacts to surface water.Specific impact: Work within stream channels has the potential to result in substantial diversion or obstruction of natural flows; substantial change or use of</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

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21181	Water Resources	In Section 4.8.3.1 (Impacts to Surface Water) on Page 84 and Section 4.8.3.2 (Impacts to Groundwater) on Page 87, it states, "protective measures to minimize the risk of contamination from accidental releases at oil and gas production and processing facilities would be implemented according to Spill Prevention, Control, and Countermeasure and emergency response plans." There is no mention of notifying CDFW Office of Spill Prevention and Response (OSPR). The legally required spill reporting requirements should be included in the Final SEIS. Additionally, since the Spill Prevention, Control, and Countermeasure and Emergency Response Plan was not included as an appendix to the Draft SEIS, please summarize the key elements from this plan and incorporate the key elements into the Final SEIS or include the Spill Prevention, Control, and Countermeasure and Emergency Response Plan as an appendix or include a link to the plan.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
21181	Water Resources	material from the bed, bank, or channel (including removal of riparian vegetation); deposition of debris, waste, sediment, toxic runoff or other materials into water causing water pollution and degradation of water quality.Evidence impact is potentially significant:Lake and Streambed AlterationThe Project includes activities within the bed and bank of creeks and streams. Activities within these features are subject to CDFW's LSA regulatory authority. Construction activities within these features have the potential to impact downstream waters. Although some of the features within the Project area may be only intermittently wetted, recent studies have shown that biodiversity and habitat values of dryland streams are considerably higher than in the adjacent uplands, transporting and delivering water, and providing linear habitat connectivity and refuge, and concentrating seeds, organic matter and sediment. Moreover, the ecological viability of the dryland environment depends on the sustainability of the physical/hydrological processes that form and maintain episodic streams and the habitat they support (Brady and Vyverberg 2013).Streams function in the collection of water from rainfall, storage of various amounts of water and sediment, discharge of water as runoff and the transport of sediment, and they provide diverse sites and pathways in which chemical reactions take place and provide habitat for fish and wildlife species. Disruption of stream systems such as these can have significant physical, biological, and chemical impacts that can extend into the adjacent uplands adversely effecting not only the fish and wildlife species dependent on the stream itself, but also the flora and fauna dependent on the adjacent upland habitat for feeding, reproduction, and shelter. Water diversions can impact flow regimes. Prolonged low flows can cause streams to become degraded and cause channels to become disconnected from floodplains (Poff et al. 1997).Recommended Potentially Feasible Mitigation MeasuresCDFW recommends including the following measures as conditions of project approval and conducting the following evaluation of the project area prior to implementation of Project activities.Notification of Lake or Streambed AlterationProject-related activities that have the potential to change the bed, bank, and channel of streams or lakes, including but not requiring alterations to riparian vegetation, are subject to CDFW's LSA regulatory authority pursuant to Fish and Game Code Section 1600 et seq.; therefore, Notification may be warranted. Fish and Game Code Section 1600 et seq. requires an entity to notify CDFW prior to	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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21181	Water Resources	Please note that implementation of the above recommendations does not eliminate the need to obtain the appropriate permitting prior to the start of stream diversion or dewatering activities.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
16353	Cumulative Impacts	Regarding the Bureau of Land Management proposal on oil & gas development and related hydraulic fracturing: This sweeping proposal must have a longer comment period. The 45-day comment period is inadequate and unfair because of a) the extensive area involved; b) the number and diversity of jurisdictions affected; c) the complexity of the proposal and its implications; and d) the need to translate materials and educate citizens who do not read English and would be disproportionately affected by leasing and fracturing. The BLM made the wrong decision in failing to update its now-outdated Resource Management Plan (RMP), which does not adequately address the impacts of increased oil and gas development and fracking on the sensitive landscapes, watersheds, and airsheds this proposal covers. The BLM states that conditions have not changed significantly since the RMP was released. This is false: • Recent years of drought have reduced the quantity and quality of water already relied upon by existing residents, agriculture, and industry. • Recent research from Tufts University indicates that fracking can indeed incite earthquakes both locally and a distance from the fracking site: “The practice of subsurface fluid injection used in ‘fracking’ and wastewater disposal for oil and gas exploration could cause significant, rapidly spreading earthquake activity beyond the fluid diffusion zone. Deep fluid injections -- greater than one kilometer deep -- are known to be associated with enhanced seismic activity—often thought to be limited to the areas of fluid diffusion. Yet the study, published today [May 3] in the journal Science, tests and strongly supports the hypothesis that fluid injections are causing potentially damaging earthquakes further afield by the slow slip of pre-existing fault fracture networks, in domino-like fashion.” (Bhattacharya, P. and Viesca, R.C. "Fluid-induced aseismic fault slip outpaces pore-fluid migration" Science, 364: 6439 DOI: 10.1126/science.aaw7354) • The climate crisis continues to worsen. Many changes caused by it are proceeding at paces much faster than predicted by the statistical models of even a few years ago. The local and global efforts to reduce carbon emissions and protect landscapes will not succeed if we continue to access and use hydrocarbons. • In the last two years, the current administration has reduced or removed many of the environmental protections that would have helped to mitigate the pollution caused by the proposed development. The DEIS assumption regarding the number of new wells (4) that would be drilled and/or fractured per year is ridiculously low, especially given the number of acres that it proposes to open. Some 3400 wells have been drilled in the past 6 or so years. Therefore, the DEIS is not honestly addressing the multiplication of impacts that are likely to result. The DEIS fails to adequately estimate the proposal's affect on air quality in an area that is already one of the very worst-polluted landscapes. Given the geography and meteorological conditions in this area, pollution does not remain localized; it circulates throughout the San Joaquin Valley. This includes problems with particulates (especially PM 2.5, the most dangerous to health) and ozone (very damaging of lungs and vegetation, including crops). The DEIS fails to address the impact on tourism caused by worsened air quality and damaged landscapes. Already, tourists arriving in our town are appalled by the lack of visibility and by the ugly,	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p> <p>In order to complete the supplemental analysis following the guidance of Secretarial Order 3355 (https://www.doi.gov/sites/doi.gov/files/uploads/3355_-_streamlining_national_environmental_policy_reviews_and_implementation.pdf), BLM is not able to accommodate requests to extend the public comment period on the Draft SEIS. In addition, BLM was not able to accommodate specific needs and provide language interpreters for all potential non-English speakers who may have attended the public meetings on the Draft SEIS.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.</p>

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		<p>toxic landscapes through which they must travel when coming north from Bakersfield. They can, and will, continue to choose cleaner locales in which to spend their time and money. In addition, proposed leasing locations border important tourist destinations: national park areas (Sequoia, Kings Canyon, Yosemite, and Santa Monica NRA; national monuments (Cesar Chavez and Giant Sequoia National Monument); Carrizo Plain; national forests (Sequoia, Inyo, Sierra, and Los Padres; as well as state and regional parks and preserves. The DEIS does not adequately address the impact of such development on the tiny towns, such as mine, that would be affected. Many have one road in and out, often just one lane each way; the increased traffic and movement of large equipment would impact both resident and tourist safety and convenience. Many are low-income communities that would be affected by the influx of workers who could pay higher rents. Some, such as mine, are in canyons where noise and pollution in one location can affect the entire community. The DEIS does not adequately address the impacts on increasing water cost and reduced availability to residents, which is already dangerously affecting many communities. Water tables are being drawn down already in much of the San Joaquin Valley. Hydraulic fracking uses immense quantities of water, and leaves what it does use contaminated. The DEIS does not address the increased risk of wildfire that oil and gas operations pose to our communities. I have lived here for 30 years and plan to stay for another 30, unless proposals like this make it even healthier to stay. The large population of economically disadvantaged people in this affected area do not have the luxury to move away. The proposal is unjustified and just plain wrong on so many levels.</p>	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
17192	Cumulative Impacts	<p>The Draft Supplemental EIS (SEIS) does not appear to adequately address the increased and cumulative effects on climate change from the increased production of fossil fuels as a direct result of incorporating the hydraulic fracturing process. On page 4 Section 1.5.1, the SEIS recognizes that hydraulic fracturing allows for higher production rates. Throughout the document, the combustion of fossil fuels is recognized as a major contributor to greenhouse gases (e.g. pp. 35, 36) and page 36 contains a summary of associated climate-change impacts such as heat waves, flood, droughts, and wildfires which will increase human mortality and property damage, and have adverse affects on natural systems. Although the SEIS does estimate the end use greenhouse gas emissions for 40 hydraulically fractured wells (Table 4.1.5 page 58), it is not clear how this differs from conventional well development without the hydraulic fractured process, and therefore, how allowing this process under the SEIS is increasing climate-change impacts associated with greater end use greenhouse gas emission through increased production. The SEIS states that California's regulatory setting would provide indirect oversight and management of greenhouse gas emission by end users of the produced petroleum products (p. 59) and therefore concludes that the impacts would be minor. However, under the existing regulatory setting, California is already experiencing increased droughts, heat waves, and wildfires, determined by scientists to be partially a result of climate change, thus it seems unreasonable to assume that the existing regulatory setting will adequately address any future increased climate change effect as a result of this increased production especially in light of many other cumulative climate change factors. The discussion on page 103 is confusing and inadequate regarding Section 4.13.7 Cumulative Impacts on Resource Related to Issue 6 - Address the impacts of Climate Change on the management of public lands including strategies that will reduce impacts and incorporate appropriate monitoring. It recognizes that greenhouse gases were not quantified for conventional well development in the 2012 Final EIS but does not provide any comparative analysis to determine how approving hydraulic fracturing will change that situation. It is also not clear if the baseline is just the use of a new technology on wells that might have been developed anyway with conventional technology or if many of these wells would never be developed at all without hydraulic fracturing. In light of this type of uncertainty, it seems unreasonable to leave this type of analysis to later steps in the process. Once investments are made to develop plans for producing petroleum products on new lands, there will be pressure to continue the process towards approval of new wells with the fracturing process and ignore potential adverse effects. The increased and cumulative effects of increased fossil fuel production and associated burning of these fossil fuels on climate change are not adequately addressed in the SEIS.</p>	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>It is important to note that this Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

Comment Number	Issue	Comment	Response
16479	Opinion - opposed to hydraulic fracturing	<p>Health Effects from Chemicals Used in Fracking Fluids, Produced Water and from Release of Volatile Organic Compounds—CancerLung Cancer 1,4Skin Cancer, Cancer Of The Liver And Bladder 2Leukemia And Lymphoma 3Aplastic Anemia And Acute Myelogenous Leukemia 5 —Silicosis 6 —Musculoskeletal, Respiratory Organ Systems Affected 7 —Chronic Obstructive Pulmonary Disease (COPD) 8 —Kidney Disease 9 —Low Weight Babies 10 —Immunological, Neurological Systems Affected 11,12 —Hematological Systems Affected 12 —Lower IQ In Children 13 —Risk Of Diabetes, High Blood Pressure 14 —Headache, Dizziness, Weakness, Nausea, Vomiting, Loss Of Coordination, Increased Breathing Rate,Increased Blood Pressure 15 —Difficulty Thinking, Heart Function Changes, Death 16 —Loss Of Consciousness 17 —Dermal (Skin), Gastrointestinal, Hepatic (Liver), Neurological, Respiratory Organ Systems Affected 18 —Preterm Birth And High-Risk Pregnancy 19 —Corrosion To Eyes, Mucous Membranes, Coughing, Inflammation Of Respiratory Tract, Chest Pain, Pulmonary Edema, Severe Burns. 20 —Throat, Lung Irritation, Asthma, Difficulty Breathing, Allergic Dermatitis, Nasal Irritation, Wheezing, Burning Eyes 21 Health Effects, page 2 REFERENCES1 Lung Cancer Can Be Caused From Inhaling Crystalline Silicahttps://www.osha.gov/dsg/topics/silicacrystalline/background_info_silica.html 2 Skin Cancer, Cancer Of The Liver, Bladder And Lungs.https://www.cdc.gov/biomonitoring/Arsenic_FactSheet.html 3 Leukemia And Lymphoma From Chemicals Released Into The Airand water . Fracking tied to cancer-causing chemicals, CMAJ/JAMChttps://www.ncbi.nlm.nih.gov/pmc/articles/PMC5235941/ 4 Cancer, Musculoskeletal, Respiratory Organ Systems Are Affected From Radium. Carcinogenic.https://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=154,(EPA allows a maximum of 5 picocuries of radium per liter in drinking water. Produced water has been found to contain radium levels as high as 9,000 picocuries per liter (pCi/g).https://www.thebalance.com/waste-water-byproducts-of-shale-gas-drilling-and-fracking-1182597 5 Aplastic Anemia And Acute Myelogenous Leukemia From Benzenehttps://www.atsdr.cdc.gov/interactionprofiles/index.asp (https://www.atsdr.cdc.gov/interactionprofiles/ip-btex/ip05-c1.pdf) 6 From inhaling crystalline silicaSilica used as proppant to keep fissures open,Worker Exposure to Silica during Hydraulic Fracturinghttps://www.osha.gov/dts/hazardalerts/hydraulic_frac_hazard_alert.html 7 From radiumhttps://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=154 8 Caused by inhaling crystalline silicahttps://www.osha.gov/dsg/topics/silicacrystalline/background_info_silica.html 9 Caused by inhaling crystalline silicahttps://www.osha.gov/dsg/topics/silicacrystalline/background_info_silica.html 10 In a Pennsylvania study those living near fracking sites had significantly lower birth weights—and worse health—than other babies.Science, 12/13/17https://www.sciencemag.org/news/2017/12/fracking-linked-low-weight-babies 11 From exposure to toluenehttps://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=29 Health Effects, page 3 12 Hematological, immunological and neurological organ systems are affected from benzene exposure. Benzene is also carcinogenic, from Agency for Toxic Substances & Disease Registryhttps://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=14 13 From arsenic: https://www.cdc.gov/biomonitoring/Arsenic_FactSheet.html 14 https://www.cdc.gov/biomonitoring/Arsenic_FactSheet.html 15 From high levels of bariumhttps://www.gao.gov/assets/590/587522.pdf 16 From exposure to benzenehttps://www.cdc.gov/biomonitoring/Benzene_FactSheet.htmlhttps://www.atsdr.cdc.gov/interactionprofiles/ip-btex/ip05-a.pdf 17 Methane can decrease the amount of available oxygen, https://nj.gov/health/eoh/rtkweb/documents/fs/1202.pdf 18 From exposure to arsenichttps://www.cdc.gov/biomonitoring/Benzene_FactSheet.htmlhttps://www.atsdr.cdc.gov/interactionprofiles/ip-btex/ip05-a.pdf 19 Pennsylvania, prenatal residential exposure to unconventional natural gas development activity was associated with two pregnancy outcomes, adding to evidence that unconventional natural gas development may impact health, Epidemiology, March 2016https://journals.lww.com/epidem/Citation/2016/03000/Unconventional_Natural_Gas_Development_and_Birt h.2.aspx 20 From hydrochloric acidhttps://www.epa.gov/sites/production/files/2016-09/documents/hydrochloric-acid.pdf 21 From glutaraldehydehttps://www.cdc.gov/niosh/topics/glutaraldehyde/ Hence, I am opposed, and I cannot fathom how you have come to the conclusion that there would be no effect.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.</p>

Comment Number	Issue	Comment	Response
19047	Cumulative Impacts	<p>Impacts to AIR AND ATMOSPHERIC VALUES Studies of fracking projects in the U.S. have conclusively demonstrated that the process threatens the health and quality of life of communities situated near drilling sites. The localities under consideration already suffer from serious air pollution, including 4 of the 10 US cities with the worst air pollution in 2018 (Merced, Fresno, Visalia, Bakersfield). The situation in SLO County is particularly sensitive because (1) the unique geology of the Monterey shale make fracking and horizontal drilling especially challenging, and (2) high levels of seismic activity increase the likelihood of well failure. Both of these factors pose greatly aggravate the threat of water contamination. The high-volume use of carcinogenic chemicals used as lubricants and proppants pose a threat to health, particularly to workers on drilling sites and who handle the wastewater from fracking. U.S. companies are not even required by law to disclose the chemicals used in the process - which can run to thousands of gallons per well. Fracking is exempt or excluded from most major federal laws protecting environmental health, including the Safe Drinking Water Act, and once a lease is granted, administration is turned over to DOGGR (Division of Oil, Gas and Geothermal Resources), at which point the BLM has absolutely no control over how many wells the oil companies create. References: 4.1.5.2 and 4.1.6</p> <p>Impacts to BIOLOGICAL RESOURCES: As a long-time committed volunteer with Pacific wildlife Care, I am deeply concerned about the protection of all wildlife and their habitats. I have no confidence in the protections provided in Alternative B, given “This stipulation shall not be waived; however, it may be granted exception or modified...” (p. 23) Reference: Alternative B: All or a portion of this lease is within the range of one or more plant or animal species that are either federal candidates for listing as threatened or endangered (federal candidate), are listed by the State of California as threatened or endangered (state listed), or are designated by the BLM as sensitive. Impacts to CULTURAL VALUES: It is imperative that is protected from any risk of damage. Potential fracking in the area adjacent to Carrizo Plains National Monument poses a significant danger of soil erosion, induced seismic activity, disturbance of protected indigenous species, and detrimental visual effects relating to fracking in the general vicinity. Impacts to SOIL RESOURCES The documented effects of climate change also include impacts on terrestrial, marine, and freshwater biological systems, with resulting changes in habitat, agriculture, and food supply. Examples of the terrestrial effects include increasing tree mortality, large wildfires, and changes in vegetation density and distribution. Moreover, soils in lowland areas of SLO County may be subject of liquefaction; and landslides are possible in the mountains and steep hillsides that are found throughout the county. Evidence of one recent landslide near Montana De Oro reveals a large gash in the hills above Los Osos (my home). Reference: 4.6.1</p> <p>Impacts to WATER RESOURCES: Water supply, contamination, and usage are serious concerns in our drought-stricken state. One fracked well can use 2-8 million gallons of water, requiring 400-600 tanker trucks to deliver, while generating another 200-300 tanker truckloads of waste, destroying roads and bridges in the process and leaving towns to clean up the mess. Fracking has a firmly</p>	<p>Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.</p> <p>The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p>

Comment Number	Issue	Comment	Response
		<p>established track record for polluting local water sources with toxic effluent, and the situation in our area is particularly sensitive because (1) the unique geology of the Monterey shale make fracking and horizontal drilling especially challenging, and (2) high levels of seismic activity increase the likelihood of well failure. Both of these factors pose greatly aggravate the threat of water contamination. The high-volume use of carcinogenic chemicals used as lubricants and proppants pose a threat to health, particularly to workers on drilling sites and who handle the wastewater from fracking. U.S. companies are not even required by law to disclose the chemicals used in the process - which can run to thousands of gallons per well. In addition to climate-threatening fossil fuels, fracking produces water contamination and fugitive methane, an extremely potent greenhouse gas. The high levels of methane leakage during capture and transportation suggest that shale gas is worse than coal in terms of its impact on the atmosphere. References: 1.5.6 Water Use (6) and Table 4.1: WATER USE (p. 7); 4.8.1; 4.8.3.1 (p. 84); 4.8.3.2 (p. 85) (p. 87) and (p. 88)Impacts to AREAS OF CRITICAL ENVIRONMENTAL: The high-volume use of carcinogenic chemicals used as lubricants and proppants pose a threat to health, particularly to workers on drilling sites and who handle the wastewater from fracking. U.S. companies are not even required by law to disclose the chemicals used in the process - which can run to thousands of gallons per well. Fracking is exempt or excluded from most major federal laws protecting environmental health, including the Safe Drinking Water Act, and once a lease is granted, administration is turned over to DOGGR (Division of Oil, Gas and Geothermal Resources), at which point the BLM has absolutely no control over how many wells the oil companies create. Reference: 3.1.1 (p. 35) and 3.1.2 (p. 36)Impacts to SOCIAL AND ECONOMIC RESOURCES: Areas identified in San Luis Obispo County include the vicinities of the Irish Hills and Montana De Oro State Park, as well as land adjacent to Carrizo Plains National Monument. SLO County's economy depends on tourism attracted to our pristine landscapes. This includes jobs and revenues. Potential development of fracking wells in these areas would have a deletrious effect on the appeal of our area and SLO County's economy. "Tourism has been growing at a 3.3% rate year after year. Industry earnings generated by travel and tourism spending reached its highest number yet, at \$470 million, in 2014. Jobs also increased at 2.7% over 2013 and total tourism-related jobs in San Luis Obispo County has reached an all-time high of 17,160 persons employed, making up approximately 10.5% of total employment in the county. Positions include: divisions of accommodations, food service, arts, entertainment, recreation, retail, and transportation. Local and state tax receipts totaled \$125 million in revenue generated by travel spending, reflecting an 8% and 2.9% increase over 2013 respectively. San Luis Obispo County has also recorded an approximate 9% average increase in Transient Occupancy Tax for the 2013/14 fiscal year." - Paso Robles News, June 10, 2019: Furthermore, noise levels created by fracking near hiking and recreational areas would exceed that of riding a motorcycle or attending a rock concert. Noise from fracking is 107 dBA, comparable to that of a table saw(105 dBA) or a jackhammer (110 dBA). Reference: Table 4.1Impacts to SEIMICITY: There is much evidence pointing to the direct relationship of fracking (and its wastewater disposal) and induced earthquakes. According to the U.S. Geological Survey: "...Seismicity can be induced at distances of 10 miles or more away from the injection point and at significantly greater depths than the injection point." The Central Coast of California is fraught with faults, increasing the potential of induced earthquakes resulting from fracking. According to the California Earthquake Authority, there are over 500 active faults and 15,700 known faults in CA. In SLO County everyone lives within 15 miles of an active fault, and there is a 75% likelihood of a M7.0+ striking our area in the next 30 years. The largest fault system - San Andreas - passes directly through Carrizo Plains The San Gregorio fault is another major part of the system, generally following the coast just offshore. References: 3.10.1 Seismicity (41); Figure 3.10.1. (41); 4.10.3.2 (p. 92); 4.10.3 (p. 91) IN CONCLUSION: As the weight of the climate crisis bears down upon us, we should focus our efforts on sustainable green energy, instead. Moving forward on any additional fracking possibilities is a giant step backward. In comparison to investments in renewable energy infrastructure, the economic arguments for petroleum exploration are foolish and shortsighted. The primary financial effect of drilling will be enrich a small group of wealthy people. The short-term construction jobs created by building more fossil fuel infrastructure are insignificant, compared to the 40-year jobs generated by the production of renewable energy facilities. The financial analyses of these plans fail to incorporate the cost of toxic externalities that our communities will be forced to bear. I strongly urge the BLM to abandon this proposal and continue with Alternative A.</p>	<p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>

Comment Number	Issue	Comment	Response
14063	Cumulative Impacts	<p>The Bakersfield Field Office Hydraulic Fracturing Draft Supplemental EIS is woefully inadequate. Once a lease sale goes through, we lose the opportunity to determine that an area is not appropriate for oil and gas development so this kind of review before a lease plan is put in place needs to be much more comprehensive. We need information about other kinds of wells in order to understand cumulative impacts. This only gives an estimate of fracking wells, which are small portion of total wells, but these have many of the same impacts as other types of wells. For instance, there is other enhanced oil production, such as cyclic steaming, that also uses a lot of water, causes pollution, damages species, etc. If we only know the fracking wells, and not the other wells that would also be made possible by the lease, we can't possibly determine if the fracking wells would have large cumulative impacts. What other kinds of wells are estimated in each of these areas and what impact would they have? The EIS just declares that water use would be "negligible" in the "context of regional agricultural consumption." Just because we use a lot of water for agriculture doesn't mean there's an unlimited supply. An additional use just makes the problem of overdraft greater. Water availability varies from place to place and some places it is very scarce and very expensive. For instance, in Santa Barbara we have an expensive desal plant. In Goleta we're paying a "drought surcharge" for water. Cambria has only limited well water and moratorium on any new water connections – even for a single residence. These issues are true of many places in California. Santa Maria is dependent on state water, which ceases to come during drought years, and will be increasingly unreliable as climate change reduces Sierra ice pack and increases droughts. The central valley is experiencing subsidence as ground water gets depleted and collapses. Some places have to truck in water. Our region has a dry Mediterranean climate and water availability is limited. Each watershed and location needs to be considered separately. The Scoping Summary Report says that the preponderance comments included concerns regarding, "hydraulic fracturing and hazardous materials, public health and safety, air quality, seismicity, renewable resources, water, climate change, wildlife, special status species, socioeconomics, and cultural resources." Many of these items are not discussed at all, and the review of others is cursory and inadequate. There is no discussion of hazardous materials. There is no discussion of health impacts. There is no discussion of renewable resources. There is no discussion of socioeconomics. Despite the fact that the areas identified for study contain a very large number of sensitive species, including many threatened</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.</p> <p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p>

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		<p>and endangered species, and the fact that numerous oil & gas EIRs in our area have found significant and unavoidable impacts to biological resources and sensitive species, this EIS concludes without any evidence that there would be "negligible" impacts. The reasons why impacts would be negligible are not supported by the facts and evidence that oil and gas drilling can have a big impact on wildlife. The impact of spills on wildlife is not discussed at all. It would be significant. This EIS finds "negligible" impacts to water resources. This is outrageous and wrong based on all evidence. Spills are a significant and unavoidable impact of oil and gas drilling, as documented in report after report. You need only look at any recent EIR in Santa Barbara County on any proposed oil project to find that the risk of spills is a class 1, significant and unavoidable impact. This EIS seems to base its finding that spills are a "negligible" risk based on the fact that one 1 out of 457 "incidents" involve hydraulic fracturing fluids, that 56% of spills are less than 1000 gallons and that 5.3% of spills are greater than 20,000 gallons. The fact that there are more small spills than very large spills doesn't mean the risk of spills is "negligible". Small spills happen all the time and large spills happen on a disconcertingly regular basis. Examples of large spills in Santa Barbara County: 1969 offshore oil spill, the first major offshore spill in the nation in which 4.3 million gallons of oil spilled into the Santa Barbara channel. The 2105 Plains Pipeline spill in which 140,000 gallons of oil spilled from a coastal pipeline and traveled via a culvert into the ocean, devastating the area and washing up as far away as orange county. The Avila Beach spill where 400,218 gallons spilled over the course of decades. The whole town had to be razed and rebuilt. The Guadalupe oil field spills of 12 million gallons of diluent over decades that contaminated the entire dune ecosystem. The superfund site at Casmalia that started as an oil disposal site. The groundwater there is so contaminated that it will have to be carefully managed for a thousand years. These spills and many more we've experienced in our region are incredibly costly. They damage the economy and ecosystems. There is no discussion of vehicle and tanker truck trips or any discussion of how oil and gas would get to market and whether the roads could handle additional traffic, which roads might be impacted and what those impacts, such as accidents, could mean for a populous area like ours with limited and critical transportation corridors. We have many examples of tanker accidents that shut down a freeway for extended periods of time. This should be disclosed. There is no discussion of whether the many coastal areas covered by this EIS would involve slant drilling from land into coastal areas and the California state marine reserve and state waters. There is no discussion of the impact related to this, despite the history of devastating ocean spills in our region, including onshore spills that reach the ocean such as the 2015 Refugio spill. There is no discussion of how new leases would affect California's ability to meet our carbon reduction goals (carbon neutral by 2045) and global climate change goals. The U.S. is still a signatory to the Paris climate agreement. These are just a few of the many inadequacies of this EIS. This document is a travesty. It makes a mockery of our laws that are intended to protect our public resources, public health, public lands, air and water. There is no need to open up our national public lands to new oil leases at a time when the U.S. is at record levels of production and when use of oil in California is on a flat to declining trend. No new leases.</p>	<p>It is important to note that this Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
15438	Alternatives	<p>While we recognize that petroleum can be imported into California from other places, BLM's programmatic leasing analysis should more thoroughly discuss and take into account a declining need for new production—and leasing areas—in the state, especially where leasehold activities may conflict with ecological values or non-federal surface ownership interests.</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS analyzes the five alternative fluid mineral management plan decisions from the 2012 Final EIS. The supplemental analysis incorporates new information. Results of the analysis were intended to inform BLM's consideration of whether to amend the existing 2014 RMP.</p> <p>Major issues addressed in the supplemental analysis include impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species.</p>

Comment Number	Issue	Comment	Response
15438	Lands and Realty	BLM did not identify any additional, significant exclusions areas in the DSEIS beyond those included in the 2104 RMP, nor did the agency provide durable restrictions on activities within areas protected by No Surface Occupancy or other restrictions. (These restrictions can be waived or otherwise altered at the field level.) Although we understand that specific leasing proposals and approvals to drill will require some form of additional NEPA review, we strongly urge BLM to take a new, hard look at permanently removing ecologically sensitive areas from possible future leasing during this round of RMP revisions.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
15438	Oil and Gas Leasing and Development	As in the case of the specific exclusion areas, the SDEIS makes very few, if any, changes to the 2014 RMP and 2012 EIS analysis regarding impacts of hydraulic fracturing and well stimulation. The principal difficulty with BLM's conclusions derived from these two prior documents is that the analysis is based on assumptions that the past pace, location and drilling practices will prevail over the presumed 10-year life of the RMP. These assumptions lead BLM to project that very few wells will be drilled outside existing lease and productions areas, that very few wells will be fracked, and that the current form of hydraulic fracturing will prevail. The analysis distinguishes existing California well stimulation practices (shallow, vertical fracking, with low water use ³) from those prevalent in shale provinces outside the state, where long-reach multi-stage horizontal hydraulic fracturing using massive quantities of water is common. The SDEIS continues the assumption that existing practices will prevail, relying on a California state study of well stimulation practices. Yet that study does not support the view that existing well stimulation practices and petroleum development will necessarily follow the historical practices or be limited to existing areas. BLM largely ignores the risks that technological changes, crude prices, 3D seismic studies or other factors may greatly alter the leasing demand and the use and type of well stimulation practices over the planning period. The DSEIS acknowledges that hydraulic fracturing and leasing could occur anywhere in the planning area, but believes that existing practices would prevail and ameliorative measures would resolve problems.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
17766	NEPA Process	Regarding the Bureau of Land Management proposal on oil & gas development and related hydraulic fracturing in California: I have lived California since 1989, and have been supportive of the state's generally progressive environmental policies and actions, including its emissions standards for automobiles and the actions the state has taken to better understand and address the threats of climate change. However, when a federal agency like the Bureau of Land Management proposes increased oil and gas development, fracking of sensitive landscapes and areas already severely impacted by compromised air and water quality, the agency disregards both resource protection and human health. I am disappointed by the short comment period of this proposal. The 45-day comment period is insufficient because of a) the extensive area involved; b) the number and diversity of jurisdictions affected; c) the complexity of the proposal and its implications; and d) the need to translate materials and educate citizens who do not read English and would be disproportionately affected by leasing and fracturing. The BLM made a poor decision in failing to update its now-outdated Resource Management Plan (RMP), which does not adequately address the impacts of increased oil and gas development and fracking on the sensitive landscapes, watersheds, and airsheds this proposal covers. The BLM states that conditions have not changed significantly since the RMP was released. This is false: Recent years of drought have reduced the quantity and quality of water already relied upon by existing residents, agriculture, and industry. Recent research from Tufts University indicates that fracking can indeed incite earthquakes both locally and a distance from the fracking site: "The practice of subsurface fluid injection used in 'fracking' and wastewater disposal for oil and gas exploration could cause significant, rapidly spreading earthquake activity beyond the fluid diffusion zone. Deep fluid	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). In order to complete the supplemental analysis following the guidance of Secretarial Order 3355 (https://www.doi.gov/sites/doi.gov/files/uploads/3355_-_streamlining_national_environmental_policy_reviews_and_implementation.pdf), BLM is not able to accommodate requests to extend the public comment period on the Draft SEIS. This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.

Comment Number	Issue	Comment	Response
		<p>injections -- greater than one kilometer deep -- are known to be associated with enhanced seismic activity—often thought to be limited to the areas of fluid diffusion. Yet the study, published today [May 3] in the journal Science, tests and strongly supports the hypothesis that fluid injections are causing potentially damaging earthquakes further afield by the slow slip of pre-existing fault fracture networks, in domino-like fashion.” (Bhattacharya, P. and Viesca, R.C. "Fluid-induced aseismic fault slip outpaces pore-fluid migration" Science, 364: 6439 DOI: 10.1126/science.aaw7354)The climate crisis continues to worsen. Many changes that are a direct effect of climate change (such as warming temperatures, reduced snowpacks, and more severe wildfires) are proceeding at paces much faster than predicted by the statistical models of even a few years ago. The local and global efforts to reduce carbon emissions and protect landscapes will not succeed if we continue to access and use hydrocarbons.In the last two years, the current administration has reduced or removed many of the environmental protections that would have helped to mitigate the pollution caused by the proposed development, causing potentially irreversible harm to our natural environment and our health.The DEIS assumption regarding the number of new wells (4) that would be drilled and/or fractured per year is ridiculously low, especially given the number of acres that it proposes to open. Some 3400 wells have been drilled in the past 6 or so years. Therefore, the DEIS is not honestly addressing the multiplication of impacts that are likely to result. The DEIS fails to adequately estimate the proposal's effect on air quality in an area that is already one of the very worst-polluted landscapes. Given the geography and meteorological conditions in this area, pollution does not remain localized; it circulates throughout the San Joaquin Valley. This includes problems with particulates (especially PM 2.5, the most dangerous to health) and ozone (very damaging of lungs and vegetation, including crops). The DEIS fails to address the impact on tourism caused by worsened air quality and damaged landscapes. Already, tourists arriving in our town are appalled by the lack of visibility and by the ugly, toxic landscapes through which they must travel when coming north from Bakersfield. They can, and will, continue to choose cleaner locales in which to spend their time and money. In addition, proposed leasing locations border important tourist destinations: national park areas (Sequoia, Kings Canyon, Yosemite, and Santa Monica NRA; national monuments (Cesar Chavez and Giant Sequoia National Monument); Carrizo Plain; national forests (Sequoia, Inyo, Sierra, and Los Padres; as well as state and regional parks and preserves. The DEIS does not adequately address the impact of such development on the tiny towns, such as mine, that would be affected. Many have one road in and out, often just one lane each way; the increased traffic and movement of large equipment would impact both resident and tourist safety and convenience. Many are low-income communities that would be affected by the influx of workers who could pay higher rents – in other states where these boom and bust extractive industries bring in short-term workers, the quality of life deteriorates in many ways for long-term residents, with cost of living and crime increasing. Some towns, such as mine, are in canyons where noise and pollution in one location can affect the entire community. The DEIS does not adequately address the impacts on increasing water cost and reduced availability to residents, which is already dangerously affecting many communities. Water tables are being drawn down already in much of the San Joaquin Valley. Many impoverished communities do not have the resources to dig new wells and establish or manage effective water treatment systems. Hydraulic fracking will only exacerbate these circumstances, using immense quantities of water, and leaving what it does use contaminated. The DEIS does not address the increased risk of wildfire that oil and gas operations pose to our communities. These areas are at high risk for fire due to vegetation and topography, and this danger needs to be part of any DEIS that looks at impacts of gas and oil extraction. I doubt that I would want to remain long-term in a region affected by the increased environmental burden of fracking. While I may choose to re-locate, the large population of economically disadvantaged people in this affected area do not have the financial resources to move away. The proposal is unjustified and its implementation would further harm an environment already greatly affected by the impacts of climate change and air pollution, and would threaten the health and safety of people who live here. I implore you to reconsider your proposal to conduct fracking in California's Central Valley and Sierra Nevada foothills.</p>	<p>Although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.</p> <p>The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>
23662	Cumulative Impacts	<p>Regarding the Bureau of Land Management Draft DEIS on Hydraulic Fracturing This sweeping proposal must have a longer comment period. The 45-day comment period is inadequate and unfair because of a) the extensive area involved; b) the number and diversity of jurisdictions affected; c) the complexity of the proposal and its implications; and d) the need to translate materials and educate citizens who do not read English and would be disproportionately affected by leasing and fracturing. The BLM made the wrong decision in failing to update its now-outdated Resource Management Plan (RMP), which does not adequately address the impacts of increased oil and gas development and fracking on the sensitive landscapes, watersheds, and airsheds this proposal covers. The BLM states that conditions have not changed significantly since the RMP was released. This is</p>	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). In order to complete the supplemental analysis following the guidance of Secretarial Order 3355 (https://www.doi.gov/sites/doi.gov/files/uploads/3355_-_streamlining_national_environmental_policy_reviews_and_implementation.pdf), BLM is not able to accommodate requests to extend the public comment period on the Draft SEIS. In addition, BLM was not able to anticipate specific needs and provide language interpreters for all potential non-English speakers who may have attended the public meetings on the Draft SEIS.</p>

Comment Number	Issue	Comment	Response
		<p>false:Recent years of drought have reduced the quantity and quality of water already relied upon by existing residents, agriculture, and industry. Recent research from Tufts University indicates that fracking can indeed incite earthquakes both locally and a distance from the fracking site: “The practice of subsurface fluid injection used in ‘fracking’ and wastewater disposal for oil and gas exploration could cause significant, rapidly spreading earthquake activity beyond the fluid diffusion zone. Deep fluid injections -- greater than one kilometer deep -- are known to be associated with enhanced seismic activity—often thought to be limited to the areas of fluid diffusion. Yet the study, published today [May 3] in the journal Science, tests and strongly supports the hypothesis that fluid injections are causing potentially damaging earthquakes further afield by the slow slip of pre-existing fault fracture networks, in domino-like fashion.” (Bhattacharya, P. and Viesca, R.C. "Fluid-induced aseismic fault slip outpaces pore-fluid migration" Science, 364: 6439 DOI: 10.1126/science.aaw7354)The climate crisis continues to worsen. Many changes caused by it are proceeding at paces much faster than predicted by the statistical models of even a few years ago. The local and global efforts to reduce carbon emissions and protect landscapes will not succeed if we continue to access and use hydrocarbons.In the last two years, the current administration has reduced or removed many of the environmental protections that would have helped to mitigate the pollution caused by the proposed development.The DEIS does not address the increased risk of wildfire that oil and gas operations pose to our communities via sparks, flares, burn-offs, equipment, and employee activity. https://www.firerescue1.com/communications-interoperability/articles/1976587-Fracking-fire-points-out-dangers-for-firefighters/ AND https://www.nfpa.org/News-and-Research/Publications-and-media/NFPA-Journal/2015/March-April-2015/Features/Fracking The DEIS assumption regarding the number of new wells that would be drilled and/or fractured per year is ridiculously low, especially given the number of acres that it proposes to open. Some 3400 wells have been drilled in the past 6 or so years. Therefore, the DEIS is not honestly addressing the multiplication of impacts that are likely to result. The DEIS fails to adequately estimate the proposal’s affect on air quality in an area that is already one of the very worst-polluted landscapes. Given the geography and meteorological conditions in this area, pollution does not remain localized; it circulates throughout the San Joaquin Valley. This includes problems with particulates (especially PM 2.5, the most dangerous to health) and ozone (very damaging of lungs and vegetation, including crops). The DEIS fails to address the impact on tourism caused by worsened air quality and damaged landscapes. Already, tourists arriving in our town are appalled by the lack of visibility and by the ugly, toxic landscapes through which they must travel when coming north from Bakersfield. They can, and will, continue to choose cleaner locales in which to spend their time and money. In addition, proposed leasing locations border important tourist destinations: national park areas (Sequoia, Kings Canyon, Yosemite, and Santa Monica NRA; national monuments (Cesar Chavez and Giant Sequoia National Monument); Carrizo Plain; national forests (Sequoia, Inyo, Sierra, and Los Padres; as well as state and regional parks and preserves. The DEIS does not adequately address the impact of such development on the tiny towns, such as mine, that would be affected. Many have one road in and out, often just one lane each way; the increased traffic and movement of large equipment would impact both resident and tourist safety and convenience. Many are low-income communities that would be affected by the influx of workers who could pay higher rents. Some, such as mine, are in canyons where noise and pollution in one location can affect the entire community. The DEIS does not adequately address the impacts on increasing water cost and reduced availability to residents, which is already dangerously affecting many communities. Water tables are being drawn down already in much of the San Joaquin Valley. Hydraulic fracking uses immense quantities of water, and leaves what it does use contaminated. I have lived here for more than 30 years and plan to stay for another 30, unless proposals like this make it even unhealthier to stay. The large population of economically disadvantaged people in this affected area do not have the luxury to move away. The proposal is unjustified and just plain wrong on so many levels.</p>	<p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.</p> <p>Although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.</p> <p>The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p>

Comment Number	Issue	Comment	Response
13050	Opinion - Alternatives	<p>POSITION: I'm here to urge you to not to proceed with your proposal to open federal public lands and mineral estate to oil and gas drilling and fracking. Choose one or more and include WHY this issue matter to you or impacts you personally. [General] Oil drilling and fracking threatens our groundwater, pollutes our air, increases earthquake risk, and harms our climate. BLM must prevent all new leases to protect the scientific, scenic, historical, environmental, and archeological values of our public lands. [Environmental Justice] This plan is an environmental justice issue. Most of the land BLM proposes opening is near communities that are already unfairly burdened by pollution. The planning area suffers severe ozone and particulate matter air pollution, and new oil drilling and fracking will make that pollution worse. [Health] Oil and gas production, including fracking, poses such serious health risks that scientists and public health officials have recommended that, in the absence of an outright ban, there should be safety buffers around where people live, work and go to school. Oil drilling relies on large volumes of toxic chemicals—many are found on the EPA's list of Hazardous Air Pollutants known to cause cancer and other serious health impacts. [Water Pollution] Fracking in California poses unique risks to our groundwater. Fracking in California occurs at shallower depths than in other parts of the country, meaning it occurs closer to groundwater, increasing the risk of contamination. Fracking in California uses toxic and cancer-causing chemicals at stronger concentrations. [Wildlife] Oil drilling and fracking harm wildlife through habitat loss; water, noise and light pollution; and vehicle traffic. Opening up federal land and mineral estate for new oil and gas leases puts endangered and threatened species like the California condor, San Joaquin kit fox, California tiger salamander and California red-legged frog at risk. [Earthquakes] California is seismically active with countless fault lines. Fracking and underground injection of oil and gas waste fluids are known to cause seismic events. Waste fluid injection has been linked to an earthquake swarm including two earthquakes of magnitudes 4.7 within the Bakersfield Planning Area itself. Yet many oil waste disposal wells within California are within a mile of an active fault. The seismic risks are too great to allow any more oil drilling and fracking in the Bakersfield Planning Area. [Climate] Three quarters of the oil produced in California is as climate damaging as oil from the tar sands of Alberta, Canada. Six of the 10 most carbon-intensive oil fields in California are in the Bakersfield planning area. New leasing must not be allowed, and oil production in this region should be phased out as quickly as possible. [Climate] The carbon emissions from burning the oil, gas, and coal in the world's currently operating fields and mines would take us far beyond 1.5°C of warming. Each new oil or gas lease locks us into decades of carbon pollution that our climate can't afford. Scientists agree that we must stop fossil fuel expansion immediately and phase out both the use and production of fossil fuels. ** CONCLUSION: Keep the moratorium on leasing in place. Make it permanent by amending the DEIS to include and adopt a “no leasing” alternative as the preferred alternative. **</p>	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis. Neither a state-wide leasing moratorium, nor the choice of a ‘no leasing’ alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.</p>
12262	Request for Extended Comment Period	<p>According to the Federal Register notice, comments must be received within 45 days of publication of the notice. That is, comments must be received by June 10. But BLM's own regulations clearly require a ninety-day period for public comment. It explicitly provides that, in the context of consideration of a resource management plan amendment, “[n]inety days shall be provided for review of the draft plan and draft environmental impact statement.”² We therefore write to request an extension of time to comment to 90 days, or July 25, 2019.</p>	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). In order to complete the supplemental analysis following the guidance of Secretarial Order 3355 (https://www.doi.gov/sites/doi.gov/files/uploads/3355_-_streamlining_national_environmental_policy_reviews_and_implementation.pdf), BLM is not able to accommodate requests to extend the public comment period on the Draft SEIS.</p>
12861	Opinion - NEPA process	<p>NPCA disagrees with BLM's 4 well per year figure and the limited analysis area they rely on in the DEIS.</p>	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.</p>

Comment Number	Issue	Comment	Response
24498	NEPA Process	2) According to information provide to the public at https://www.blm.gov/press-release/b1mbakersfield-seeks-public-comments-draft-hydraulic-fracturing-impacts-analysis , the "Bureau of Land Management (BLM) is seeking public comments on a Draft Supplemental Environmental Impact Statement (EIS) analyzing the potential impacts of hydraulic fracturing associated with oil and gas development on public lands within the Bakersfield Field Office planning area." In addition, there is information provided at this website on the times and locations of three public meetings. I attended the public meeting held in San Luis Obispo on May 22, 2019, at the Embassy Suites by Hilton, as did many other local citizens. I highlight the phrase "seeking public comments" because those attending were told just as the public comment session was beginning that no record was to be made of our comments that evening. In other words, we, the public, were thwarted in our effort to provide meaningful public input — an integral element of the federal NEPA process — by the very federal agency soliciting the public comment. The representatives of the BLM who were present defied the spirit and the intention of the NEPA process. In addition, the BLM as federal agency accountable to the public disrespected, deprecated, and discountenanced that same public for whom they work. I am not sure how to meaningfully address this travesty, but I will be contacting my House and Senate Representatives in the hope that some step can be taken to constrain this kind of situation in the future.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24498	Water Resources	1) Table ES.2 Summary of Estimated Environmental Impacts, by Alternative, lists the following impacts in terms of groundwater: • Groundwater Use — negligible impacts in context of regional agricultural consumption. • Hydraulic fracturing constituent mixing and handling — Impacts to groundwater due to spills of fracturing fluids would be negligible. • Injection of hydraulic fracturing fluids/flowback management and disposal — groundwater impacts from loss of well integrity or out-of-zone migration of fracturing fluids from an average of zero to four wells/year would be negligible. • If present trends continue, the drilling up to of 40 wells over the 10-year planning period would also have negligible impact. I highlight the word "negligible" because as a college English instructor, I teach my students to carefully consider word choices, and the word "negligible" is erroneous in this context. "Negligible" means trivial, trifling, insignificant, unimportant, minor, of no account, of no consequence, of no importance, not worth bothering about, not worth mentioning, inconsequential, minimal, small, slight, tiny, minute, inappreciable, imperceptible, infinitesimal. In other words, a "negligible" impact would be equivalent to an impact that is "imperceptible" and one that cannot be measured. However, according to the California State Water Board's 2018 Annual Performance Report: Model Criteria for Groundwater Monitoring in Areas of Oil and Gas Well Stimulation, Kern County is already experiencing adverse impacts on protected groundwater as a result of hydraulic oil production. These are measurable impacts. The report concludes that chemicals including arsenic, barium and boron have already been detected at elevated levels in the areas that the BLM's Draft Supplemental Environmental Impact Statement deems to be "most likely affected" (Section 4.8.3.2) by hydraulic fracturing should the existing 2014 RMP be amended. Not to put too fine a point on it, but detection at "elevated levels" means that previously there was an initial measure of the amount of these chemicals in the groundwater, and, subsequently, there was a second measure of these chemicals in the groundwater, and, as a result, there was a measurable increase. So, if current hydraulic fracturing is already producing a measurable, in other words "not negligible," impact on groundwater resources in the affected areas, it defies reason, common sense, and the very definition of the word negligible that opening more lands for hydraulic fracturing would result in a "negligible" impact.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24495	NEPA Process	The report and supplement that BLM has created regarding hydraulic fracturing lacks statistical analysis and recent data. Items that were presented, as the high need and use for water, were compared only with an agricultural alternative, which is self-limiting. Critical information, as the toxic chemical mixture which is used in fracturing, was merely called mixture, which is also self-limiting, as the chemicals and the environmental implications of the use of the chemicals, were not examined. The original report was done several years ago and many areas within the United States which have engaged in hydraulic fracturing are now finding many problems which have developed from this process.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Comment Number	Issue	Comment	Response
24555	Climate and Air Quality	This SEIS ignores the decision by the State of California to aggressively combat climate change through the implementation of a clean energy policy.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
24555	NEPA Process	Basically, the SEIS is a rehash of the earlier RIVIP. Using a superficial recitation of fracking, BLM decided to change nothing at all from the 2014 RMP. The Bureau looked at exactly the same limited set of planning alternatives, and reached the exact same conclusion about opening up the land to fracking. This letter will cover some of the issues that were inadequately addressed by the SEIS.	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>
24555	Oil and Gas Leasing and Development	The SEIS does not even address the need for set-backs from sensitive target points, such as schools and hospitals, to protect communities.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24555	Opinion - NEPA process	We feel that the SEIS has completely failed to address the concerns expressed by the 2016 court order. The federal plan to expose this region of California to many unaddressed dangers of hydraulic fracturing is unacceptable.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.

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24555	Seismic Activity	In spite of a large body of study available on the relation between earthquake activity and human resource extraction activity, the SEIS has chosen to remain mum on the entire subject. This omission is inexcusable.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Seismicity. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24555	T&E Species	The southern portion of the San Joaquin Valley and adjacent areas to the west and south, including Cuyani Valley and Carrizo Plains contain one of the highest concentration of endangered native plants and animals of an region in North America. This phenomenon is due to a combination of modern human activity, past geologic event and climate. This region is designated climatically as a desert. Because of topography, it has been isolated from other California deserts, such as Mojave and Colorado Deserts, for enough time to allow the creation of many unique species. Bakersfield cactus, San Joaquin kit fox and blunt-nosed leopard lizard are examples. Because of the limited range and unique genomes, they are in danger of extinction. Island biogeography principles support this statement. In the last 150 years, humans have greatly altered the Central Valley and surrounding regions. Water relocation, tilling and irrigation-based farming, introduction of non-native grasses and urban growth are some of the factors involved in this alteration. Many species are in critical danger of total extinction. The SEIS has not adequately addressed the effect of massive fracking-based oil and gas extraction on these already greatly stressed species.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24555	Wilderness	Fracking operations could be located immediately adjacent to national parks, monuments, wildlife refuges and state parks — including Sequoia National Park, Yosemite National Park, Los Padres National Forest, Carrizo Plain National Monument, and Wind Wolves Preserve. The SEIS does not discuss the impact of fracking on these important natural reserves.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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24454	Climate and Air Quality	When the well is done a percentage of the chemical mix is left behind. These chemical toxins that are commonly found in the mixture, also present health associated problems through air emissions, as the toxins, methane, and hydrocarbons evaporate into the air. This was not mentioned in the supplement.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24454	Public Health and Safety	The BLM supplement does not mention the policy of disallowing repeated or multiple fracks. Nor does the BLM report address the health hazards of the chemicals commonly used in fracking or even study the increased health hazards of those workers employed in fracking or in the areas surrounding current wells.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.

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24454	Water Resources	For example, BLM has written in the current supplement that the hydraulic fracturing process "involves injecting a mixture of highly pressurized fluids and proppant" to create and prop open fissures or pathways in the earth. The word "mixture" does not describe the toxins and chemicals that are used in the mixture that are being forcibly pushed into areas which may contain water tables or may leak into water sources. The report should not omit this information.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24454	Water Resources	Hydraulic fracturing uses millions of gallons of water per well. The supplemental report merely compares it to an agricultural use of the land and cannot justify the use of this much water in dry areas. This water will be too contaminated to use for humans or animals once it is used in fracking. The report only compares the fracking water usage to agricultural water use and does not compare it to other activities which may occur on BLM land, i.e. solar panel farm.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24674	Opinion - NEPA process	P 6.44 How CAN A D SEIS (BLM) BASED ON "THE MOST CONSERVATIVE IMPACT ASSUMPTIONS, Be taking a hard Look?	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p>

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			<p>It is important to note that this Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
24675	Climate and Air Quality	I oppose because p. 36 hydrolic fracturing wells flare off methane. Why has the BLM not even provided any data to explain what impact these wells will have on loading more methane into the atmosphere?	<p>Impacts of the alternative fluid mineral management decisions on relevant resources and programs are analyzed and categorized as direct and indirect, as well as cumulative. Impacts from hydraulic fracturing are quantified to the degree possible at the land use planning level of analysis, based on estimated areas of surface impacts, or other metrics, as appropriate by resource.</p> <p>This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>It is important to note that this Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

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24676	General	Basing the SEIS "on most conservative assumptions" (pg. 44) has no merit.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
24556	Climate and Air Quality	THE DRAFT SEIS FAILS TO ACCOUNT FOR THE HAZARDS OF HYDRAULIC FRACTURING, SPECIFICALLY IN CALIFORNIA, A REGION SUBJECT TO MEGAFIRES. THE ENTIRE STATE, BOTH RURAL AND URBAN, IS SUBJECT TO FIRE TORNADOS THAT ARE INCAPABLE OF BEING CONTROLLED AND ARISING WITHOUT WARNING.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24556	Climate and Air Quality	The SEIS fails to consider the exponential effects of fueling the current climate collapse, regional and world-wide, by increasing fossil fuels in the atmosphere and bringing it "to market."	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24556	Climate and Air Quality	The SEIS fails to consider the obvious: climate "change," "crisis," "catastrophe," "collapse", is a scientific fact. The reality of the ongoing climate disaster is acknowledged by front-line fire experts (see National Geographic reference above).	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
24556	Cumulative Impacts	The SEIS fails to acknowledge that continued/increased fossil fuel extraction, by any means, hydraulic fracturing or otherwise, is accelerating the incineration of all forms of life in California and world-wide.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.

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24556	Cumulative Impacts	The SEIS fails to consider the consequences of what will happen when oil fields catch on fire, such as but not limited to: explosions, incineration of equipment, infrastructure, roads, power supplies, toxic emissions, deaths of oil field workers, deaths of first responders, deaths of civilians, wildlife and all flora, desecration and destruction of cultural artifacts.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
24556	Socioeconomic s	The SEIS fails to consider the ongoing impact of wildfires on its victims (e.g. 88 people dead in the Camp Fire), economic costs of wildfires (Camp Fire 16.5 billion USD), buildings destroyed (Camp Fire 18,804).	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24483	NEPA Process	While we understand the draft report is not intended to evaluate impacts at the site or project specific level, as we read in Mr. Garcia's cover letter, we do not believe that your report addressed all of our comments in a meaningful way. Please review our September 8 letter and include adequate evaluations of our concerns in the final EIS, as well as considering them later in any specific proposed site or project level action which may affect Rancho Sisquoc. Please include this letter and our attached September 8 letter in the final EIS.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
16755	Alternatives	Additional alternatives that BLM should consider to mitigate or reduce the environmental impacts of hydraulic fracturing include: (1) Closing more public lands to mineral leasing; (2) Placing ecologically sensitive areas off limits to hydraulic fracturing; (3) Prohibiting leasing in areas with low or no potential for oil and gas development. This is an alternative that BLM itself recently evaluated in its recent Final EIS for the Central Coast Oil and Gas RMP amendment. See Central Coast Final EIS at 2-16 – 2-17. (4) Limiting oil and gas development near communities; and (5) Limiting the number of hydraulic fracturing operations in a given year. Without a consideration of alternatives that are actually related to the environmental consequences of hydraulic fracturing, BLM's alternatives fail to allow for “informed decisionmaking and informed public participation,” in violation of NEPA.	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>

Comment Number	Issue	Comment	Response
16755	Alternatives	EIS also fails to consider reasonable alternatives to the proposed action, including alternatives that could limit or mitigate the adverse impacts of hydraulic fracturing on the environment and nearby communities.	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>
16755	Alternatives	Given that court found that BLM must conduct this supplemental EIS to take a “hard look” at the environmental impacts of hydraulic fracturing, simply “bringing forward” the same alternatives from an environmental review that entirely failed to consider such operations precludes BLM from considering approaches that could actually reduce the overall environmental impact of fracking activities, in direct violation of NEPA.	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>
16755	Alternatives	In the Draft Supplemental EIS, BLM “brings forward” the same alternatives that it previously considered in the 2012 Final EIS, claiming that the district court “upheld the range of alternatives” in that document. Draft Supplemental EIS at 13. These alternatives include “No Action” (Alternative A), the Proposed Action to open 1,011,470 acres to fluid mineral leasing (Alternative B), as well as 3 additional alternatives (Alternatives C-E) that are similar to the Proposed Action but differ slightly in terms of their emphasis on conservation, livestock grazing, or the production of natural resources. Id. at 13-34. However, given that the purpose of the Draft Supplemental EIS is to analyze the environmental impacts of hydraulic fracturing, Supplemental Draft Supplemental EIS at 2, BLM must consider additional alternatives that relate to this purpose and which could potentially reduce the significant impacts of such operations.	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>

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16755	Alternatives	The Draft Supplemental EIS also fails to consider a reasonable range of alternatives to the Proposed Action.	<p>Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis presents them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller.</p> <p>The U.S. District Court, Central District of California upheld the range of alternatives analyzed in the 2012 Final EIS. Therefore, this supplemental process evaluates the environmental consequences of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. For reasons discussed in the Draft SEIS, no amendment to the 2014 RMP is warranted. Therefore, Alternative B, the Proposed Plan is the selected alternative.</p>
16755	Climate and Air Quality	Acres, which are near the McKittrick Oil Field and Midway-Sunset Oil Field in Kern County. ³⁶ The Draft Supplemental EIS and any future BLM decision-making should consider results from these studies as they become available.	<p>It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>

Comment Number	Issue	Comment	Response
16755	Climate and Air Quality	As noted previously, and despite BLM’s statements to the contrary, there is substantial potential that the Proposed Action may significantly increase air pollution. In addition to that likely impact, the Draft Supplemental EIS fails to adequately analyze and disclose the cumulative impacts related to this issue. As BLM is well aware, the agency is also currently proposing the Resource Management Plan Amendment and Final EIS for Oil and Gas Leasing and Development in the Central Coast region. That proposal itself involves considerable new well development, including a BLM-estimated 37 new wells that would involve hydraulically fracturing. Central Coast Final EIS at 47-48. Yet, inexplicably, the Draft Supplemental EIS fails to mention that other major BLM planning effort, which would involve the development of new hydraulically-fractured wells during the same timeframe as the Proposed Action. Moreover, most or all of these wells are expected to be developed in the San Joaquin Valley. Id. at 27, 48. Indeed, the regional air basin regulated by the local California Air District – the San Joaquin Valley Air Pollution Control District – includes portions of four counties covered by the Central Coast Final EIS (San Joaquin, Stanislaus, Merced, and Fresno) and five counties covered by the Draft Supplemental EIS (Fresno, Kern, Kings, Madera, and Tulare). Not only does this raise improper project segmentation issues given the similarities in nature and geography between these two proposals, but it also raises serious cumulative impact concerns. A cumulative impact is defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions... . Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” 40 C.F.R. § 1501.7(a)(2). The San Joaquin Valley is in extreme ozone nonattainment status, and smog is very much a cumulative air pollution concern (NOx and ROG emissions are both ozone precursors which generate smog by reacting in the atmosphere across the entire air basin). Despite these facts, BLM fails to consider the cumulative NOx and ROG related effects of two major planning efforts – both undertaken by BLM, and both of which involve approving new hydraulic	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.
16755	Climate and Air Quality	as quantified in the Draft Supplemental EIS, anticipated emissions increases associated with the Proposed Action approach the applicable general conformity de minimis thresholds for certain pollutants in the San Joaquin Valley air basin, including nitrogen oxides (“NOx”) and reactive organic gases (“ROG”), two critical contributors to ozone formation. Draft Supplemental EIS at 62. The San Joaquin Valley is already classified as extreme nonattainment for 8-hour ozone. If the number of wells that would be hydraulically fractured is even slightly underrepresented, then one or both of these thresholds would likely be exceeded, resulting in significant air quality impacts. A revised analysis may also show that the Proposed Action’s greenhouse gas emissions would exceed the 25,000 metric tons of carbon dioxide equivalent (“MTCO2e”) annual threshold for mandatory reporting of greenhouse gas in the U.S. Environmental Protection Agency’s mandatory reporting program for greenhouse gases, which	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.
16755	Climate and Air Quality	California has a statutory target of reducing greenhouse gas emissions by 40 percent below 1990 levels by 2030, Cal. Health & Safety Code § 38566, and a plan to reduce fossil fuel consumption by 45 percent by 2030 to meet this target. ²⁹ Increasing oil and gas operations and opening new lands to leasing is contrary to and inconsistent with these plans.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

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16755	Climate and Air Quality	CARB also has created a Study of Neighborhood Air near Petroleum Sources (SNAPS) to better understand air quality in communities near oil and gas operations. ³⁴ This project will inform the Community Air Protection Program and state policy around air emissions in these communities. OEHHA will analyze all SNAPS data and compare it to current health protective standards. The first community selected by CARB for intensive air monitoring study, Lost Hills, is in the Planning Area, and monitoring commenced in May 2019. ³⁵ Other communities expected to receive air monitoring under the SNAPS program include McKittrick and Derby	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
16755	Climate and Air Quality	fracturing and other well development activities which would occur during the same timeframe and in the same extreme nonattainment air basin.	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.
16755	Climate and Air Quality	the Draft Supplemental EIS appears to use as a greenhouse gas significance threshold. Draft Supplemental EIS at 57. When the Draft Supplemental EIS is revised as requested in this letter, the analysis must accurately quantify and mitigate any significant air quality and greenhouse gas impacts.	Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.
16755	Climate and Air Quality	The Draft Supplemental EIS fails to consider conflicts with state plans and policies, including efforts by California to reduce greenhouse gas emissions and fossil fuel consumption to mitigate the devastating consequences of global climate change.	BLM requires project compliance with all federal, state, and local laws, including setback distances. Potential project development requirements would be addressed through subsequent processes and site-specific NEPA analysis.

Comment Number	Issue	Comment	Response
16755	Climate and Air Quality	With regard to air quality, seven of the eight counties in the Planning Area are already in non-attainment with particulate matter, ozone, or both air quality standards. Indeed, ozone is among the most widespread and significant air pollution health threats in California, including in the Planning Area. ¹³ The Central Valley in particular experiences some of the worst particulate matter pollution in the state. ¹⁴ Any additional emissions of volatile organic compounds, nitrogen oxides, and other air pollutants in these areas from expanded oil and gas production are therefore significant and should be mitigated. Furthermore, the public health risk exposure to toxic air contaminants is greatest near active oil and gas sites. CCST Report, Vol. II at 407-412. As discussed further below, since many residents in the Planning Area live near oil and gas activity, any new oil and gas production activity must take into account the health impacts to nearby sensitive receptors.	<p>Thank you for your thorough review of the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. First, although potential impacts from possible hydraulic fracturing were conceptually included in the 2012 Final EIS analysis, this supplemental analysis will present them as additive to the 2012 Final EIS analysis, in order to show the work of taking a hard look at these potential impacts. Similarly, throughout this Draft Supplemental EIS, the most conservative impact assumptions were selected to integrate into the supplemental impact analyses. As a result, the actual maximum potential impacts will most likely be much smaller. All assumptions and methods used for this planning level analysis of potential impacts to air and atmospheric values is provided in Section 4.1.4 of the Draft SEIS.</p> <p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
16755	Environmental Justice	BLM's analysis of impacts to disadvantaged communities living near federal oil and gas operations is particularly deficient, including the effects of increased air pollution and groundwater contamination.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values and Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
16755	Environmental Justice	The Draft Supplemental EIS also fails to consider how the Proposed Action will impact low-income communities and communities of color in the Planning Area, whether resulting from increased air pollution or groundwater contamination. While the 2012 Final EIS acknowledges that the Planning Area contains minority populations and low-income populations (2012 Final EIS at 388), the Draft Supplemental EIS fails to consider the disproportionate impacts of the Proposed Action on these populations. It also fails to consider the extent of existing air and water pollution and corresponding public health concerns to which the Proposed Action will add.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

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16755	General	Furthermore, the Draft Supplemental EIS fails to properly consider many issues, including potential groundwater contamination from hydraulic fracturing fluids, increased seismic activity, other types of well stimulation treatments and enhanced oil recovery techniques, and the use of hydraulic fracturing to extend the life of wells with declining production.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
16755	General	Although not specifically required by the District Court, it is arbitrary for BLM to ignore the environmental impacts of other types of well stimulation treatments and enhanced oil recovery techniques in the Planning Area given their likely utilization in the future. These techniques include acidizing, water flooding, steam flooding, cyclic steam injection, and a dual type that alternates between steam and water flooding. NEPA requires that an agency consider the full scope of activities encompassed by its Proposed Action. See 40 C.F.R. § 1508.25; N. Alaska Env'tl. Ctr. v. Kempthorne, 457 F.3d 969, 975 (9th Cir. 2006) (finding that the “hard look” requirement of NEPA includes “considering all foreseeable direct and indirect impacts.”). For the Proposed Action, this should include not only hydraulic fracturing activities, but also other types of well stimulation treatments that will be foreseeable used in the Planning Area. In the	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
16755	General	Central Coast Final EIS, BLM assumed that “[w]ell stimulation technologies (e.g., hydraulic fracturing, acid matrix stimulation, acid fracturing) and enhanced oil recovery techniques (e.g., cyclic steam, steam flood, water flood) may be used on any or all” wells drilled on federal mineral estate. See, e.g., Central Coast Final EIS at 4-17.1. The Draft Supplemental EIS contains no analysis of such issues.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
16755	General	Here, rather than providing the sufficient analysis or evidence required by NEPA to take a “hard look” at its Proposed Action, BLM’s findings in the Draft Supplemental EIS are based an unfounded assumption that only “zero to four” hydraulic fracturing events will occur in the Planning Area each year. Draft Supplemental EIS at 6, 44. This assumption is not backed by any underlying data or analysis, and it is contrary to BLM’s own prior estimates.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.

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16755	General	In addition to limiting its impacts analysis to “zero to four” hydraulic fracturing events on new wells each year, BLM ignores that fact that hydraulic fracturing is commonly used to extend the life of existing oil wells with declining production and related infrastructure, resulting in additional significant impacts from the continued production of fossil fuels in these areas. As BLM itself states in the Draft Supplemental EIS, “hydraulic fracturing usually occurs in oil fields on existing leases, many of which have been continuously developed over the last 100 years.” Draft Supplemental EIS at 6. Yet nowhere does BLM consider the environmental impacts of using hydraulic fracturing or other well stimulation treatments on existing wells within the Planning Area.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
16755	General	In particular, the Draft Supplemental EIS relies on the unfounded assumption that only “zero to four” hydraulic fracturing events will occur in the Planning Area each year, distorting its consideration of environmental impacts and its findings of significance.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
16755	General	See attached comment lettter and Exhibits 1-9.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
16755	General	Similarly here, BLM's assumption that only “zero to four” hydraulic fracturing events will occur in the Planning Area each year distorted its consideration of several environmental impacts and significance factors. For example, in analyzing the greenhouse gas and other air pollution that will result from the Proposed Action, the calculated emissions are based on the development of just 40 wells over the 10-year life of the 2014 RMP. See Draft Supplemental EIS at 54-64. Similarly, with regard to water resources, BLM finds that this amount of hydraulic fracturing would consume just 8.0 million gallons (25 acre-feet) of water during the 10-year planning period, and that “[t]he risk of impacts to groundwater due to spills of fracturing fluids from the completion of an average of zero to four wells per year would be negligible.” Id. at 8587. And because of the small number of anticipated hydraulic fracturing events and related wastewater disposal, BLM summarily concludes that “negligible impacts related to earthquake potential from oil and gas disposal wells associated with hydraulic fracturing alone would be expected.” Id. at 92. Given that BLM's quantification regarding the number of wells which may be hydraulically fractured is significantly underestimated, there is serious potential that the Proposed Action would result in exceedances of the applicable significance thresholds.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). This supplemental impact analysis necessitated numerous assumptions for the required land use planning level of analysis. As discussed in Section 4.0 of the Draft SEIS, a critical assumption for this supplemental analysis is the percentage of new wells on new leases analyzed in the 2012 Final EIS that would be hydraulically fractured. BLM fluid minerals specialists conducted an analysis of existing data to determine that zero to four of these new wells on new leases would be hydraulically fractured in any given year, or 0 to 40 over the 10-year life of the 2014 RMP (Prude 2018). This analysis integrated data from DOGGR (2018b) and FracFocus (2018) databases (Prude 2018). All wells hydraulically fractured since 2011 were cross-referenced with location data. All of these wells were either in, or within a two-mile buffer, of existing oil field boundaries. Most of these wells occurred within a very small number of existing oil fields.
16755	General	The Draft Supplemental EIS fails to properly consider conflicts between the Proposed Action and State policies. NEPA requires an agency to include a discussion of “[p]ossible conflicts between the proposed action and the objectives of” state plans and policies. 40 C.F.R. § 1502.16(c). An EIS must also “[d]iscuss any inconsistency of a proposed action with any approved State or local plan and laws.” Id. § 1506.2(d). Furthermore, BLM's resource management plans are required to be consistent with state and local government plans, policies and programs. 43 C.F.R. § 1610.3-2.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.

Comment Number	Issue	Comment	Response
16755	NEPA Process	Although the Draft Supplemental EIS was allegedly prepared to address the deficiencies in its prior review as found by a federal district court, BLM's analysis fails to take a "hard look" at many of the significant impacts associated with hydraulic fracturing, or provide sufficient evidence regarding its conclusions, in violation of the National Environmental Policy Act ("NEPA").	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
16755	NEPA Process	Attorney General Becerra recommends that BLM withdraw its Draft Supplemental EIS and prepare a new analysis that fully considers the environmental impacts of opening over one million acres of public lands in California to oil and gas leasing.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.
16755	NEPA Process	BLM provided the public with just 45 days to comment on the Draft Supplemental EIS, not the full 90 days required by Council on Environmental Quality regulations and BLM's own NEPA handbook. While BLM held three public meetings relating to the Draft Supplemental EIS, it refused to accept oral comments into the record at those hearings. ⁴¹ Finally, despite community requests for interpretation services and BLM's knowledge of significant Hispanic populations in the Planning Area (2012 Final EIS at 371), ⁴² BLM did not provide interpretation services at its hearings. Thus, BLM should extend the comment period and provide meaningful opportunities for the affected public to comment on the Draft Supplemental EIS.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). In order to complete the supplemental analysis following the guidance of Secretarial Order 3355 (https://www.doi.gov/sites/doi.gov/files/uploads/3355_-_streamlining_national_environmental_policy_reviews_and_implementation.pdf), BLM is not able to accommodate requests to extend the public comment period on the Draft SEIS. In addition, BLM was not able to accommodate specific needs and provide language interpreters for all potential non-English speakers who may have attended the public meetings on the Draft SEIS.
16755	NEPA Process	Finally, BLM has failed to provide the public with a meaningful opportunity to participate in and comment on the preparation of this Draft Supplemental EIS.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement (Draft SEIS). In order to complete the supplemental analysis following the guidance of Secretarial Order 3355 (https://www.doi.gov/sites/doi.gov/files/uploads/3355_-_streamlining_national_environmental_policy_reviews_and_implementation.pdf), BLM is not able to accommodate requests to extend the public comment period on the Draft SEIS.
16755	NEPA Process	Given that serious deficiencies in the Draft Supplemental EIS, BLM should withdraw its current proposal and prepare a new analysis that fully considers the environmental impacts of opening over one million acres of public lands in California to oil and gas leasing.	Based on summary finding by the U.S. District Court, Central District of California, the focus of this supplemental analysis addresses only the potential impacts of hydraulic fracturing as a result of future leasing and development decisions consistent with the 2014 RMP fluid mineral management decisions. The Supplemental EIS therefore analyzes the impacts of hydraulic fracturing technology on BLM-administered public land and mineral estate in the Planning Area, exclusive of the California Coastal National Monument and the Carrizo Plain National Monument, which are addressed in Monument-specific RMPs. New wells on new leases that may be completed using hydraulic fracturing would be subject to all fluid mineral management decisions in the 2014 RMP.

Comment Number	Issue	Comment	Response
16755	Public Health and Safety	The Draft Supplemental EIS fails to account for the close proximity of oil and gas activities to residents.	It is important to note that the Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis and necessitated numerous assumptions. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.
16755	Seismic Activity	The Draft Supplemental EIS also fails to adequately consider recent science connecting the underground injection of hydraulic fracturing waste fluids, as well as hydraulic fracturing itself, to increased seismic activity. For example, BLM dismisses the notion that the Proposed Action could result in impacts related to hydraulic fracturing-induced earthquakes, stating that “[t]hree cases of hydraulic fracturing–induced earthquakes in the United States have been reported” and “only a few more worldwide.” Draft Supplemental EIS at 91-92. However, recent science has connected hundreds of earthquakes in Oklahoma, Ohio, and other areas to hydraulic fracturing events. ⁸ BLM also finds “negligible impacts related to earthquake potential from oil and gas disposal wells associated with hydraulic fracturing,” stating that there have been “no reported cases” of such induced seismicity, citing to the CCST Report. Draft Supplemental EIS at 92. However, more recent studies have in fact drawn such connections. ⁹ Moreover, while the CCST stated that “hydraulic fracturing as currently carried out in California is not considered to pose a high seismic risk,” CCST Report, Vol. II. at 267, it also warned that “it can be very difficult to distinguish California’s frequent natural earthquakes from those possibly caused by water injection into the subsurface” and recommended further analysis of this issue. Id. at 30-32. This is especially warranted given California’s many active earthquake faults and the fact that over 1,000 wastewater disposal wells are located within 1.5 miles of a mapped active fault in central and southern California. Id. at 277-293.	<p>As noted throughout the Draft SEIS, the Approved Resource Management Plan (ARMP) and Record of Decision (ROD), referred to as the “2014 RMP,” identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing.</p> <p>Environmental impacts estimated in the Draft SEIS for all BLM surface incorporate positive effects of proposed special designations, mitigation measures, BMPs, standard operating procedures, and lease stipulations in the 2014 RMP. For potential impacts on non-BLM surface, the Draft SEIS impact analysis acknowledges that constraints consistent with the rights granted by a lease on federal minerals may be imposed on the location of access roads, well sites, and facility sites or timing of geophysical exploration, well drilling, and other operations. These constraints include lease stipulations, BLM review and environmental analysis of proposed operations, Notices to Lessees, Onshore Orders, or regulations. In addition, and as applicable, this analysis assumes that all hydraulic fracturing activities would be conducted in compliance with all other applicable federal, state, and local restrictions and regulations.</p> <p>The Draft SEIS consistently references additional locations in the oil and gas lease development process where environmental review would occur and include analysis of BMPs, standard operating procedures, and lease stipulations. These include environmental review for leasing, which identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM will finalize project mitigation measures, BMPs, and stipulations from the 2014 RMP.</p>

Comment Number	Issue	Comment	Response
16755	Water Resources	Given the scope of the existing drinking water contamination in the Planning Area, any additional impacts from hydraulic fracturing should be identified and mitigated.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
16755	Water Resources	with regard to impacts to groundwater from the management and disposal of flowback fluids, the Draft Supplemental EIS notes that produced water is stored in “tanks or in lined impoundments” prior to disposal, reinjection, or recycling, but summarily concludes that “[i]mpacts to groundwater from the completion of an average of zero to four wells in any given year ... would be negligible.” Draft Supplemental EIS at 89-90. Yet nowhere does BLM discuss data collected by the State Water Resources Control Board, which produces a report every six months on the regulation of oil field produced water ponds within each region. ³ According to the most recent report dated January 31, 2019, the Central Valley region had 561 active ponds, 501 of which were permitted and 60 unpermitted. ⁴ Moreover, most of the active ponds (530 of 560) were unlined. ⁵ The report also identified additional inactive ponds (507 of which were unlined), and noted that 161 ponds were under active enforcement actions. ⁶ Moreover, recent testing of these ponds, as required by the Central Valley Regional Water Quality Control Board, has identified numerous hazardous compounds that could pose a threat to groundwater for municipal and agricultural uses. ⁷ The CCST also expressed concern about the regular use of unlined pits for the disposal of produced water, finding that such practices could “introduce contaminants into the food web and expose human populations to known and potentially unknown toxic substances.” CCST Report, Vol. II at 403.	<p>Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.</p> <p>It is important to note that the Draft Supplemental EIS, like the 2012 Final EIS it supplements, is prepared at the land use planning level of impact analysis. Oil and gas leasing and development on federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Pursuant to NEPA, BLM review must address the direct, indirect, and cumulative effects of the specific action proposed at each of these stages. The 2014 RMP identifies areas as open or closed to fluid mineral leasing and establishes appropriate stipulations, and other mitigation measures and best management practices (BMPs) that could be applied to areas identified as open to leasing. The environmental review for leasing identifies parcels to be offered for leasing and the conditions under which leasing and eventual development may occur. The environmental review, including direct and indirect effects, for the development of leased parcels, including well completion techniques such as hydraulic fracturing, is a site-specific analysis of potential impacts from an identified proposed project. Applications for Permits to Drill (APDs) are required to be submitted by developers/operators, and typically include an initial on-the-ground, site-specific field evaluation by BLM resource specialists in addition to a site-specific NEPA analysis. This analysis allows site-specific information regarding local resource conditions to be evaluated and potential impacts disclosed. During this project-specific analysis, BLM would finalize the set of design features, Conditions of Approval (COAs), BMPs, and stipulations from the 2014 RMP that would be applied to the project.</p>
16755	Water Resources	In 2012, California enacted Water Code section 106.3, making California the first state in the nation to recognize the human right to water. ³⁷ Water Code section 106.3 established the state’s policy that every person has the right to safe, clean, affordable, and accessible water adequate for drinking, cooking, and sanitary purposes. ³⁸ Thus, preventing and addressing discharges that could threaten human health by contributing to contamination of drinking water sources are among the state’s highest priorities. As discussed above, many of the disadvantaged and marginalized communities residing in the Planning Area do not have access to clean, safe, and affordable water. ³⁹ Thus, any risk of additional contamination or reduction in water supplies resulting from hydraulic fracturing on BLM lands is significant and would be inconsistent with the state’s human right to water policy.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
19831		I'm submitting written comments from the San Luis Obispo public meeting to be included in the record. Please contact me if there is any more information you need for this submission.	
22774		I'm submitting written comments from the Santa Barbara public meeting to be included in the record. Please contact me if there is any more information you need for this submission.	

Comment Number	Issue	Comment	Response
24560	Alternatives	And it seems we expect the agency to operate in good faith, which means that they did not know what the outcome was going to be before they began the process, something which is quite questionable in this case. There needs to be alternatives, different approaches in that we know that the standard of review is arbitrary and capricious, which means that there are four ways that it can fail.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24560	Alternatives	BLM to protect scientific, scenic, historical, ecological, and environmental air and atmospheric water resource and archeological values of our public lands, BLM must keep the moratorium on leasing in place. Make it permanent by amending the EIS to include and adopt a no-leasing alternative as the preferred alternative.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement. Neither a state-wide leasing moratorium, nor the choice of a “no leasing” alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.
24560	Climate and Air Quality	I just have one thing to say. This valley of ours is presently full of a non-ambient air quality with fine particulate matter. The draft supplemental environmental impact statement, which you published here in apparent haste, references a no-show of de minimis quality air impact, negligible impact. And there is -- it is a concept in law, the rationale that any intended impact to the air quality would be too minimal in size to merit consideration. Now, apart from the callousness of that -- of that device in this and the limiting to four wells, how -- you know, why did it take 100,000 acres to get four wells? Answer with me that. But I gather this rationale comes from the 2014 document, which this EIS was partially derived from. And in 2014, the de minimis threshold would have been appropriate and applicable, but that is no longer the case. In August of 2016, after a year of this, in light of the protection agency published new requirements in all of the containment areas like this one, the severe modern containment area, and the de minimis concept was considered and then completely rejected by the EPA. The EPA determined that they could have done that, but when it comes to fine particulate matter, there is no source that is worthy of exclusion; so I suggest that BLM go back to the drawing board and produce a proper EIS that adequately weighs additional health causes to an already burdened population.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24560	General	The supplemental EIS assumes that only four new wells per year will be fracked on the 1 million-plus acres up for leasing. This would -- Kern County permits more than 2,000 new wells per year, many of which are fracked. How does the BLM justify assuming only four new fracked wells per year?	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). All the assumptions used in the planning level Draft SEIS are described and laid out in Section 4.0, Introduction
24560	Mitigation	Kern County collected more than \$32 million in air pollution mitigation fees for new oil well drilling in 2018 alone. How does the BLM justify requiring no mitigation whatsoever for air pollution from new drilling in arguably the most polluted region of the U.S.? At the very least, the BLM should be following Kern County's precedent in requiring air pollution mitigation.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24560	NEPA Process	I would really like to request that there is an interpreter for the Spanish-speaking people here in this county. And not only that, there is a Spanish-speaking person who will be giving her opinion later on. Hopefully I will be interpreting for her. So we live in a diversity community. We need to take that into account. And I also heard, and I'm not sure, but I heard that all opinions given today are not going to be taken into consideration; so I don't see why we are here tonight, this evening. We travelled all the way back from Fresno—and hearing that our opinion will be not taken care of—taken into account unless we submit that in writing. Many people in our community do not write, do not read. We need to take into account all opinions given here tonight.	

Comment Number	Issue	Comment	Response
24560	NEPA Process	Two, there is no change to the fracking goals. What does that mean? Does that mean there is no environmental impact to—to the lands surrounding hydraulic fracturing, if it were to go by? So what in this plan has changed since the beginning?It is now 2019. If this happened in 2014, what has changed? What updates can we see?	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24560	NEPA Process	You see, we need the agency to say, here is our premises, here is our logic, and here is our conclusion, and that is missing here because when the agency announced that it estimated zero to four wells will be fracked in 1.2 million acres in a year, that actually relied upon a 2013 California state report, which is nowhere to be found. We would have to go and research that ourselves to understand where the numbers came from. That is a violation of NEPA. They need to describe where the numbers came from.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). All the assumptions used in the planning level Draft SEIS are described and laid out in Section 4.0, Introduction.
24560	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	My appeal is directly to each of you, the Bureau of Land Management. Your mission statement is to sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations. There is already major production on public lands. It is now time to emphasize and focus on the health part of your obligation to the public. One of your stated goals is to promote harmonious and mutually beneficial uses of the land in Kern County. There is nothing mutually beneficial about opening up more land for drilling. It is only beneficial to oil and gas. It is actually detrimental to plants, animals, and humans in Kern County.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24560	Opinion - Shooting Sports	But back to the subject is that also something going on is the state of California has banned lead bullets; so now they are going to steel. Now, when steel hits one of the pipes out there in the oil patch, it is different than when it was lead. You have a fire. If it hits a rock, you have got ignition and you are going to have fire not only on BLM property, but adjoining and abounding properties so that you can't go, stop, fire. Stop, fire. It won't do it. And that is not very romantic, but it is a factor, and it is going to happen without banning the lead bullets.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.
24560	Public Health and Safety	And then, three, the fact that there is zero to no public health concern from BLM or potential from BLM, it is absurd to hear that; right?	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Soil Resources; and Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.

Comment Number	Issue	Comment	Response
24560	Public Health and Safety	I want to bring things back to the first speaker we had tonight who said that the supplemental EIS, the goal was to analyze the potential environmental impact of hydraulic fracturing, and to this person I ask: Is fire a potential environmental impact?The Canadian Association of Petroleum Producers suggests so. In a fairly recent document, they listed glaring vehicle transport, employee smoking, heavy equipment, and brush fires as all potential risks with oil and gas extraction, and they said these risks are, quote, potentially catastrophic. They then went through all the different policies and regulations at hand and which I assume are superior to ours, at least this point in the game, and kind of quelled the concerns of their citizens. I don't expect that from this current administration, however.The point was the RMP, though, spoke directly about it. But completely absent from this 2018 document, I see no mention of fire. In fact, the word fire shows up twenty-four times in the entire 174-page document. Twenty of them are references to historical and archeological sites, such as, like, brick fire ovens, things that are not exactly relevant to, say, a wildfire in the year 2020.One of the references has to do with the ability to move potential fire vehicles into spaces where wildfires break out.And then, three, the mentions of fire address the potential for climate change to cause additional wildfires, but we see nothing about the potential for more wildfires to start directly as a result of these processes.	
24560	Seismic Activity	Also, recently regarding the seismic question, just in the last month there has been a study out of Tufts University that not only confirms that fracking does contribute in the immediate area of the fracking activity, it does contribute to seismic activity in that area; however, they have also confirmed that there is a strong chance of sort of a concentric domino effect; that there is the seismic activity in the immediate area of the well and then there is a lesser influence on the neighboring area and some influence on the next area; so we are not just talking about the immediate area. That is brand-new research that I just learned about because I have enough contacts at Tufts University.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Seismicity. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24560	Water Resources	The fracking potential in Sespe wilderness has just one of the few places in the mountain communities that has year-round access to aboveground water; so possible contamination of these areas is unacceptable.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24563	Alternatives	Approve the no leasing alternative It makes sense.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement. Neither a state-wide leasing moratorium, nor the choice of a “no leasing” alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.
24563	Climate and Air Quality	In addition to climate threatening fossil fuels, fracking produces water contamination and fugitive methane, an extremely potent greenhouse gas. The high levels of methane leakage during capture and transportation suggests that shale gas is even worse than coal in terms of its impact to the atmosphere.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.

Comment Number	Issue	Comment	Response
24563	Climate and Air Quality	On pages 57 and 58. of this SETS, I found a serious error in estimated end-use greenhouse gas emissions that has since been independently verified by the Center for Biological Diversity. Table 4.1.5 lists the end use GHG emissions of 40 wells as 149,000 metric tons of carbon dioxide equivalence per year and, but since this estimate was described as being a total estimate for 40 wells, each well would have end use combustion emissions of approximately 380 or 3800 metric tons of cot annually. However, when use submissions are calculated from BLM's provided estimate of 320,000 barrels of crude oil produced per well per year on page 57, you arrive at 138 thousand million metric tons of cot equivalents and use emissions from oil combustion for a while per year. 3,700 times more per angle or annual well estimates, then the one given 40 wells. This error, intentional or not, gives the impression that total life cycle, carbon emissions from the proposed development will be orders of magnitude lower than estimates suggests and can be seriously misleading for both the public and policymakers. For example, California carbon emissions must be reduced or offset by total of 5.6 billion metric tons of carbon dioxide over the next 25 years under Governor Brown's executive order B-55-18 of 2018. If burned in California, this oil, the end use emission from this oil - from the proposed 400 new and conventional fracked wells could consume as much as 20%, one fifth, 1.1 trillion metric tons of carbon dioxide of that total, budget gone. And if they're burned out of state, guess what, it still harms millions of Californians because climate change is global. Considering California is now mandated to be completely carbon neutral by 2045. Proposed carbon emissions of this scale must be given a hard look in full context of their environmental, economic and social impacts, not brushed over in a few paragraphs with a highly convenient typo. Because of this deeply misleading nature of this presumed error, one of a pattern of similar errors in BLM reports like this that consistently understand environmental impacts I respect - I respectfully request that this draft EIS be withdrawn, corrected and expanded to consider California's climate goals and re-released as a draft to the public for another round of comments, if not scrapped together.	
24563	Cumulative Impacts	I want to address this SEIS. Page 85 says that mixing and handling of hydraulic fracturing fluids on wells - on well pads poses a potential threat to groundwater. Page 87 also says injection of hydraulic fracturing fluid poses risks to groundwater. But the SEIS concluded that the impact of new fracked wells on aquifer water quality will be negligible. However, however, what the report fails to consider is the extent of existing illegal wastewater injection already taking place in the State. Almost 3 billion gallons of oil industry wastewater has been illegally dumped into Central California aquifers that supply drinking water and farming irrigation. The wastewater enter the aquifers through nine injection disposal wells used by the oil industry to dispose of waste contaminated with fracking fluids and other pollutants. Our California State Water Board confirmed beyond doubt that at least nine wastewater disposal wells have been injecting waste into aquifers that contain high quality water that is supposed to be protected under federal and state law. So my request is that - we as the public cannot evaluate what's happening here if we don't know the truth about what's happening and the impact of these new wells cannot be negligible when taken into account with the existing illegal activity that's taking place. So I'm requesting that you stop this process right now. You go back and you evaluate what is actually happening, what illegal activity is taking place, what unreported activity is taking place and reevaluate the impact of this project in the area when combined with that activity so that we as the public, who will suffer the consequences of this, can truly evaluate what is happening.	
24563	NEPA Process	Lastly, we are outraged at hearing format that allows for oral public comment to be made, but that does not enter that comment into public record. This is an insult to everyone that has made time to be here tonight. And for that reason, the Center for Biological Diversity and the Sierra Club have paid for a videographer. We will be transcribing people's oral comments so they can be entered into public comment. You should still put in your own comment - written comment if you can. And we further protests that no Spanish language translation has been made available, effectively shutting out a large portion of our community.	

Comment Number	Issue	Comment	Response
24563	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	The city of San Luis Obispo values our federal lands which provide habitat to a vast array of wildlife that depend on a healthy and clean environment. The city's residents and visitors also enjoy our region's publicly owned beaches, mountains, and wild places and abundance of diverse resources for recreation and tourism, which compromise a large part of the city's economy. Oil drilling, production and transport presents a clear and ever-present danger to the health and safety of residences and businesses in our local economy. Many communities living near federal lands that may be developed for oil and gas production already bear a heavy burden and unjust pollution burden, including from air and water pollution. The Bureau of Land Management proposal stands in conflict with standing County of San Luis Obispo and City of San Luis Obispo's policies. And while all new oil and gas drilling in the Bakersfield planning area threatens our screening and biological resources, water supply, water quality, air quality, climate, seismicity, and rural and agricultural way of life. There are areas that the BLM proposes to open for drilling and fracking that are of particular local concern. The Irish Hills Natural Reserve, which is right around the corner, and Cayukas and Well Rock Reserved. Opening these areas for oil and gas development, including well stimulation, puts our drinking water supplies, air quality, and recreational opportunities, public health and tourism at stake. For these reasons, the city of San Luis Obispo respectfully requests that the Bureau of Land Management abandon - abandon its proposal and not seek to open public lands and minerals estate in the Bakersfield planning area.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24563	Other	I just want to acknowledge that the prior environmental impact statement did not look at cultural impact on Native American resources and so this is actually already addressing its non compliance with NAGPRA and local legislation like Cal NAPA [Applause] tribe says no to any development of oil and gas resources in our homelands.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Cultural Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24563	Public Health and Safety	Studies of fracking projects in the United States have conclusively demonstrated that the process threatens the health and quality of life of communities situated near drilling sites. The localities under consideration already suffer from serious air pollution, including four of the ten US cities with the worst air pollution in 2018. Water contamination and usage is also a serious concern in our drought stricken state. One fracked well can use two to eight million gallons of water, requiring 400 to 600 tanker trucks to deliver as Wally said earlier, while generating another 200 to 300 tanker truckloads of wastewater, destroying bridges and roads in the process and leaving towns to clean up the mess. The high volume use of carcinogenic chemicals, used as lubricants pose a threat to health, particularly to workers on drilling sites, and who handle the wastewater from fracking. US companies are not even required, by law, to disclose the chemicals used in the process. And these can run to thousands of gallons of - per well. Fracking is exempt or excluded from most major federal laws protecting environmental health, including the Safe Drinking Water Act.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Soil Resources; and Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24563	Seismic Activity	The second concern on my mind is earthquakes. I was reading recently that in 2005, they traced a swarm of earthquakes in the Central Valley to oil industry. And I even saw a headline from the Los Angeles Times saying that one of the largest earthquakes ever in that state, in the 30s, was caused by the oil industry. So I think we need to be very careful about what we do to not upset things and make things worse.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Seismicity. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24563	Socioeconomic s	The short term construction jobs created by building more fossil fuel infrastructure are insignificant compared to the 40 year jobs generated by the production of renewable energy facilities. Financial analysis - financial analysis of leasing plans fails to incorporate the cost of toxic externalities that our communities will be forced to bear.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Social and Economic Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.

Comment Number	Issue	Comment	Response
24563	Water Resources	And so in our stewardship of this land, we've always looked after the water. And to see communities that are placed near oil fields experiencing horrible water situations where they have to drink water from bottled water to exist. And to hear the BLM say that that fracking won't cause any difference or any changes to what they evaluate, is totally wrong. It is absolutely 100% wrong.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24582	Alternatives	Keep the moratorium on leasing in place. Make it permanent by amending the draft supplemental EIS to include and adopt no leasing as a preferred alternative. Thank you.	Thank you for participating in the public comment period on the Bakersfield Field Office Hydraulic Fracturing Draft Supplemental Environmental Impact Statement. Neither a state-wide leasing moratorium, nor the choice of a “no leasing” alternative, is within the BLM decision space for the Supplemental Environmental Impact Statement.
24582	Biological Resources	We have members who would like me to speak on behalf of the biological resources that are not being adequately protected. Some of our veterinarians have been caring for cattle who have been harmed, and other farm animals. Some of our members have been caring for wildlife that have been harmed by fracking, and the groundwater and the air pollution that's resulted as a result of fracking. So I'm representing these veterinary professionals that are representing animals who cannot speak for themselves. I feel like the cumulative harms and some of the indirect harms to the animal populations have been neglected in this process.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24582	Cultural Resources	And if you look at page 37, of the 2019 document, you'll see that 17 new prehistoric sites, or resources, were established within just a seven year period between the 2012 publication and 2019 publication. So if you're asking me like, over seven years, you find 17 research sites and a lot of those - a lot of the other sites might be misidentified. As an anthropology major and also emphasizing the archaeology, I understand that phase one surveys are often not adequate enough to identify what might actually be there and I believe that this EIS does an inadequate job of addressing cultural resources.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Cultural Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24582	Cultural Resources	I am the vice chair of the coastal band of the Chumash nation. As the first nation of the Central Coast and a sovereign, indigenous nation, the coastal band insists that BLM and any other agencies respect our right to free prior and informed consent regarding any decisions that affect our nation. We are concerned about the safety and protection of our cultural sites, as well as access to, and the health of, our traditional cultural resources.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.

Comment Number	Issue	Comment	Response
24582	Cultural Resources	We would like to remind you of other potential impacts and new information. On April 5 2018, the Thatcher campus was formally listed as a National Historic District, which you can see here in the green outline. The parcel that impacts the campus, which is in red, lies within the boundaries of the historic district.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Cultural Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24582	General	There is no case study in that EIS that I could see where they said, Oh, yeah, well, we looked at other places, and this is what happened. So. So I highly recommend you boost that - that analysis.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24582	Mitigation	I want to go first to what they said is mentioning what is in this report and I think what really is being a made a mockery of is the mitigation strategies for two major areas. One is a spill or in this case, a methane leak of any kind. Yes, they're going to burn it off. There's no real mitigation plan for that in this SOS. Nor is there any for the climate, mitigation strategies, really, its climate catastrophe, nothing is really mentioned to curb this at all. There's - the only thing that's mentioned in this mitigation strategy is more use of cap and trade, which has already been shown to not curb climate change at all in the state of California, under SEQA, as well as NEPA.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24582	NEPA Process	First, in regards to the process, we disagree with BLM's decision not to mandate resource management plan and to provide the public with only a 45 day comment period. We believe that the changes to - the changes being proposed should be part of the full 90 day comment period as per an amendment to a resource management plan.	
24582	NEPA Process	Second, in terms of the actual findings report, we disagree with BLM poor well per year figure and the limited analysis of the area that they rely on. We believe that by limiting the impact analysis to the to the most conservative impact assumptions stemming from this four wells per year figure. BLM has failed to take a hard look at the reasonable foreseeable direct, indirect, and cumulative of impacts. This is especially true given that there is nothing in the draft EIS that would prevent dozens of additional wells to be drilled in the 1 million plus acres the BLM is looking to make available for leasing.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). All the assumptions used in the planning level Draft SEIS are described and laid out in Section 4.0, Introduction.
24582	Opinion - opposed to hydraulic fracturing	I ask that the BLM do not move forward with any fracking projects.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process.

Comment Number	Issue	Comment	Response
24582	Opinion - opposed to hydraulic fracturing and fossil fuel industry development	I urge the Bureau of Land Management to not proceed with the proposed opening of federal public lands and mineral estates in California to oil and gas drilling and fracking, oil drilling and fracking threatens our groundwater, pollutes our air, increases earthquake risk, and harms our climate.I urge the Bureau of Land Management to not proceed with the proposed opening of federal public lands and mineral estates in California to oil and gas drilling and fracking, oil drilling and fracking threatens our groundwater, pollutes our air, increases earthquake risk, and harms our climate.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24582	Opinion - Opposed to opening public lands to fossil fuel development and hydraulic fracturing	He asked me to be here to urge Bureau of Land Management not to open up the 1.2 million acres of federal mineral estate and 400,000 acres of public lands to hydraulic fracturing.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24582	Public Health and Safety	The safety and well being of our students and horses would be critically impacted by noise, dust, and interruption at the site. You can see here just some historical reference for our programs at the school. Students and faculty conduct fieldwork and research, participate in camping, hiking and climbing, and maintain the trails as part of an outdoor program that is at the heart of our curriculum. All of these core school activities would be greatly compromised by the presence of fracking and drilling or any industrial activity near our campus.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (2012 PRMP) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Soil Resources; and Water Resources. The 2012 PRMP identifies lands and Federal Minerals available for fluid mineral leasing. Potential leasing and development would be conducted through subsequent processes and site-specific NEPA analysis.
24582	Recreation	Finally, in terms of our impact to our public lands in national parks, BLM fails to adequately analyze foreseeable impacts to nearby public lands like Sequoia and Kings National Parks just to name a few. Our research at MPC has found that these parks already suffer from some of the worst air quality and visibility in the National Park System. There will surely be indirect and cumulative impacts to air, water, climate, biological, cultural and recreation resources within those parks, impact - impacting the public's enjoyment and safety on those lands.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Air and Atmospheric Values; Biological Resources; Cultural Resources; Native American Values; Paleontological Resources; Soil Resources; Visual Resources; Water Resources; Livestock Grazing; Minerals Management; Areas of Critical Environmental Concern; Social and Economic Resources; Seismicity; and Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.
24582	T&E Species	In late September, the Thatcher school and hundreds of other landowners were sued to reduce water use to increase the steelhead habitat in the venture River watershed. Any new industrial water use seems irresponsible in regard to the concern for the steelhead becoming an endangered species.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Special Status Species. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.

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24582	Water Resources	For example, there is a site in the mountains of Carpentaria that would be open fracking under the proposed current expansion. This site poses significant risks to the groundwater and drinking water of the adjacent Kate school, a residential school of over 300 adults and children. This school has been on this site for over 100 years. Fracking also threatens the groundwater and drinking water of the count of Carpentaria just down the mountain.	Thank you for participating in the Draft Bakersfield Field Office Hydraulic Fracturing Supplemental Environmental Impact Statement (Draft SEIS) public comment process. The Draft SEIS provides supplemental analysis of potential impacts of hydraulic fracturing associated with the five alternative fluid mineral management plan decisions from the 2012 Bakersfield Proposed Resource Management Plan (RMPA) and 2012 Bakersfield Final Environmental Impact Statement (FEIS). The supplemental analysis incorporates new information and addresses impacts to Water Resources. The 2012 RMPA identifies lands and Federal Minerals available for fluid mineral leasing. Actual leasing opportunities will be identified through subsequent processes and NEPA analysis.