Oklahoma Field Office

Oklahoma, Kansas and Texas Final Joint Environmental Impact Statement/
Proposed BLM Resource Management Plan and
Proposed BIA Integrated Resource Management Plan
BLM Mission Statement
The Bureau of Land Management’s mission is to sustain the health, diversity, and productivity of public lands for the use and enjoyment of present and future generations.

BIA Mission Statement
The Bureau of Indian Affairs’ mission is to enhance the quality of life, to promote economic opportunity, and to carry out the responsibility to protect and improve the trust assets of American Indians, Indian tribes, and Alaska Natives.
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## Attachments

- Sample SMA Letter
- Sample Private Landowner Letter
Appendix M. Coal Development Strategy

M.1 INTRODUCTION
This coal development strategy details the undertakings of the US Department of the Interior, BLM to comply with regulations at 43 CFR 3400 et seq., governing federal coal leasing and management decisions during its land use planning process. The strategy supports the coal management decisions included in the alternatives that the BLM is considering for the BLM Oklahoma, Kansas, and Texas Planning Area and BIA Eastern Oklahoma and Southern Plains Regions Joint EIS/BLM RMP and BIA Integrated RMP.

Coal resources on BLM-administered federal mineral estate in the planning area are currently managed on a case-by-case basis. This is because the existing RMPs covering the planning area did not address coal. When a company expresses interest in leasing a parcel, the BLM prepares an RMP amendment to complete NEPA analysis and to comply with the regulations at 43 CFR 3400 et seq. for leasing that parcel.

The BLM has prepared four RMP amendments—in 1994, 1996, 2004, and 2014—to authorize leasing of federal coal resources in the planning area. They have resulted in issuance of coal leases covering 70,000 acres of BLM-administered federal coal resources. These areas are the only federal coal resources in the planning area that are acceptable for further consideration for leasing.

The goal of this coal development strategy is to complete the NEPA analysis and the portion of the regulatory coal screening process required at the land use planning level for all federal coal resources in the planning area to avoid the need for further RMP amendments for coal leasing.

M.2 REGULATORY OVERVIEW
Management of federal coal resources is governed by the regulations at 43 CFR 3400 et seq. The regulations at 43 CFR 3400 include general leasing provisions, such as identifying lands subject to coal leasing (43 CFR 3400.2). Lands in the BLM-administered coal potential area for this RMP/EIS that are not subject to leasing are those in the National Wildlife Refuge System, in the National System of Trails, and incorporated cities, towns, and villages.

The regulations at 43 CFR 3420 govern the land use planning process as it pertains to coal, including the four-step screening process for identifying areas acceptable for further consideration for leasing (43 CFR 3420.1-4). Under this process, the BLM must complete the following:

1. Estimate federal lands with coal development potential; only these areas may be identified as acceptable for further consideration for leasing.
2. Review, using unsuitability criteria, federal lands with coal development potential; this is to assess where there are areas unsuitable for all or certain stipulated methods of mining associated with surface mining.
3. Evaluate multiple land use decisions that may eliminate additional federal coal deposits from further consideration for leasing to protect other resource values and land uses.
4. Consult all qualified surface owners whose lands overlie federal coal deposits; this is to determine a preference for or against mining by other than underground mining techniques (i.e., surface mining).

The regulations at 43 CFR 3460 lay out the process for assessing certain lands as unsuitable for surface mining. They include the 20 unsuitability criteria to be applied by the BLM or other federal surface management agency (SMA; 43 CFR 3461.5). This is the step 2 of the screening process listed above.
The BLM performed steps 1, 2, and 4 as part of this coal development strategy. The agency will undertake additional analysis and consultation, as necessary, before it issues new leases.

M.3 SCREENING PROCESS OVERVIEW

M.3.1 Coal Development Potential (Screen 1)
The BLM estimated coal development potential as part of the reasonably foreseeable development scenario prepared for the Joint EIS/BLM RMP and BIA Integrated RMP (see Appendix I). Coal resources exist in all three states in the planning area.

Table M-1, below, shows the types of economically valuable coal found on BLM-administered federal mineral estate in each of the three states. These resources make up the coal potential area and are illustrated in Figure M-1. Table M-2, also below, shows the acres of each type of surface ownership in the coal potential area. Approximately 100 acres of BLM-administered surface lands overlie federal coal resources, but the resources are of doubtful value.

<table>
<thead>
<tr>
<th>State</th>
<th>Coal Type</th>
<th>Acres of BLM-Administered Federal Mineral Estate</th>
</tr>
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<tbody>
<tr>
<td>Kansas</td>
<td>Lignite</td>
<td>2,100</td>
</tr>
<tr>
<td></td>
<td>Volatile bituminous</td>
<td>238,100</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>Lignite</td>
<td>4,900</td>
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<tr>
<td></td>
<td>Volatile bituminous</td>
<td>787,200</td>
</tr>
<tr>
<td></td>
<td>Nonvolatile bituminous</td>
<td>107,700</td>
</tr>
<tr>
<td>Texas</td>
<td>Lignite</td>
<td>730,500</td>
</tr>
<tr>
<td></td>
<td>Volatile bituminous</td>
<td>11,500</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1,882,000</td>
</tr>
</tbody>
</table>

Source: BLM GIS 2018

1 This total does not match total acres of the coal decision area, due to small errors in the coal potential data.

<table>
<thead>
<tr>
<th>Surface Management or Ownership</th>
<th>Acres in Coal Potential Area</th>
<th>Percentage of Coal Potential Area</th>
</tr>
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<tr>
<td>BLM</td>
<td>100</td>
<td>&lt; 1%</td>
</tr>
<tr>
<td>States and other federal SMAs</td>
<td>1,381,700</td>
<td>73%</td>
</tr>
<tr>
<td>Private</td>
<td>501,500</td>
<td>27%</td>
</tr>
<tr>
<td>Total</td>
<td>1,883,300</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: BLM GIS 2018

The bulk of the coal potential area is in Oklahoma; most of the valuable coal there is volatile bituminous. BLM-administered federal mineral estate in Texas contains a large amount of relatively low-value lignite. See Chapter 3 of the EIS for more information about estimated coal potential in the planning area and decision area.
M.3.2 Unsuitability Assessment (Screen 2)
The BLM sent letters to all other federal SMAs with lands overlying BLM-administered federal coal resources in the planning area. In these letters, the BLM requested that the SMAs perform an unsuitability assessment for their lands, in accordance with 43 CFR 3461. A sample of the letters sent to other federal SMAs can be found in Attachment A.

The BLM will perform an unsuitability assessment for any BLM-administered surface lands over federal coal resources at the leasing stage. As previously mentioned, approximately 100 acres of BLM-administered surface lands overlie federal coal resources, but the resources are of doubtful value. For BLM-administered federal coal resources beneath state lands, the BLM will consult with the state governors during the governor’s consistency review for the EIS, in accordance with 43 CFR 3420.1-7. Table M-3, below, shows the acres managed by state and other federal SMAs overlying the coal potential area.

<table>
<thead>
<tr>
<th>State</th>
<th>Acres of Coal Potential Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas</td>
<td>202,200</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>506,100</td>
</tr>
<tr>
<td>Texas</td>
<td>673,400</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,381,700</strong></td>
</tr>
</tbody>
</table>

Source: BLM GIS 2018

M.3.3 Evaluation of Multiple Land Use Decisions to Protect Other Resource Values and Land Uses (Screen 3)
Within its range of alternatives for the Joint EIS/BLM RMP and BIA Integrated RMP, the BLM is considering eliminating additional coal deposits from further consideration for leasing. It would do this to protect other resource values and land uses. The BLM may consider eliminating additional coal deposits from further consideration for leasing through site-specific analyses completed before lease sales. Because almost all BLM-administered federal coal deposits lie beneath lands owned or administered by other entities, the BLM will consult with those entities before eliminating the federal coal deposits beneath them from further consideration for leasing.

M.3.4 Consultation with Qualified Surface Owners (Screen 4)
The BLM sent letters to all identifiable private surface owners with parcels overlying BLM-administered federal coal resources in the planning area. These letters requested that the surface owners confirm they are qualified to express their preference on mining federal coal resources (see 43 CFR 3400.0-5[gg][1] and [2]). The BLM also asked that the surface owners respond with their preference for or against mining by other than underground methods (i.e., surface mining) on the BLM-administered federal coal resources beneath their land. A sample of the letters sent to private surface owners can be found in Attachment B.

In order to be a qualified surface owner in accordance with the regulations at 43 CFR 3400.0-5, the individual(s) must:

1. Hold legal or equitable title to the surface of split estate lands
2. Have their principal place of residence on the land, or personally conduct farming or ranching operations upon a farm or ranch unit to be affected by surface mining operations; or receive directly a significant portion of their income, if any, from such farming and ranching operations
3. Have met the first two conditions for a period of at least 3 years, except for persons who gave written consent less than 3 years after they met the requirements. In computing the three year
period the authorized officer shall include periods during which title was owned by a relative of such person by blood or marriage if, during such periods, the relative would have met the requirements of this section.

The BLM will verify qualified surface ownership and surface owner preference for or against mining by other than underground methods (i.e., surface mining) before issuing any lease for federal coal resources beneath privately owned parcels. No leases for surface mining would be issued without qualified surface owner consent.

Table M-4, below, shows the acres of private parcels overlying the coal potential area.

<table>
<thead>
<tr>
<th>State</th>
<th>Acres of Coal Potential Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas</td>
<td>38,000</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>394,900</td>
</tr>
<tr>
<td>Texas</td>
<td>68,600</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>501,500</strong></td>
</tr>
</tbody>
</table>

Source: BLM GIS 2018

Table M-4

Private Parcels Overlying the Coal Potential Area, by State

M.4 Unsuitability Assessment Results

The BLM sent 21 letters to units of other federal SMAs, such as wildlife refuges or management regions, managing surface lands overlying the coal potential area. In the letters, the BLM requested that the SMAs apply the unsuitability criteria at 43 CFR 3461 and inform the BLM of the result. Of the 21 letters sent, 5 were to Forest Service units that are outside the BLM-administered coal decision area for this RMP/EIS.

Table M-5, below, summarizes the results of the assessments conducted by the six other federal SMAs with units overlying the coal potential area (not including the Forest Service).

<table>
<thead>
<tr>
<th>Other Federal SMA</th>
<th>Acres of BLM-Administered Federal Mineral Estate</th>
<th>Unsuitability Assessment Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bureau of Prisons</td>
<td>700</td>
<td>Unsuitable</td>
</tr>
<tr>
<td>Reclamation</td>
<td>52,900</td>
<td>Unsuitable</td>
</tr>
<tr>
<td>US Army Corps of Engineers</td>
<td>1,070,900</td>
<td>Unsuitable</td>
</tr>
<tr>
<td>Department of Defense</td>
<td>119,400</td>
<td>Unsuitable</td>
</tr>
<tr>
<td>US Fish and Wildlife Service</td>
<td>96,000</td>
<td>Unsuitable, not subject to leasing</td>
</tr>
<tr>
<td>International Boundary Water Commission</td>
<td>38,600</td>
<td>Unsuitable</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,378,500</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: BLM GIS 2018

1 Datasets may conflict for SMA boundaries. Conflicts will be resolved at the site-specific level.
2 Does not include state lands.

The BLM is evaluating the 600 acres of federal coal resources beneath other state and federal SMAs covered by existing leases as acceptable for further consideration for leasing under all alternatives. In translating the results of the suitability assessments into the alternatives for unleased areas in this Joint EIS/BLM RMP and BIA Integrated RMP, the BLM first identified state and other federal SMA lands over the
coal potential area that are not subject to leasing according to 43 CFR 3400.2. These lands were eliminated from further consideration for leasing. The remaining lands were identified as either (1) acceptable for further consideration for leasing for development by other than underground techniques (i.e., surface mining and underground mining could be used), or (2) acceptable for further consideration only for development by underground techniques (i.e., only underground mining could be used). Lands identified by other federal SMAs as unsuitable for all or certain stipulated methods of mining associated with surface mining were included in the second category.

Table M-6, below, summarizes the acres acceptable for each type of leasing consideration and those eliminated from further consideration for leasing by state.

Table M-6
Coal Leasing Acceptability, State and Other Federal SMAs

<table>
<thead>
<tr>
<th>State</th>
<th>Total Acres Administered by State and Other Federal SMAs in Coal Potential Area</th>
<th>Acres Not Subject to Leasing</th>
<th>Acres Acceptable for Further Consideration for Leasing for Development by Other than Underground Techniques</th>
<th>Acres Acceptable for Further Consideration Only for Development by Underground Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas</td>
<td>202,200</td>
<td>34,700</td>
<td>0</td>
<td>167,500</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>506,100</td>
<td>59,800</td>
<td>2,400</td>
<td>443,900</td>
</tr>
<tr>
<td>Texas</td>
<td>673,400</td>
<td>80,400</td>
<td>0</td>
<td>593,000</td>
</tr>
<tr>
<td>Total</td>
<td>1,381,700</td>
<td>174,900</td>
<td>2,400</td>
<td>1,204,400</td>
</tr>
</tbody>
</table>

Source: BLM GIS 2018

1 Acres represent the baseline as a result of consultation with state and other federal SMAs. Acres acceptable for further consideration for leasing may be reduced, depending on the alternative considered in the Joint EIS/BLM RMP and BIA Integrated RMP. This is due to variations in the alternatives, based on the evaluation of multiple land use decisions to protect other resource values and land uses (Screen 3).

M.5 RESULTS OF CONSULTATION WITH QUALIFIED SURFACE OWNERS
The BLM sent 15,293 letters to landowners of 24,432 private parcels covering approximately 455,600 acres in the coal potential area. In these letters, the BLM asked landowners to confirm that they are qualified surface owners and to express their preference for or against mining by other than underground methods (i.e., surface mining) on the BLM-administered federal coal resources beneath their land.

The BLM was unable to contact some private parcel owners due to limitations in county parcel data and GIS data; for example, some county records did not give an address for the parcel owner. In other cases, there were no county records for a parcel or no parcel information was available.

For parcels where the BLM was not able to contact the private landowner, it is treating the parcel as acceptable for further consideration for leasing for development by other than underground techniques (i.e., surface mining and underground mining could be used). This is also the case for parcels where no response to the letter was received and where respondents indicated that they were not qualified surface owners or were undecided on their preference regarding coal mining methods.

Some private surface owners who responded to the BLM’s letter indicated that they were qualified surface owners with a preference for or against mining by other than underground methods (i.e., surface mining). The BLM has recorded those preferences in the Oklahoma Field Office records. Responses from private surface owners are summarized in Table M-7, below.
Table M-7
Private Surface Owner Responses

<table>
<thead>
<tr>
<th>Response</th>
<th>Total Number of Parcels (Number of Parcels Subject to Leasing)</th>
<th>Total Acres (Acres Subject to Leasing)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kansas (Total)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preference for mining by other than underground methods (i.e., surface mining)</td>
<td>1 (1)</td>
<td>152 (152)</td>
</tr>
<tr>
<td>Preference against mining by other than underground methods (i.e., surface mining)</td>
<td>90 (79)</td>
<td>5,687 (5,553)</td>
</tr>
<tr>
<td>No response¹</td>
<td>246 (128)</td>
<td>31,727 (31,230)</td>
</tr>
<tr>
<td>Not the legally qualified surface owner²</td>
<td>2 (2)</td>
<td>119 (119)</td>
</tr>
<tr>
<td>Undecided</td>
<td>6 (6)</td>
<td>414 (414)</td>
</tr>
<tr>
<td>Other</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td><strong>Oklahoma (Total)</strong></td>
<td>19,720 (9,690)</td>
<td>380,042 (350,254)</td>
</tr>
<tr>
<td>Preference for mining by other than underground methods (i.e., surface mining)</td>
<td>809 (482)</td>
<td>25,594 (22,504)</td>
</tr>
<tr>
<td>Preference against mining by other than underground methods (i.e., surface mining)</td>
<td>3,222 (2,040)</td>
<td>100,068 (91,934)</td>
</tr>
<tr>
<td>No response¹</td>
<td>15,580 (7,103)</td>
<td>252,469 (234,078)</td>
</tr>
<tr>
<td>Not the legally qualified surface owner²</td>
<td>54 (27)</td>
<td>650 (619)</td>
</tr>
<tr>
<td>Undecided</td>
<td>85 (38)</td>
<td>1,281 (1,117)</td>
</tr>
<tr>
<td>Other</td>
<td>3 (0)</td>
<td>&lt;1 (0)</td>
</tr>
<tr>
<td><strong>Texas (Total)</strong></td>
<td>4,482 (4,359)</td>
<td>37,711 (36,566)</td>
</tr>
<tr>
<td>Preference for mining by other than underground methods (i.e., surface mining)</td>
<td>72 (69)</td>
<td>699 (698)</td>
</tr>
<tr>
<td>Preference against mining by other than underground methods (i.e., surface mining)</td>
<td>552 (549)</td>
<td>7,223 (7,223)</td>
</tr>
<tr>
<td>No response¹</td>
<td>3,853 (3,729)</td>
<td>29,587 (28,513)</td>
</tr>
<tr>
<td>Not the legally qualified surface owner²</td>
<td>3 (1)</td>
<td>3 (1)</td>
</tr>
<tr>
<td>Undecided</td>
<td>11 (11)</td>
<td>220 (220)</td>
</tr>
<tr>
<td>Other</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
</tbody>
</table>

Source: BLM GIS 2018
¹ Shows parcels for which no response was received as of April 4, 2018.
² When a respondent indicated that he or she was not a qualified surface owner and provided contact information for someone who is the qualified surface owner, the BLM followed up with a letter to the qualified surface owner. In some cases, respondents provided no contact information for qualified surface owners.

Of the 455,600 acres of private parcels whose owners received letters from the BLM, approximately 424,400 acres (93 percent) are subject to leasing. The remaining acres are within the current boundaries of incorporated cities, towns, and villages. Responses were still gathered from these parcels because boundaries could change in the future, potentially making these parcels subject to leasing.

As shown in Table M-7, private landowners for most parcels did not respond; however, in Oklahoma and Texas, although 73 and 86 percent of the owners of parcels subject to leasing gave no response, those parcels make up only 67 and 78 percent of total private acreage subject to leasing in either state. Of the owners who responded, most expressed a preference against mining by other than underground methods (i.e., surface mining).

The BLM is evaluating the 69,400 acres of federal coal resources beneath privately owned lands covered by existing leases as acceptable for further consideration for leasing under all alternatives. Similar to the method used for unsuitability analysis, in translating the results of the surface owner consultation into the Joint EIS/BLM RMP and BIA Integrated RMP alternatives for unleased areas, the BLM first identified...
privately owned lands over the coal potential area that are not subject to leasing, according to 43 CFR 3400.2; the agency eliminated these lands from further consideration for leasing. The remaining lands were identified as either (1) acceptable for further consideration for leasing for development by other than underground techniques (i.e., surface mining and underground mining could be used), or (2) acceptable for further consideration only for development by underground techniques (i.e., only underground mining could be used).

Before leasing a parcel, the BLM will verify qualified surface ownership and preference regarding mining methods. Until that time, all privately owned parcels that are subject to leasing are listed in the alternatives as acceptable for further consideration for leasing for development by other than underground techniques (i.e., surface mining and underground mining could be used). The BLM would issue no leases for surface mining without the qualified surface owner’s consent.

Table M-8, below, summarizes the acres acceptable for each type of leasing consideration and those eliminated from further consideration for leasing, by state.

<table>
<thead>
<tr>
<th>State</th>
<th>Total Acres</th>
<th>Acres Not Subject to Leasing</th>
<th>Acres Acceptable for Further Consideration for Leasing for Development by Other than Underground Techniques (i.e., Surface Mining and Underground Mining Could be Used)</th>
<th>Acres Acceptable for Further Consideration Only for Development by Underground Techniques (i.e., Only Underground Mining Could be Used)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas</td>
<td>38,000</td>
<td>300</td>
<td>37,700</td>
<td>0</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>394,900</td>
<td>34,100</td>
<td>360,800</td>
<td>0</td>
</tr>
<tr>
<td>Texas</td>
<td>68,600</td>
<td>2,500</td>
<td>66,100</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>501,500</td>
<td>36,900</td>
<td>464,600</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: BLM GIS 2018

1 Acreages represent the baseline as a result of consultation with state and other federal SMAs. Acres acceptable for further consideration for leasing may be reduced, depending on the alternative considered in the Joint EIS/BLM RMP and BIA Integrated RMP. This is due to variations in the alternatives, based on the evaluation of multiple land use decisions to protect other resource values and land uses (Screen 3).

2 The BLM was not able to contact some private parcel owners. This is due to limitations in county parcel data and GIS data. For this reason, the total acres of private parcels in the coal potential area in this table add up to more than the total acres of private parcels whose landowner received a letter from the BLM.

3 For private surface owners who indicated that they were a qualified surface owner who had a preference for or against mining by other than underground methods (i.e., surface mining), the BLM has recorded those preferences in the Oklahoma Field Office records. Before leasing a parcel, the BLM will verify qualified surface ownership and preference regarding mining methods. Until that time, all privately owned parcels that are subject to leasing are listed in the alternatives as acceptable for further consideration for leasing for development by other than underground techniques (i.e., surface mining and underground mining could be used). No leases for surface mining will be issued without qualified surface owner consent.

M.6 CONCLUSION

The information above describes the processes for and outcomes of the BLM’s screening process to identify lands acceptable for further consideration for leasing, in accordance with federal regulations governing federal coal management and land use planning. The allocations resulting from this process are included in the alternatives considered in the Oklahoma, Kansas, Texas Joint EIS/BLM RMP and BIA Integrated RMP. These allocations are intended to cover the entire coal potential area for the BLM-administered federal mineral estate in the Joint EIS/BLM RMP and BIA Integrated RMP. This was done to allow future coal leasing decisions in these areas to proceed without a need to amend the decisions in the
Joint EIS/BLM RMP and BIA Integrated RMP. The BLM will undertake additional site-specific analyses and consultation, as necessary, before issuing new leases.

M.7 REFERENCE
BLM GIS. 2018. GIS data on file with the BLM’s eGIS server, used for calculations or figures related to the coal development strategy. BLM, Oklahoma Field Office, Tulsa.
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In Reply Refer To:

OKT RMP

Date

Address Information

Dear XXXX:

The United States Department of the Interior, Bureau of Land Management (BLM), Oklahoma Field Office (OFO), in collaboration with the United States Department of the Interior, Bureau of Indian Affairs (BIA), is preparing a Joint Oklahoma-Kansas-Texas (OKT) Environmental Impact Statement (EIS), BLM Resource Management Plan (RMP) and a BIA Integrated RMP (IRMP). The BLM RMP will direct the management of BLM-administered lands and federal mineral estate across the OKT planning area for the next 15 to 20 years. The BIA IRMP includes management direction for allotted and tribal mineral interests throughout the OKT planning area. The BIA IRMP includes restricted tribal lands and lands administered by the BIA Eastern Oklahoma and Southern Plains Regional Offices in Oklahoma, Kansas, Texas, and Nebraska.

Pursuant to regulations at 43 CFR 3420.1-4, the BLM is providing you official notice that, based on available data, lands managed by your Surface Management Agency (SMA) overlie federally managed coal mineral deposits within the OKT Joint EIS/BLM RMP and BIA IRMP land use planning and decision area. The BLM is currently engaged in a planning effort for land use decisions concerning coal leasing and the potential for development of federal coal mineral deposits underlying federal lands within the OKT planning and decision area. The BLM Authorized Officer is required by regulation to consult SMAs and solicit input regarding coal “mining by other than underground mining techniques” (i.e., surface coal mining) for coal mineral deposits underlying federal lands that have development potential (43 CFR 3420.1-4; 43 CFR 3420.1-6; and 43 CFR 3461.2-1).

Enclosed, you will find copies of relevant federal regulatory references. Please read these references carefully. Consultation with an agency solicitor is encouraged prior to drafting a response. The OFO has also included an “unsuitability criteria” worksheet for “assessing lands unsuitable for all or certain stipulated methods of coal mining” that each SMA within the OKT planning area is required by regulation to complete and submit to the BLM. Some or all of the coal mineral deposits beneath the lands managed by your SMA may not be subject to leasing, pursuant to 43 CFR 3400.2 (e.g., lands in the National System of Trails or in incorporated cities, towns, and villages). However, the BLM requests that you complete the unsuitability worksheet for all lands described in this letter in case of future regulatory or statutory changes.

Please respond to this official solicitation for SMA input with a signed letter on agency letterhead no later than October 27, 2017. It is essential your SMA consider which, if any, federal lands under your agency’s management authority are “unsuitable” for potential development of federal coal deposits by “other than underground mining techniques” (i.e., surface coal mining) underlying your SMA’s boundaries, as well as identify lands found to be “acceptable for further consideration for leasing.” To ensure proper management of federal lands, your SMA will be required to provide GIS data layers to the BLM electronically depicting those lands found to be “unsuitable” for all or certain stipulated methods of coal mining and/or “acceptable for further consideration for leasing.”

For more information, please contact Mr. Patrick Rich, RMP Team Lead, at (405) 579-7154 or prich@blm.gov.
Sincerely,

/s/ Robert Pawelek

Robert Pawelek, Field Manager
STATUTORY AUTHORITIES:

The CFR references quoted are issued under the authority of and to implement provisions of:


DEFINITIONS:

**Authorized Officer** means any employee of the Bureau of Land Management delegated the authority to perform the duty described in the section in which the term is used.

**Coal deposits** mean all federally owned coal deposits, except those held in trust for Indians.

**Federal lands** mean lands owned by the United States, without reference to how the lands were acquired or what Federal agency administers the lands, including surface estate, mineral estate and coal estate, but excluding lands held by the United States in trust for Indians, Aleuts or Eskimos.

**Secretary** means the Secretary of the Interior.

**Split estate** means land in which the ownership of the surface is held by persons, including governmental bodies, other than the Federal government and the ownership of underlying coal is, in whole or in part, reserved to the Federal government.

**Surface coal mining** operations mean activities conducted on the surface of lands in connection with a surface coal mine or surface operations and surface impacts incident to an underground mine, as defined in section 701(28) of the Surface Mining Control and Reclamation Act (30 U.S.C. 1291(28)).

**Surface Management Agency** means the federal agency with jurisdiction over the surface of federally owned lands containing coal deposits, and, in the case of private surface over federal coal, the Bureau of Land Management, except in areas designated as National Grasslands, where it means the Forest Service.
43 CFR 3400.2 - Lands subject to leasing.

§ 3400.2 Lands subject to leasing.

The Secretary may issue coal leases on all Federal lands, except:

(a) Lands in:

(1) The National Park System;

(2) The National Wildlife Refuge System;

(3) The National Wilderness Preservation System;

(4) The National System of Trails;

(5) The National Wild and Scenic Rivers System, including study rivers designated under section 5(a) of the Wild and Scenic Rivers Act;

(6) Incorporated cities, towns, and villages;

(7) The Naval Petroleum Reserves, the National Petroleum Reserve in Alaska, and oil shale reserves; and,

(8) National Recreation Areas designated by law;

(b) Tide lands, submerged coastal lands within the Continental Shelf adjacent or littoral to any part of land within the jurisdiction of the United States; and

(c) Land acquired by the United States for the development of mineral deposits, by foreclosure or otherwise for resale, or reported as surplus property pursuant to the provisions of the Surplus Property Act of 1944 (50 U.S.C. App. 1622).

43 CFR 3400.3-1 - Consent or conditions of surface management agency.

§ 3400.3-1 Consent or conditions of surface management agency.

Leases for land, the surface of which is under the jurisdiction of any Federal agency other than the Department of the Interior, may be issued only with the consent of the head or other appropriate official of the other agency having jurisdiction over the lands containing the coal deposits, and subject to such conditions as that officer may prescribe to insure the use and protection of the lands for the primary purpose for which they were acquired or are being administered.

43 CFR 3400.3-2 - Department of Defense lands.

§ 3400.3-2 Department of Defense lands.

The Secretary may issue leases with the consent of the Secretary of Defense on acquired lands set apart for military or naval purposes only if the leases are issued to a governmental entity which:

(a) Produces electrical energy for sale to the public;

(b) Is located in the state in which the leased lands are located; and
References

(c) Has production facilities in that state, and will use the coal produced from the lease within that state.

43 CFR 3400.3-3 - Department of Agriculture lands.

§ 3400.3-3 Department of Agriculture lands.

Subject to the provisions of § 3400.3-1, the Secretary may issue leases that authorize surface coal mining operations on Federal lands within the National Forest System, provided that such leases may not be issued on lands within a national forest unless the tract is assessed to be acceptable for all or certain stipulated methods of surface coal mining operations under the provisions of Criterion No. 1 in § 3461.1 of this title.

43 CFR 3420.0-2 - Objectives.

§ 3420.0-2 Objectives.

The objectives of these regulations are to establish policies and procedures for considering development of coal deposits through a leasing system involving land use planning and environmental assessment or environmental impact statement processes; to promote the timely and orderly development of publicly owned coal resources; to ensure that coal deposits are leased at their fair market value; and to ensure that coal deposits are developed in consultation, cooperation and coordination with the public, state and local governments, Indian tribes and involved Federal agencies.

43 CFR 3420.1-1 - Lands subject to evaluation for leasing.

§ 3420.1-1 Lands subject to evaluation for leasing.

All lands subject to coal leasing under the mineral leasing laws are subject to evaluation under this subpart (43 CFR 3400.2).

43 CFR 3420.1-2 - Call for coal resource and other resource information.

§ 3420.1-2 Call for coal resource and other resource information.

(a) Prior to or as part of the initiation or update of a land use plan or land use analysis, a Call for Coal and Other Resource Information shall be made to formally solicit indications of interest and information on coal resource development potential and on other resources which may be affected by coal development for lands in the planning unit. Industry, State and local governments and the general public may submit information on lands that should be considered for coal leasing, including statements describing why the lands should be considered for leasing.

(b) Proprietary data marked as confidential may be submitted in response to the Call for Coal and Other Resource Information, however, all such proprietary data shall be submitted to the authorized officer only. Data marked as confidential shall be treated in accordance with the laws and regulations governing the confidentiality of such information.

(c) The Call for Coal and Other Resource Information may be combined with the notice of intent to conduct land use planning published in accordance with § 1601.3(g) of this title or with the issue identification process in accordance with part 1600 of this title. If the agency conducting land use planning is other than the Bureau
of Land Management, that agency may combine the Call for Coal and Other Resource Information with its land use planning process at the appropriate step.

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**43 CFR 3420.1-4 - General requirements for land use planning.**

§ 3420.1-4 General requirements for land use planning.

(a) The Secretary may not hold a lease sale under this part unless the lands containing the coal deposits are included in a comprehensive land use plan or land use analysis. The land use plan or land use analysis will be conducted with public notice and opportunity for participation at the points specified in § 1610.2(f) of this title. The sale must be compatible with, and subject to, any relevant stipulations, guidelines, and standards set out in that plan or analysis.

(b)  

   (1) The Bureau of Land Management shall prepare comprehensive land use plans and land use analyses for lands it administers in conformance with 43 CFR part 1600.

   (2) The Department of Agriculture or any other Federal agency with surface management authority over lands subject to leasing shall prepare comprehensive land use plans or land use analyses for lands it administers.

   (3) The Secretary may lease in any area where it is found either that there is no Federal interest in the surface or that the coal deposits in an area are insufficient to justify the costs of a Federal land use plan upon completion of a land use analysis in accordance with this section and 43 CFR part 1600.

(c) In an area of Federal lands not covered by a completed comprehensive land use plan or scheduled for comprehensive land use planning, a member of the public may request the appropriate Bureau of Land Management State Office to prepare a land use analysis for coal related uses of the land as provided for in this group.

(d) A comprehensive land use plan or land use analysis shall contain an estimate of the amount of coal recoverable by either surface or underground mining operations or both.

(e) The major land use planning decision concerning the coal resource shall be the identification of areas acceptable for further consideration for leasing which shall be identified by the screening procedures listed below:

   (1) Only those areas that have development potential may be identified as acceptable for further consideration for leasing. The Bureau of Land Management shall estimate coal development potential for the surface management agency. Coal companies, State and local governments and the general public are encouraged to submit information to the Bureau of Land Management at any time in connection with such development potential determinations. Coal companies, State and local governments and members of the general public may also submit non-confidential coal geology and economic data during the inventory phase of planning to the surface management agency conducting the land use planning. Where such information is determined to indicate development potential for an area, the area may be included in the land use planning for evaluation for coal leasing.

   (2) The Bureau of Land Management or the surface managing agency conducting the land use planning shall, using the unsuitability criteria and procedures set out in subpart 3461 of this title, review Federal lands to assess where there are areas unsuitable for all or certain stipulated methods of mining. The unsuitability assessment shall be consistent with any decision of the Office of Surface Mining Reclamation and Enforcement to designate lands unsuitable or to terminate a designation in response to a petition.
(3) Multiple land use decisions shall be made which may eliminate additional coal deposits from further consideration for leasing to protect other resource values and land uses that are locally, regionally or nationally important or unique and that are not included in the unsuitability criteria discussed in paragraph (e) of this section. Such values and uses include, but are not limited to, those identified in section 522(a)(3) of the Surface Mining Reclamation and Control Act of 1977 and as defined in 30 CFR 762.5. In making these multiple use decisions, the Bureau of Land Management or the surface management agency conducting the land use planning shall place particular emphasis on protecting the following: Air and water quality; wetlands, riparian areas and sole-source aquifers; the Federal lands which, if leased, would adversely impact units of the National Park System, the National Wildlife Refuge System, the National System of Trails, and the National Wild and Scenic Rivers System.

(4)

(i) While preparing a comprehensive land use plan or land use analysis, the Bureau of Land Management shall consult with all surface owners who meet the criteria in paragraphs (gg) (1) and (2) of § 3400.0-5 of this title, and whose lands overlie coal deposits, to determine preference for or against mining by other than underground mining techniques.

(ii) For the purposes of this paragraph, any surface owner who has previously granted written consent to any party to mine by other than underground mining techniques shall be deemed to have expressed a preference in favor of mining. Where a significant number of surface owners in an area have expressed a preference against mining those deposits by other than underground mining techniques, that area shall be considered acceptable for further consideration only for development by underground mining techniques. In addition, the area may be considered acceptable for further consideration for leasing for development by other than underground techniques if there are no acceptable alternative areas available to meet the regional leasing level.

(iii) An area eliminated from further consideration by this subsection may be considered acceptable for further consideration for leasing for mining by other than underground mining techniques if:

(A) The number of surface owners who have expressed their preference against mining by other than underground techniques is reduced below a significant number because such surface owners have given written consent for such mining or have transferred ownership to unqualified surface owners; and

(B) The land use plan is amended accordingly.

(f) In its review of cumulative impacts of coal development, the regional coal team shall consider any threshold analysis performed during land-use planning as required by § 1610.4-4 of this title and shall apply this analysis, where appropriate, to the region as a whole.

43 CFR 3420.1-6 - Consultation with Federal surface management agencies.

§ 3420.1-6 Consultation with Federal surface management agencies.

Where a Federal surface management agency other than the Bureau of Land Management administers limited areas overlying Federal coal within the boundaries of a comprehensive land use plan or land use analysis being prepared by the Bureau of Land Management, or where the Bureau of Land Management manages lands on which coal development may impact land units of other Federal agencies, the Bureau of Land Management
shall consult with the other agency to jointly determine the acceptability for further consideration for leasing of the potentially impacted lands the other agency administers or lands managed by the Bureau of Land Management that may impact lands of another agency.

43 CFR 3420.1-8 - Identification of lands as acceptable for further consideration.

§ 3420.1-8 Identification of lands as acceptable for further consideration.

(a) Identification of lands as acceptable for further consideration for leasing will be made in the adoption of a comprehensive land use plan or land use analysis. Any lands identified as acceptable may be further considered for leasing under § 3420.3 of this title.

(b) Activity planning shall begin with a regional coal team meeting to review market analyses and land-use planning summaries. The market analyses and land-use planning summaries shall be available at least 45 days prior to such meeting.

43 CFR 3461.0-6 - Policy.

§ 3461.0-6 Policy.

The Department shall carry out the review of Federal lands under section 522(b) of the Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1272(b)) principally through land use planning assessments by the surface management agency regarding the unsuitability of Federal lands for all or certain stipulated methods of coal mining.

43 CFR 3461.0-7 - Scope.

§ 3461.0-7 Scope.

Each criterion in § 3461.1 of this title uses the phrase “shall be considered unsuitable” as shorthand for “shall be considered unsuitable for all or certain stipulated methods of coal mining involving surface coal mining operations, as defined in § 3400.0-5(mm) of this title.

43 CFR 3461.1 - Underground mining exemption from criteria.

§ 3461.1 Underground mining exemption from criteria.

(a) Federal lands with coal deposits that would be mined by underground mining methods shall not be assessed as unsuitable where there would be no surface coal mining operations, as defined in § 3400.0-5 of this title, on any lease, if issued.

(b) Where underground mining will include surface operations and surface impacts on Federal lands to which a criterion applies, the lands shall be assessed as unsuitable unless the surface management agency finds that a relevant exception or exemption applies.

43 CFR 3461.2-1 - Assessment and land use planning.

§ 3461.2-1 Assessment and land use planning.
(a) Each of the unsuitability criteria shall be applied to all coal lands with development potential identified in the comprehensive land use plan or land use analysis. For areas where 1 or more unsuitability conditions are found and for which the authorized officer of the surface management agency could otherwise regard coal mining as a likely use, the exceptions and exemptions for each criterion may be applied.

(2) Public comments on the application of the unsuitability criteria shall be solicited by a notice published in the Federal Register. This call for comments may be part of the call for public comments on the draft land-use plan or land-use analysis. This notice shall announce the availability of maps and other information describing the results of the application and the application process used.

(3) The authorized officer of the surface management agency shall describe in the comprehensive land use plan or land use analysis the results of the application of each unsuitability criterion, exception and exemption. The authorized officer of the surface management agency shall state in the plan or analysis those areas which could be leased only subject to conditions or stipulations to conform to the application of the criteria or exceptions. Such areas may ultimately be leased provided that these conditions or stipulations are contained in the lease.

(b)

(1) The authorized officer shall make his/her assessment on the best available data that can be obtained given the time and resources available to prepare the plan. The comprehensive land use plan or land use analysis shall include an indication of the adequacy and reliability of the data involved. Where either a criterion or exception (when under paragraph (a) of this section the authorized officer decides that application of an exception is appropriate) cannot be applied during the land use planning process because of inadequate or unreliable data, the plan or analysis shall discuss the reasons therefor and disclose when the data needed to make an assessment with reasonable certainty would be generated. In the case of Criterion 19, application shall be made before approval of the mining permit. In the case of other deferred criteria, application shall be made prior to finalizing the environmental analysis for the area being studied for coal leasing. The authorized officer shall make every effort within the time and resources available to collect adequate and reliable data which would permit the application of Criterion 19 in the land use or activity planning process. When those data are obtained, the authorized officer shall make public his/her assessment on the application of the criterion or, if appropriate, the exception and the reasons therefor and allow opportunity for public comment on the adequacy of the application as required by paragraph (a)(2) of this section.

(2) No lease tract shall be analyzed in a final regional lease sale environmental impact statement prepared under §3461.1 of this title without significant data material to the application to the tract of each criterion described in §3461.1 of this title, except, where necessary, Criterion 19. If the data are lacking for the application of a criterion or exception to only a portion of the tract, and if the authorized officer determines that it is likely that stipulations in the lease or permit to conduct surface coal mining operations could avoid any problems which may result from subsequent application of the criterion or exception, such tract may be included and analyzed in the regional lease sale environmental impact statement.

(c) Any unsuitability assessments which result either from a designation or a termination of a designation of Federal lands as unsuitable by the Office of Surface Mining Reclamation and Enforcement, or from changes warranted by additional data acquired in the activity planning process, may be made without formally revising or amending the comprehensive land use plan or analysis.

43 CFR 3461.2-2 - Consultation on unsuitability assessments.
§ 3461.2-2 Consultation on unsuitability assessments.

(a) Prior to adopting a comprehensive land use plan or land use analysis which assesses Federal lands as unsuitable for coal mining, the Secretary or other surface management agency shall complete the consultation set out in §§ 3420.1-6 and 3420.1-7 of this title.

(b) When consultation or concurrence is required in the application of any criterion or exception in § 3461.1 of this title, the request for advice or concurrence, and the reply thereto, shall be in writing. Unless another period is provided by law, the authorized officer shall specify that the requested advice, concurrence or non-concurrence be made within 30 days.

(c) When the authorized officer does not receive a response either to a request for concurrence which is required by this subpart but not by law, or to consultation within the specified time, he or she may proceed as though concurrence had been given or consultation had occurred.

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43 CFR 3461.5 - Criteria for assessing lands unsuitable for all or certain stipulated methods of coal mining.

§ 3461.5 Criteria for assessing lands unsuitable for all or certain stipulated methods of coal mining.

(a)

(1) **Criterion Number 1.** All Federal lands included in the following land systems or categories shall be considered unsuitable: National Park System, National Wildlife Refuge System, National System of Trails, National Wilderness Preservation System, National Wild and Scenic Rivers System, National Recreation Areas, lands acquired with money derived from the Land and Water Conservation Fund, National Forests, and Federal lands in incorporated cities, towns, and villages.

(2) Exceptions.

   (i) A lease may be issued within the boundaries of any National Forest if the Secretary finds no significant recreational, timber, economic or other values which may be incompatible with the lease; and (A) surface operations and impacts are incident to an underground coal mine, or (B) where the Secretary of Agriculture determines, with respect to lands which do not have significant forest cover within those National Forests west of the 100th Meridian, that surface mining may be in compliance with the Multiple-Use Sustained-Yield Act of 1960, the Federal Coal Leasing Amendments Act of 1976 and the Surface Mining Control and Reclamation Act of 1977.

   (ii) A lease may be issued within the Custer National Forest with the consent of the Department of Agriculture as long as no surface coal mining operations are permitted.

(3) Exemptions. The application of this criterion to lands within the listed land systems and categories is subject to valid existing rights, and does not apply to surface coal mining operations existing on August 3, 1977.
References

(1) **Criterion Number 2.** Federal lands that are within rights-of-way or easements or within surface leases for residential, commercial, industrial, or other public purposes, on federally owned surface shall be considered unsuitable.

(2) Exceptions. A lease may be issued, and mining operations approved, in such areas if the surface management agency determines that:

(i) All or certain types of coal development (e.g., underground mining) will not interfere with the purpose of the right-of-way or easement; or

(ii) The right-of-way or easement was granted for mining purposes; or

(iii) The right-of-way or easement was issued for a purpose for which it is not being used; or

(iv) The parties involved in the right-of-way or easement agree, in writing, to leasing; or

(v) It is impractical to exclude such areas due to the location of coal and method of mining and such areas or uses can be protected through appropriate stipulations.

(3) Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

(c)

(1) **Criterion Number 3.** The terms used in this criterion have the meaning set out in the Office of Surface Mining Reclamation and Enforcement regulations at Chapter VII of Title 30 of the Code of Federal Regulations. Federal lands affected by section 522(e) (4) and (5) of the Surface Mining Control and Reclamation Act of 1977 shall be considered unsuitable. This includes lands within 100 feet of the outside line of the right-of-way of a public road or within 100 feet of a cemetery, or within 300 feet of any public building, school, church, community or institutional building or public park or within 300 feet of an occupied dwelling.

(2) Exceptions. A lease may be issued for lands:

(i) Used as mine access roads or haulage roads that join the right-of-way for a public road;

(ii) For which the Office of Surface Mining Reclamation and Enforcement has issued a permit to have public roads relocated;

(iii) If, after public notice and opportunity for public hearing in the locality, a written finding is made by the authorized officer that the interests of the public and the landowners affected by mining within 100 feet of a public road will be protected.

(iv) For which owners of occupied dwellings have given written permission to mine within 300 feet of their buildings.

(3) Exemptions. The application of this criterion is subject to valid existing rights, and does not apply to surface coal mining operations existing on August 3, 1977.

(d)

(1) **Criterion Number 4.** Federal lands designated as wilderness study areas shall be considered unsuitable while under review by the Administration and the Congress for possible wilderness designation. For
any Federal land which is to be leased or mined prior to completion of the wilderness inventory by the
surface management agency, the environmental assessment or impact statement on the lease sale or
mine plan shall consider whether the land possesses the characteristics of a wilderness study area. If
the finding is affirmative, the land shall be considered unsuitable, unless issuance of noncompetitive
coal leases and mining on leases is authorized under the Wilderness Act and the Federal Land Policy
and Management Act of 1976.

(2) Exemption. The application of this criterion to lands for which the Bureau of Land Management is the
surface management agency and lands in designated wilderness areas in National Forests is subject to
valid existing rights.

(e)

(1) Criterion Number 5. Scenic Federal lands designated by visual resource management analysis as Class
I (an area of outstanding scenic quality or high vessel sensitivity) but not currently on the National
Register of Natural Landmarks shall be considered unsuitable.

(2) Exception. A lease may be issued if the surface management agency determines that surface coal
mining operations will not significantly diminish or adversely affect the scenic quality of the
designated area.

(3) Exemptions. This criterion does not apply to lands: to which the operator has made substantial legal
and financial commitments prior to January 4, 1977; on which surface coal mining operations were
being conducted on August 3, 1977, or which include operations on which a permit has been issued.

(f)

(1) Criterion Number 6. Federal lands under permit by the surface management agency, and being used
for scientific studies involving food or fiber production, natural resources, or technology
demonstrations and experiments shall be considered unsuitable for the duration of the study,
demonstration or experiment, except where mining could be conducted in such a way as to enhance or
not jeopardize the purposes of the study, as determined by the surface management agency, or where
the principal scientific user or agency gives written concurrence to all or certain methods of mining.

(2) Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and
financial commitments prior to January 4, 1977; on which surface coal mining operations were being
conducted on August 3, 1977; or which include operations on which a permit has been issued.

(g)

(1) Criterion Number 7. All publicly or privately owned places which are included in the National
Register of Historic Places shall be considered unsuitable. This shall include any areas that the surface
management agency determines, after consultation with the Advisory Council on Historic
Preservation and the State Historic Preservation Officer, are necessary to protect the inherent values of
the property that made it eligible for listing in the National Register.

(2) Exceptions. All or certain stipulated methods of coal mining may be allowed if, after consultation with
the Advisory Council on Historic Preservation and the State Historic Preservation Officer, they are
approved by the surface management agency, and, where appropriate, the State or local agency with
jurisdiction over the historic site.

(3) Exemptions. This criterion does not apply to lands: to which the operator made substantial legal and
financial commitments prior to January 4, 1977; on which surface coal mining operations were being
conducted on August 3, 1977; or which include operations on which a permit has been issued.
(h) Criterion Number 8. Federal lands designated as natural areas or as National Natural Landmarks shall be considered unsuitable.

(2) Exceptions. A lease may be issued and mining operation approved in an area or site if the surface management agency determines that:

(i) The use of appropriate stipulated mining technology will result in no significant adverse impact to the area or site; or

(ii) The mining of the coal resource under appropriate stipulations will enhance information recovery (e.g., paleontological sites).

(3) Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which includes operations on which a permit has been issued.

(i) Criterion Number 9. Federally designated critical habitat for listed threatened or endangered plant and animal species, and habitat proposed to be designated as critical for listed threatened or endangered plant and animal species or species proposed for listing, and habitat for Federal threatened or endangered species which is determined by the Fish and Wildlife Service and the surface management agency to be of essential value and where the presence of threatened or endangered species has been scientifically documented, shall be considered unsuitable.

(2) Exception. A lease may be issued and mining operations approved if, after consultation with the Fish and Wildlife Service, the Service determines that the proposed activity is not likely to jeopardize the continued existence of the listed species and/or its critical habitat.

(3) Exemptions. This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

(j) Criterion Number 10. Federal lands containing habitat determined to be critical or essential for plant or animal species listed by a state pursuant to state law as endangered or threatened shall be considered unsuitable.

(2) Exception. A lease may be issued and mining operations approved if, after consultation with the state, the surface management agency determines that the species will not be adversely affected by all or certain stipulated methods of coal mining.

(3) Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

(k) Criterion Number 11. A bald or golden eagle nest or site on Federal lands that is determined to be active and an appropriate buffer zone of land around the nest site shall be considered unsuitable.
Consideration of availability of habitat for prey species and of terrain shall be included in the determination of buffer zones. Buffer zones shall be determined in consultation with the Fish and Wildlife Service.

(2) Exceptions. A lease may be issued if:

(i) It can be conditioned in such a way, either in manner or period of operation, that eagles will not be disturbed during breeding season; or

(ii) The surface management agency, with the concurrence of the Fish and Wildlife Service, determines that the golden eagle nest(s) will be moved.

(iii) Buffer zones may be decreased if the surface management agency determines that the active eagle nests will not be adversely affected.

(3) Exemptions. This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

(l)

(1) Criterion Number 12. Bald and golden eagle roost and concentration areas on Federal lands used during migration and wintering shall be considered unsuitable.

(2) Exception. A lease may be issued if the surface management agency determines that all or certain stipulated methods of coal mining can be conducted in such a way, and during such periods of time, to ensure that eagles shall not be adversely disturbed.

(3) Exemptions. This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

(m)

(1) Criterion Number 13. Federal lands containing a falcon (excluding kestrel) cliff nesting site with an active nest and a buffer zone of Federal land around the nest site shall be considered unsuitable. Consideration of availability of habitat for prey species and of terrain shall be included in the determination of buffer zones. Buffer zones shall be determined in consultation with the Fish and Wildlife Service.

(2) Exception. A lease may be issued where the surface management agency, after consultation with the Fish and Wildlife Service, determines that all or certain stipulated methods of coal mining will not adversely affect the falcon habitat during the periods when such habitat is used by the falcons.

(3) Exemptions. This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

(n)

(1) Criterion Number 14. Federal lands which are high priority habitat for migratory bird species of high Federal interest on a regional or national basis, as determined jointly by the surface management agency and the Fish and Wildlife Service, shall be considered unsuitable.
References

(2) Exception. A lease may be issued where the surface management agency, after consultation with the Fish and Wildlife Service, determines that all or certain stipulated methods of coal mining will not adversely affect the migratory bird habitat during the periods when such habitat is used by the species.

(3) Exemption. This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

(o)

(1) Criterion Number 15. Federal lands which the surface management agency and the state jointly agree are habitat for resident species of fish, wildlife and plants of high interest to the state and which are essential for maintaining these priority wildlife and plant species shall be considered unsuitable. Examples of such lands which serve a critical function for the species involved include:

(i) Active dancing and strutting grounds for sage grouse, sharp-tailed grouse, and prairie chicken;

(ii) Winter ranges crucial for deer, antelope, and elk;

(iii) Migration corridor for elk; and

(iv) Extremes of range for plant species; and

A lease may be issued if, after consultation with the state, the surface management agency determines that all or certain stipulated methods of coal mining will not have a significant long-term impact on the species being protected.

(2) Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

(p)

(1) Criterion Number 16. Federal lands in riverine, coastal and special floodplains (100-year recurrence interval) on which the surface management agency determines that mining could not be undertaken without substantial threat of loss of life or property shall be considered unsuitable for all or certain stipulated methods of coal mining.

(2) Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

(q)

(1) Criterion Number 17. Federal lands which have been committed by the surface management agency to use as municipal watersheds shall be considered unsuitable.

(2) Exception. A lease may be issued where the surface management agency in consultation with the municipality (incorporated entity) or the responsible governmental unit determines, as a result of studies, that all or certain stipulated methods of coal mining will not adversely affect the watershed to any significant degree.

(3) Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being
References

conducted on August 3, 1977; or which include operations on which a permit has been issued.

(r)

(1) **Criterion Number 18.** Federal lands with National Resource Waters, as identified by states in their water quality management plans, and a buffer zone of Federal lands 1320 feet from the outer edge of the far banks of the water, shall be unsuitable.

(2) Exception. The buffer zone may be eliminated or reduced in size where the surface management agency determines that it is not necessary to protect the National Resource Waters.

(3) Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

(s)

(1) **Criterion Number 19.** Federal lands identified by the surface management agency, in consultation with the state in which they are located, as alluvial valley floors according to the definition in § 3400.0-5(a) of this title, the standards in 30 CFR Part 822, the final alluvial valley floor guidelines of the Office of Surface Mining Reclamation and Enforcement when published, and approved state programs under the Surface Mining Control and Reclamation Act of 1977, where mining would interrupt, discontinue, or preclude farming, shall be considered unsuitable. Additionally, when mining Federal land outside an alluvial valley floor would materially damage the quantity or quality of water in surface or underground water systems that would supply alluvial valley floors, the land shall be considered unsuitable.

(2) Exemptions. This criterion does not apply to surface coal mining operations which produced coal in commercial quantities in the year preceding August 3, 1977, or which had obtained a permit to conduct surface coal mining operations.

(t)

(1) **Criterion Number 20.** Federal lands in a state to which is applicable a criterion (i) proposed by the state or Indian tribe located in the planning area, and (ii) adopted by rulemaking by the Secretary, shall be considered unsuitable.

(2) Exceptions. A lease may be issued when:

   (i) Such criterion is adopted by the Secretary less than 6 months prior to the publication of the draft comprehensive land use plan or land use analysis, plan, or supplement to a comprehensive land use plan, for the area in which such land is included, or

   (ii) After consultation with the state or affected Indian tribe, the surface management agency determines that all or certain stipulated methods of coal mining will not adversely affect the value which the criterion would protect.

(3) Exemptions. This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.
In Reply Refer To: OKT RMP

Date

Address Information

Dear Landowner:

The United States Department of the Interior, Bureau of Land Management (BLM), Oklahoma Field Office (OFO), in collaboration with the United States Department of the Interior, Bureau of Indian Affairs (BIA), is preparing a Joint Oklahoma-Kansas-Texas (OKT) Environmental Impact Statement (EIS), BLM Resource Management Plan (RMP) and a BIA Integrated RMP (IRMP). The BLM RMP will direct the management of BLM-administered lands and federal mineral estate across the OKT planning area for the foreseeable future. The BIA IRMP includes management direction for allotted and tribal mineral interests throughout the OKT planning area. The BIA IRMP includes restricted tribal lands and lands administered by the BIA Eastern Oklahoma and Southern Plains Regional Offices in Oklahoma, Kansas, Texas, and Nebraska.

Pursuant to the Code of Federal Regulations (CFR), 43 CFR 3420.1-4, the BLM is providing you official notification that, based on available realty data, your surface lands overlie federal coal deposits within the BLM resource management planning area for the OKT Joint EIS/BLM RMP and BIA IRMP. The BLM is required by federal regulation to contact each affected individual “qualified surface landowner” and solicit their preference for or against “mining by other than underground mining techniques” (i.e., surface coal mining). This notification provides you the opportunity to submit your preference. It is very important that you read the attached definitions and regulations carefully to understand your choice.

The BLM is currently engaged in a planning process for making decisions on coal leasing and for the potential development of coal deposits underlying split estate. The BLM is requesting your input regarding a preference for or against “mining by other than underground mining techniques” (i.e., surface coal mining) for federally owned coal deposits beneath your surface estate. Please respond by completing and returning Encl. 1 to the address provided no later than January 6, 2018. Some or all of the coal mineral deposits beneath your surface lands may not be subject to leasing, pursuant to 43 CFR 3400.2 (e.g., lands in the National System of Trails or in incorporated cities, towns, and villages). However, the BLM requests that you provide your input for all lands described in this letter in case of future regulatory or statutory changes. If you are not the “qualified surface owner,” please respond by completing Encl. 2 and returning it to the address provided. If you do not respond by this date, the suitability of these coal deposits for mining by other than underground mining techniques (i.e., surface coal mining) will default to the BLM’s determination finding as part of its coal suitability screening process. For additional information, please contact Mr. Patrick Rich, OKT RMP Team Lead, at blm_nm_okt_rmp@blm.gov.

Sincerely,

Robert Pawelek, Field Manager
STATUTORY AUTHORITIES:

The CFR references quoted are issued under the authority of and to implement provisions of:


DEFINITIONS:

Coal deposits mean all Federally owned coal deposits, except those held in trust for Indians.

Federal lands mean lands owned by the United States, without reference to how the lands were acquired or what Federal agency administers the lands, including surface estate, mineral estate and coal estate, but excluding lands held by the United States in trust for Indians, Aleuts or Eskimos.

Qualified surface owner means the natural person or persons (or corporation, the majority stock of which is held by a person or persons otherwise meeting the requirements of this section) who:

(1) Hold(s) legal or equitable title to the surface of split estate lands;

(2) Have their principal place of residence on the land, or personally conduct farming or ranching operations upon a farm or ranch unit to be affected by surface mining operations; or receive directly a significant portion of their income, if any, from such farming and ranching operations; and

(3) Have met the conditions of paragraphs (1) and (2) of this section for a period of at least 3 years, except for persons who gave written consent less than 3 years after they met the requirements of both paragraphs (gg) (1) and (2) of this section. In computing the three year period the authorized officer shall include periods during which title was owned by a relative of such person by blood or marriage if, during such periods, the relative would have met the requirements of this section.

Secretary means the Secretary of the Interior.

Split estate means land in which the ownership of the surface is held by persons, including governmental bodies, other than the Federal government and the ownership of underlying coal is, in whole or in part, reserved to the Federal government.

Surface coal mining (also referred to as: “other than underground mining techniques”) operations means activities conducted on the surface of lands in connection with a surface coal mine or surface operations and
surface impacts incident to an underground mine, as defined in section 701(28) of the Surface Mining Control and Reclamation Act (30 U.S.C. 1291(28)).

43 CFR 3420.0-2 - Objectives.

§ 3420.0-2 Objectives.

The objectives of these regulations are to establish policies and procedures for considering development of coal deposits through a leasing system involving land use planning and environmental assessment or environmental impact statement processes; to promote the timely and orderly development of publicly owned coal resources; to ensure that coal deposits are leased at their fair market value; and to ensure that coal deposits are developed in consultation, cooperation and coordination with the public, state and local governments, Indian tribes and involved Federal agencies.

43 CFR 3420.1-1 - Lands subject to evaluation for leasing.

§ 3420.1-1 Lands subject to evaluation for leasing.

All lands subject to coal leasing under the mineral leasing laws are subject to evaluation under this subpart (43 CFR 3400.2).

43 CFR 3420.1-4 - General requirements for land use planning.

§ 3420.1-4 General requirements for land use planning.

(a) The Secretary may not hold a lease sale under this part unless the lands containing the coal deposits are included in a comprehensive land use plan or land use analysis. The land use plan or land use analysis will be conducted with public notice and opportunity for participation at the points specified in § 1610.2(f) of this title. The sale must be compatible with, and subject to, any relevant stipulations, guidelines, and standards set out in that plan or analysis.

(b)

(1) The Bureau of Land Management shall prepare comprehensive land use plans and land use analyses for lands it administers in conformance with 43 CFR part 1600.

(2) The Department of Agriculture or any other Federal agency with surface management authority over lands subject to leasing shall prepare comprehensive land use plans or land use analyses for lands it administers.

(3) The Secretary may lease in any area where it is found either that there is no Federal interest in the surface or that the coal deposits in an area are insufficient to justify the costs of a Federal land use plan upon completion of a land use analysis in accordance with this section and 43 CFR part 1600.

(c) In an area of Federal lands not covered by a completed comprehensive land use plan or scheduled for comprehensive land use planning, a member of the public may request the appropriate Bureau of Land Management State Office to prepare a land use analysis for coal related uses of the land as provided for in this group.

(d) A comprehensive land use plan or land use analysis shall contain an estimate of the amount of coal recoverable by either surface or underground mining operations or both.
(e) The major land use planning decision concerning the coal resource shall be the identification of areas acceptable for further consideration for leasing which shall be identified by the screening procedures listed below:

(1) Only those areas that have development potential may be identified as acceptable for further consideration for leasing. The Bureau of Land Management shall estimate coal development potential for the surface management agency. Coal companies, State and local governments and the general public are encouraged to submit information to the Bureau of Land Management at any time in connection with such development potential determinations. Coal companies, State and local governments and members of the general public may also submit non-confidential coal geology and economic data during the inventory phase of planning to the surface management agency conducting the land use planning. Where such information is determined to indicate development potential for an area, the area may be included in the land use planning for evaluation for coal leasing.

(2) The Bureau of Land Management or the surface managing agency conducting the land use planning shall, using the unsuitability criteria and procedures set out in subpart 3461 of this title, review Federal lands to assess where there are areas unsuitable for all or certain stipulated methods of mining. The unsuitability assessment shall be consistent with any decision of the Office of Surface Mining Reclamation and Enforcement to designate lands unsuitable or to terminate a designation in response to a petition.

(3) Multiple land use decisions shall be made which may eliminate additional coal deposits from further consideration for leasing to protect other resource values and land uses that are locally, regionally or nationally important or unique and that are not included in the unsuitability criteria discussed in paragraph (e) of this section. Such values and uses include, but are not limited to, those identified in section 522(a)(3) of the Surface Mining Reclamation and Control Act of 1977 and as defined in 30 CFR 762.5. In making these multiple use decisions, the Bureau of Land Management or the surface management agency conducting the land use planning shall place particular emphasis on protecting the following: Air and water quality; wetlands, riparian areas and sole-source aquifers; the Federal lands which, if leased, would adversely impact units of the National Park System, the National Wildlife Refuge System, the National System of Trails, and the National Wild and Scenic Rivers System.

(4)

(i) While preparing a comprehensive land use plan or land use analysis, the Bureau of Land Management shall consult with all surface owners who meet the criteria in paragraphs (gg) (1) and (2) of § 3400.0-5 of this title, and whose lands overlie coal deposits, to determine preference for or against mining by other than underground mining techniques.

(ii) For the purposes of this paragraph, any surface owner who has previously granted written consent to any party to mine by other than underground mining techniques shall be deemed to have expressed a preference in favor of mining. Where a significant number of surface owners in an area have expressed a preference against mining those deposits by other than underground mining techniques, that area shall be considered acceptable for further consideration only for development by underground mining techniques. In addition, the area may be considered acceptable for further consideration for leasing for development by other than underground techniques if there are no acceptable alternative areas available to meet the regional leasing level.

(iii) An area eliminated from further consideration by this subsection may be considered acceptable for further consideration for leasing for mining by other than underground mining techniques if:
(A) The number of surface owners who have expressed their preference against mining by other than underground techniques is reduced below a significant number because such surface owners have given written consent for such mining or have transferred ownership to unqualified surface owners; and

(B) The land use plan is amended accordingly.

(f) In its review of cumulative impacts of coal development, the regional coal team shall consider any threshold analysis performed during land-use planning as required by § 1610.4-4 of this title and shall apply this analysis, where appropriate, to the region as a whole.
Return to:

Bureau of Land Management
Oklahoma Field Office
Attn: Mr. Patrick R. Rich, RMP Team Lead
Resources Division
201 Stephenson Pkwy, Suite 1200
Norman, OK 73072

Dear BLM Field Manager:

In response to your letter soliciting each qualified surface owner’s “preference in favor of” or “preference against” mining federally owned coal deposits underlying split estate by other than underground mining techniques (surface coal mining) within the Oklahoma, Kansas, and Texas planning area, I submit the following written response as the legal qualified surface owner, as defined by 43 CFR 3000.0-5 (gg) (1) and (2):

After reading and considering the provided references, I submit that I have a preference in favor of mining coal deposits underlying my surface estate by other than underground mining techniques (surface coal mining).

☐ After reading and considering the provided references, I submit that I have a preference against mining coal deposits underlying my surface estate by other than underground mining techniques (surface coal mining).

Sincerely,

Name: ____________________________________________

_________________________________  Address: ________________________________

Signature                  Date

__________________________________________________________

County: Pittsburg County
*Parcel ID Number: 0100-00-035-003-0-003-00, 1700-00-227-002-0-002-00, 1700-00-229-001-0-001-00, 1700-00-226-006-0-006-00, 1700-00-226-001-0-001-00, 0100-00-031-004-0-004-00, 0100-00-031-004-0-004-01

*Preliminary investigation shows that the parcel referenced by the County Parcel ID has the potential to contain federal mineral estate. BLM makes no warranty that federal minerals exist within the parcel.
Return to:

Bureau of Land Management
Oklahoma Field Office
Attn: Mr. Patrick R. Rich, RMP Team Lead
Resources Division
201 Stephenson Pkwy, Suite 1200
Norman, OK 73072

Dear BLM Field Manager:

In response to your letter soliciting each qualified surface owner’s “preference in favor of” or “preference against” mining federally owned coal deposits underlying split estate by other than underground mining techniques (surface coal mining) within the Oklahoma, Kansas, and Texas planning area, I am notifying you that I am NOT the legal “qualified surface owner”, as defined by 43 CFR 3000.0-5 (gg) (1) and (2). Below, I have provided the name and address of the qualified surface owner:

Qualified Surface Owner Information:

Name: ___________________________________________

Address: _______________________________________

___________________________________________

Sincerely,

______________________________
Signature Date

Your Name (printed)

County: Pittsburg County
*Parcel ID Number: 0100-00-035-003-0-003-00, 1700-00-227-002-0-002-00, 1700-00-229-001-0-001-00, 1700-00-226-006-0-006-00, 1700-00-226-001-0-001-00, 0100-00-031-004-0-004-00, 0100-00-031-004-0-004-00, 0100-00-031-004-0-004-00, 0100-00-031-004-0-004-00, 0100-00-031-004-0-004-00, 0100-00-031-004-0-004-00

*Preliminary investigation shows that the parcel referenced by the County Parcel ID has the potential to contain federal mineral estate. BLM makes no warranty that federal minerals exist within the parcel.
Preliminary investigation shows that the parcel referenced by the County Parcel ID has the potential to contain federal mineral estate. BLM makes no warranty that federal minerals exist within the parcel.
Appendix N
BLM-Administered Surface Tracts Meeting
Disposal Criteria Under Section 203 of FLPMA
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Appendix N. BLM-Administered Surface Tracts Meeting Disposal Criteria Under Section 203 of FLPMA

N.1 INTRODUCTION
In preparation for this land use planning initiative, the Bureau of Land Management (BLM) conducted an inventory of public lands within the Oklahoma, Kansas, and Texas planning area, pursuant to Federal Land Policy and Management Act of 1976 (FLPMA; 43 US Code, Section 1701 et seq.), section 202, to determine whether any tracts met one or more of the FLPMA section 203 criteria for disposal. This is because the BLM may only sell public land using this FLPMA authority if the BLM has first found, through land use planning, that the tract meets one or more of these criteria:

1. Such tract because of its location or other characteristics is difficult and uneconomic to manage as part of the public lands, and is not suitable for management by another Federal department or agency; or
2. Such tract was acquired for a specific purpose and the tract is no longer required for that or any other Federal purpose; or
3. Disposal of such tract will serve important public objectives, including but not limited to, expansion of communities and economic development, which cannot be achieved prudently or feasibly on land other than public land and which outweigh other public objectives and values, including, but not limited to, recreation and scenic values, which would be served by maintaining such tract in Federal ownership.

During land-use planning, the BLM identified three categories of public lands within the Oklahoma, Kansas, and Texas planning area that meet one or more of the FLPMA section 203 criteria for disposal. First, there are the 172 remaining Oklahoma "scattered tracts" which were previously identified for disposal by the BLM Director in 1982. The phrases "isolated tracts," "isolated parcels," and "scattered surface tracts" are used interchangeably throughout the OKT EIS/RMP and were previously identified in (1994) Oklahoma RMP as meeting the FLPMA disposal criterion (1) because they are isolated from other public lands, and therefore, uneconomic for the BLM to manage. These "isolated parcels", therefore, appear in Alternative A (no action), as well as in FEIS Alternative B (Proposed Plan) as meeting the criteria for potential disposal out of Federal ownership, under the sales authority of section 203 of FLPMA, or other applicable authorities. Legal land descriptions for these "scattered tracts" in Oklahoma are provided below. Prior to any decision to dispose of public land by sale under section 203 of FLPMA, or by any other applicable authority, the BLM would review the legal land description, and conduct a resurvey if necessary. Further discussion regarding these tracts may be found in the OKT EIS/RMP, Table 2-2, Line 178.

Second, there are the lands along the 116-mile stretch of the Red River between the North Fork of the Red River and the 98th Meridian. For these lands along the Red River, such lands would be more specifically identified and mapped when they are surveyed. No exact acreages and no legal land descriptions of federal lands are available at this time because the full 116-mile stretch has not been surveyed. In fact, most of the limited portions of this stretch that have been surveyed were surveyed approximately 100 years ago, as part of resolving a Supreme Court case. Any survey of lands along the Red River would be conducted in accordance with applicable law.
In this area, Federal ownership is limited to the southern half of a mostly dry riverbed. These areas are difficult to manage, because access points are limited (there are only three bridges across this span, otherwise cooperation of adjacent private landowners is necessary). They are also difficult to manage because there are conflicting ownership claims from both sides of the river (in some situations claims of landowners in Oklahoma and Texas overlap not only with US claims, but also with each other, which would completely eliminate any federal ownership). This complicated situation has arisen because the Supreme Court set a boundary in the 1920s that was difficult to identify at that time and has become even more difficult to identify today because of different land use patterns that have emerged and changes to vegetation cover resulting from the introduction of non-indigenous invasive species since the Supreme Court’s decision.

Finally, there are Cross Bar Management Area Units 19, 21, and 29, as discussed in OKT EIS/RMP, Table 2-2, Line 178. All of these are considered in general in Alternatives B and D (Proposed Plan), as to the environmental consequences of their possible disposal. Alternatives B and D represents and evaluates, Cross Bar Management Area Units 19, 21, and 29 as meeting FLPMA section 203 (sales) criteria (1) and (3), and, since they meet the criteria for leaving Federal ownership, meeting the criteria for land exchange under section 206 of FLPMA. Cross Bar Management Area Units 19, 21, and 29 meet criteria (1) of the section 203 criteria for disposal because they are geographically intermixed with non-Federal land in a “checkerboard” manner making management by the BLM, and the adjacent landowners, difficult. In addition, Units 19, 21, and 29 meet FLPMA section 203 criterion (3) for disposal, because removal of the tracts from Federal ownership would serve an important public objective, in that identification of these tracts as meeting FLPMA section 203 criteria for disposal provides for future opportunities, pursuant to FLPMA section 206 (exchanges), to secure permanent public access to the proposed 9,900 acre Cross Bar Special Recreation Management Area. And, due to the "checkerboard" layout and geographically isolated positions on Units 19, 21, and 29, they are not part of the proposed Cross Bar Special Recreation Management Area; therefore, requiring separate administration actions and furthering uneconomical management requirements. In contrast with Alternatives B and D, which includes a general evaluation of the environmental consequences of disposal of all three of these Units out of Federal ownership, Alternative C only considers, in general, the environmental consequences of disposal of only Cross Bar Units 19 and 21 (see OKT EIS/RMP, Table 2-2, Line 178, Alternative C), even though all three of the Units meet the disposal criteria. This is because, although the land in Unit 29 is similarly isolated and uneconomical to manage, Alternative C includes designation of the area, including Unit 29, as an ACEC. Therefore, in Alternative C, Unit 29 is identified for retention. Even though this EIS includes general discussion of the environmental consequences of sale or exchange of these Units, or, in the case of Unit 29, in Alternative C, evaluates retention as part of an area of critical environmental concern (ACEC), any future decision making regarding a specific sale or exchange proposal would require additional site-specific analysis and review.

The following table describes the surface tracts that BLM has identified as meeting the disposal criteria in section 203 of FLPMA, as well as the alternative that would consider these lands for disposal.
<table>
<thead>
<tr>
<th>State</th>
<th>County</th>
<th>Tract Number</th>
<th>Legal Description</th>
<th>FEIS Alternative</th>
<th>FLPMA Criteria</th>
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<td>Pawnee</td>
<td>PW-01</td>
<td>T21N, R9E, Sec 32, Lot 10</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Pawnee</td>
<td>PW-02</td>
<td>T22N, R5E, Sec 32, Pawnee TS</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Roger Mills</td>
<td>RM-14</td>
<td>T18N, R21W, Sec 26, Lot 4</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Tillman/Jackson</td>
<td>TL-02</td>
<td>T1S, R19W, Sec 18, Lot 2</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Tillman/Jackson</td>
<td>TL-03</td>
<td>T1S, R19W, Sec 19, Lot 9</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Tillman</td>
<td>TL-04</td>
<td>T1S, R19W, Sec 30, Lot 12</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Tillman</td>
<td>TL-05</td>
<td>T2S, R19W, Sec 17, Lot 4</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Jackson</td>
<td>TL-05 and JK-09</td>
<td>T2S, R19W, Sec 17, Lots 4 and 5</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Tillman/Jackson</td>
<td>TL-06</td>
<td>T2S, R20W, Sec 1, Lot 8</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Tillman/Jackson</td>
<td>TL-07</td>
<td>T2S, R20W, Sec 1, Lot 9</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Tillman</td>
<td>TL-08</td>
<td>T4S, R17W, Sec 10, Lot 1A</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Tillman</td>
<td>TL-09</td>
<td>T4S, R17W, Sec 10, Lot 1B</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Tillman</td>
<td>TL-10</td>
<td>T4S, R17W, Sec 10, Lot 2B</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Tillman</td>
<td>TL-11</td>
<td>T4S, R17W, Sec 15, Lot 8</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Tillman</td>
<td>TL-12</td>
<td>T5S, R14W, Sec 1, Lot 3</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Tillman</td>
<td>TL-13</td>
<td>T5S, R14W, Sec 1, Lot 4</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Tillman</td>
<td>TL-14</td>
<td>T5S, R14W, Sec 1, Lot 8</td>
<td>A, B, C, D</td>
<td>(1)</td>
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<tr>
<td>OK</td>
<td>Texas</td>
<td>TX-01</td>
<td>T3N, R16E, Sec 24, SWNW</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Texas</td>
<td>TX-02</td>
<td>T6N, R16E, Sec 10, Lot 2</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Woods</td>
<td>WD-05</td>
<td>T25N, R14W, Sec 18, Lot 3</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Woods</td>
<td>WD-07</td>
<td>T27N, R20W, Sec 2, Lot 1</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Woods</td>
<td>WD-08</td>
<td>T29N, R20W, Sec 18, Lot 3</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Woods</td>
<td>WD-09</td>
<td>T27N, R14W, Sec 24, Alva TS</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Washita</td>
<td>WS-01</td>
<td>T8N, R15W, Sec 35, Lot 5</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Woodward</td>
<td>WW-02</td>
<td>T24N, R17W, Sec 1, SE1/4 SE1/4</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>OK</td>
<td>Woodward</td>
<td>WW-03</td>
<td>T24N, R17W, Sec 1, SE1/4 NE1/4 NE1/4</td>
<td>A, B, C, D</td>
<td>(1)</td>
</tr>
<tr>
<td>TX</td>
<td>Potter</td>
<td>Cross Bar Management Area Unit 19</td>
<td>GC &amp; SF RR, Lot block 021-W, Sec 19</td>
<td>B, C, D</td>
<td>(1), (3)</td>
</tr>
<tr>
<td>TX</td>
<td>Potter</td>
<td>Cross Bar Management Area Unit 21</td>
<td>GC &amp; SF RR, Lot block 021-W, Sec 21</td>
<td>B, C, D</td>
<td>(1), (3)</td>
</tr>
</tbody>
</table>
FLPMA Section 203 disposal criteria:
(1) such tract because of its location or other characteristics is difficult and uneconomic to manage as part of the public lands, and is not suitable for management by another Federal department or agency; or
(2) such tract was acquired for a specific purpose and the tract is no longer required for that or any other Federal purpose; or
(3) disposal of such tract will serve important public objectives, including but not limited to, expansion of communities and economic development, which cannot be achieved prudently or feasibly on land other than public land and which outweigh other public objectives and values, including, but not limited to, recreation and scenic values, which would be served by maintaining such tract in Federal ownership.

**Note:** For lands along the 116-mile stretch of the Red River between the North Fork of the Red River and the 98th Meridian, such lands would be more specifically identified and mapped when they are surveyed. (No exact acreages, and no legal land descriptions of federal lands are available at this time because the full 116-mile stretch has not been surveyed). Any such survey would be conducted in accordance with applicable law.)

### N.2 BLM-Administered Surface Tract Evaluation

The BLM reviewed public access and recreation opportunities when evaluating land-tenure decisions for each of the surface tracts identified in Table N-1 (consistent with SO 3373). The results of that evaluation follow.
Attachment A
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BLM Surface Tract Number: BK-01

Beckham County, Oklahoma

Legal Description: Indian Meridian, T0080N, R0210W, section 30, aliquot 12

Acres: 7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.
BLM Surface Tract Number: BK-02

Beckham County, Oklahoma

Legal Description: Indian Meridian, T0080N, R0210W, section 32, aliquot 2

Acres: 1.4

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: BK-03

Beckham County, Oklahoma

Legal Description: Indian Meridian, T0080N, R0230W, section 12, aliquot 3

Acres: 15

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Beckham County, Oklahoma

Legal Description: Indian Meridian, T0090N, R0220W, section 19, aliquot 13

Acres: 4.2

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Beckham County, Oklahoma

Legal Description: Indian Meridian, T0090N, R0230W, section 5, aliquot 12

Acres: 14.6
Current Public Access: No
Recreation Use: No
ROW Available: Alt A- available for ROWs
Alt B- available for ROWs
Alt C- available for ROWs
Alt D- available for ROWs
Suitable for Retention or Disposal: Alt A- Dispose
Alt B- Dispose
Alt C- Dispose
Alt D- Dispose
Impact on access: None (there is no current public access)
BLM Surface Tract Number: BK-06

Beckham County, Oklahoma

Legal Description: Indian Meridian, T0090N, R0230W, section 12, aliquot 3, 4

Acres: 13.4

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Beckham County, Oklahoma

Legal Description: Indian Meridian, T0090N, R0240W, section 4, aliquot 12

Acres: 15.9

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.
Beckham County, Oklahoma

Legal Description: Indian Meridian, T0090N, R0240W, section 10, aliquot 1

Acres: 15.7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Beckham County, Oklahoma

Legal Description: Indian Meridian, T0090N, R0240W, section 11, aliquot 9

Acres: 5.4

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: BK-10

Beckham County, Oklahoma

Legal Description: Indian Meridian, T0090N, R0250W, section 6, aliquot 3

Acres: 2.2

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs
Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.
Beckham County, Oklahoma

Legal Description: Indian Meridian, T0090N, R0260W, section 30, aliquot TEXOLA TS

Acres: 9.9

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (no recreational value)
Beckham County, Oklahoma

Legal Description: Indian Meridian, T0100N, R0250W, section 28, aliquot 6,7,8

Acres: 20.8

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Blaine County, Oklahoma

Legal Description: Indian Meridian, T0130N, R0110W, section 31, aliquot 4,5

Acres: 43.7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs
Alt B- available for ROWs
Alt C- available for ROWs
Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose
Alt B- Dispose
Alt C- Dispose
Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.
BLM Surface Tract Number: BL-03

Blaine County, Oklahoma

Legal Description: Indian Meridian, T0130N, R0120W, section 30, aliquot 1

Acres: 12.9

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: BL-05

Blaine County, Oklahoma

Legal Description: Indian Meridian, T0140N, R0130W, section 5, aliquot NESE

Acres: 78.9

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs   Alt B- ROW exclusion
Alt C- ROW exclusion   Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose   Alt B- Dispose   Alt C- Dispose   Alt D- Dispose

Impact on access: None (there is no current public access)
Blaine County, Oklahoma

Legal Description: Indian Meridian, T0140N, R0130W, section 8, aliquot 1,2

Acres: 63.4

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- ROW exclusion  Alt C- ROW exclusion  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.

Blaine County, Oklahoma

Legal Description: Indian Meridian, T0140N, R0130W, section 21, aliquot 1, 2, 3

Acres: 155

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs    Alt B- ROW exclusion
              Alt C- ROW exclusion    Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose    Alt B- Dispose    Alt C- Dispose    Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: BL-08

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.

Blaine County, Oklahoma

Legal Description: Indian Meridian, T0170N, R0130W, section 1, aliquot 9

Acres: 1.6

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: BL-09

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.

Blaine County, Oklahoma

Legal Description: Indian Meridian, T0180N, R0130W, section 26, aliquot 11

Acres: 4.3

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: BL-10

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.

Blaine County, Oklahoma

Legal Description: Indian Meridian, T0190N, R0100W, section 1, 2, aliquot 1, 2; 1

Acres: 79.5

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- ROW exclusion  Alt C- ROW exclusion  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: BL-11

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.

Blaine County, Oklahoma

Legal Description: Indian Meridian, T0200N, R0100W, section 35, aliquot SESE and 8

Acres: 59.8

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- ROW exclusion  Alt C- ROW exclusion  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Caddo County, Oklahoma

Legal Description: Indian Meridian, T0120N, R0110W, section 2, aliquot 2a, 2b, 2c, 4

Acres: 61.7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- ROW exclusion  Alt C- ROW exclusion  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: CI-18

Cimarron County, Oklahoma

Legal Description: Cimarron Meridian, T0010S, R0040E, section 4, aliquot 2

Acres: 11

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs    Alt B- available for ROWs
              Alt C- available for ROWs    Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose    Alt B- Dispose    Alt C- Dispose    Alt D- Dispose

Impact on access: None (no recreational value)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.
BLM Surface Tract Number: CL-01

Cleveland County, Oklahoma

Legal Description: Indian Meridian, T0050N, R0010E, section 1, aliquot 5

Acres: 5.2

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- ROW exclusion  
Alt C- ROW exclusion  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: CL-02

Cleveland County, Oklahoma

Legal Description: Indian Meridian, T0050N, R0010E, section 2, aliquot 3 (6)

Acres: 15.5

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
CL-03

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.

Cleveland County, Oklahoma

Legal Description: Indian Meridian, T0050N, R0010E, section 2, aliquot 2 (5)

Acres: 9.7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- ROW exclusion  
Alt C- ROW exclusion  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Cleveland County, Oklahoma

Legal Description: Indian Meridian, T0050N, R0010E, section 2, aliquot 1 (4)

Acres: 21.9

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs   Alt B- ROW exclusion   Alt C- ROW exclusion   Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose   Alt B- Dispose   Alt C- Dispose   Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: CL-05

Cleveland County, Oklahoma

Legal Description: Indian Meridian, T0060N, R0010W, section 7, aliquot 3

Acres: 12.8

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- ROW exclusion  Alt C- ROW exclusion  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: CL-06

Cleveland County, Oklahoma

Legal Description: Indian Meridian, T0060N, R0010W, section 7, aliquot 4

Acres: 16

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs Alt B- available for ROWs Alt C- available for ROWs Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose Alt B- Dispose Alt C- Dispose Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: CL-07

Cleveland County, Oklahoma

Legal Description: Indian Meridian, T0080N, R0020W, section 19, aliquot 19

Acres: 1.2

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- ROW exclusion  Alt C- ROW exclusion  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (no recreational value)
BLM Surface Tract Number: CL-08

Cleveland County, Oklahoma

Legal Description: Indian Meridian, T0080N, R0020W, section 19, aliquot 11

Acres: 29.8

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- ROW exclusion  Alt C- ROW exclusion  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.
BLM Surface Tract Number: CL-10

Cleveland County, Oklahoma

Legal Description: Indian Meridian, T0090N, R0030W, section 6, aliquot 7

Acres: 15

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Cleveland County, Oklahoma

Legal Description: Indian Meridian, T0100N, R0040W, section 19, aliquot 10

Acres: 8.3

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: CL-14

Cleveland County, Oklahoma

Legal Description: Indian Meridian, T0100N, R0040W, section 20, aliquot 1

Acres: 36.5

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Cleveland County, Oklahoma

Legal Description: Indian Meridian, T0100N, R0040W, section 20, aliquot 2

Acres: 30.6

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: CL-16

Cleveland County, Oklahoma

Legal Description: Indian Meridian, T0100N, R0040W, section 29, aliquot 6

Acres: 25.4

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs   Alt B- ROW exclusion   Alt C- ROW exclusion   Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose   Alt B- Dispose   Alt C- Dispose   Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

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BLM Surface Tract Number: CL-17

Cleveland County, Oklahoma

Legal Description: Indian Meridian, T0100N, R0040W, section 29, aliquot 7

Acres: 37.5

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (no recreational value)
BLM Surface Tract Number: CL-18

Cleveland County, Oklahoma

Legal Description: Indian Meridian, T0100N, R0040W, section 35, aliquot 5

Acres: 1

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs   Alt B- ROW exclusion
             Alt C- ROW exclusion   Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose   Alt B- Dispose   Alt C- Dispose   Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

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CL-20

BLM surface parcel boundaries are approximate. Additional surveys may be required.

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Cleveland County, Oklahoma

Legal Description: Indian Meridian, T0100N, R0040W, section 20, aliquot NESW

Acres: 39.5

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs	Alt B- available for ROWs
Alt C- available for ROWs	Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose	Alt B- Dispose	Alt C- Dispose	Alt D- Dispose

Impact on access: None (no recreational value)
BLM Surface Tract Number: CL-21

Cleveland County, Oklahoma

Legal Description: Indian Meridian, T0100N, R0040W, section 29, aliquot NENE

Acres: 39.8

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: CN-01

BLM surface parcel boundaries are approximate. Additional surveys may be required.

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Canadian County, Oklahoma

Legal Description: Indian Meridian, T0100N, R0070W, section 4, aliquot 13

Acres: 0.2

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose   Alt B- Dispose   Alt C- Dispose   Alt D- Dispose

Impact on access: None (there is no current public access)
Canadian County, Oklahoma

Legal Description: Indian Meridian, T0100N, R0070W, section 11, aliquot 8

Acres: 14.7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: CN-03

Canadian County, Oklahoma

Legal Description: Indian Meridian, T0110N, R0080W, section 19, aliquot 8

Acres: 28.9

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- ROW exclusion  Alt C- ROW exclusion  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: CN-04

BLM surface parcel boundaries are approximate. Additional surveys may be required.

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Canadian County, Oklahoma

Legal Description: Indian Meridian, T0110N, R0090W, section 9, aliquot 2

Acres: 25.9

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (no recreational value)
BLM Surface Tract Number: CN-06

Canadian County, Oklahoma

Legal Description: Indian Meridian, T0120N, R0050W, section 13, aliquot 5

Acres: 4.2

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

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BLM surface parcel boundaries are approximate. Additional surveys may be required.

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Canadian County, Oklahoma

Legal Description: Indian Meridian, T0120N, R0050W, section 23, aliquot 2

Acres: 1.7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Canadian County, Oklahoma

Legal Description: Indian Meridian, T0120N, R0050W, section 24, aliquot 10

Acres: 0.3

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: CN-10

Canadian County, Oklahoma

Legal Description: Indian Meridian, T0120N, R0100W, section 7, aliquot 3,10

Acres: 38.6

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: CN-11

BLM surface parcel boundaries are approximate. Additional surveys may be required.

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Canadian County, Oklahoma

Legal Description: Indian Meridian, T0120N, R0100W, section 21, aliquot NENE

Acres: 39.9

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: CN-12

BLM surface parcel boundaries are approximate. Additional surveys may be required.

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This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.

Canadian County, Oklahoma

Legal Description: Indian Meridian, T0120N, R0100W, section 22, aliquot 2

Acres: 15.3

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs   Alt B- ROW exclusion
               Alt C- ROW exclusion   Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose   Alt B- Dispose   Alt C- Dispose   Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: CN-14

Canadian County, Oklahoma

Legal Description: Indian Meridian, T0130N, R0070W, section 35, aliquot 13

Acres: 0.2

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: Cross Bar-19

Potter County, Texas

Legal Description: , T, R, section Unit 19, aliquot

Acres: 645.5

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs
Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Retain  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

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BLM surface parcel boundaries are approximate. Additional surveys may be required.

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Potter County, Texas

Legal Description: , T, R, section Unit 21, aliquot

Acres: 644.1

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs
               Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Retain  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: Cross Bar- 29

BLM surface parcel boundaries are approximate. Additional surveys may be required.

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Potter County, Texas

Legal Description: , T , R , section Unit 29, aliquot

Acres: 644.4

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Retain  Alt B- Dispose  Alt C- Retain  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: CT-01

Cotton County, Oklahoma

Legal Description: Indian Meridian, T0010S, R0100W, section 27, aliquot Temple townsite

Acres: 2.7

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (no recreational value)
Cotton County, Oklahoma

Legal Description: Indian Meridian, T0010S, R0100W, section 27, aliquot Temple townsite

Acres: 3.7

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (no recreational value)
BLM Surface Tract Number: CT-03

Cotton County, Oklahoma

Legal Description: Indian Meridian, T0010S, R0100W, section 27, aliquot Temple townsite

Acres: 6.4

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs   Alt B- available for ROWs   Alt C- available for ROWs   Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose   Alt B- Dispose   Alt C- Dispose   Alt D- Dispose

Impact on access: None (no recreational value)
BLM Surface Tract Number: CT-04

Cotton County, Oklahoma

Legal Description: Indian Meridian, T0050S, R090W, section 9, aliquot 7

Acres: 18.5

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

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BLM Surface Tract Number: CT-05

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.

Cotton County, Oklahoma

Legal Description: Indian Meridian, T0050S, R0120W, section 13, aliquot E2NE;B

Acres: 98

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: CT-06

Cotton County, Oklahoma

Legal Description: Indian Meridian, T0050S, R0120W, section 24, aliquot B

Acres: 9.7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.
Cotton County, Oklahoma

Legal Description: Indian Meridian, T0050S, R0120W, section 24, aliquot 5

Acres: 16.8

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.

Cotton County, Oklahoma

Legal Description: Indian Meridian, T0010S, R0012W, section 2, aliquot Hullen townsite

Acres: 12.8

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: CU-02

Custer County, Oklahoma

Legal Description: Indian Meridian, T0150N, R0140W, section 4, aliquot 4

Acres: 37.5

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs   Alt B- available for ROWs   Alt C- available for ROWs   Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose   Alt B- Dispose   Alt C- Dispose   Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.
BLM Surface Tract Number: CU-03

Custer County, Oklahoma

Legal Description: Indian Meridian, T0150N, R0140W, section 4, aliquot 5

Acres: 14

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs   Alt B- available for ROWs   Alt C- available for ROWs   Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose   Alt B- Dispose   Alt C- Dispose   Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.
BLM Surface Tract Number: CU-04

Custer County, Oklahoma

Legal Description: Indian Meridian, T0150N, R0140W, section 5, aliquot 1

Acres: 8.1

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Dewey County, Oklahoma

Legal Description: Indian Meridian, T0160N, R0140W, section 32, aliquot 4

Acres: 38.3

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Dewey County, Oklahoma

Legal Description: Indian Meridian, T0160N, R0190W, section 10, aliquot 1

Acres: 6.1

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: DW-11

Dewey County, Oklahoma

Legal Description: Indian Meridian, T0170N, R0150W, section 28, aliquot 6

Acres: 3.3

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Dewey County, Oklahoma

Legal Description: Indian Meridian, T0170N, R0170W, section 31, aliquot 7

Acres: 14.4

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs Alt B- available for ROWs Alt C- available for ROWs Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose Alt B- Dispose Alt C- Dispose Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: DW-20

Dewey County, Oklahoma

Legal Description: Indian Meridian, T0180N, R0170W, section 33, aliquot 9

Acres: 1.8

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Dewey County, Oklahoma

Legal Description: Indian Meridian, T0180N, R0200W, section 26, aliquot 1

Acres: 35.2

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: DW-22

Dewey County, Oklahoma

Legal Description: Indian Meridian, T0180N, R0200W, section 26, aliquot 2

Acres: 24.5

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Dewey County, Oklahoma

Legal Description: Indian Meridian, T0180N, R0200W, section 26, aliquot SWSE

Acres: 42

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: EL-02

Ellis County, Oklahoma

Legal Description: Indian Meridian, T0170N, R0220W, section 14, aliquot 2

Acres: 21.1

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs   Alt B- available for ROWs
              Alt C- available for ROWs   Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose   Alt B- Dispose   Alt C- Dispose   Alt D- Dispose

Impact on access: None (there is no current public access)
BLM surface parcel boundaries are approximate. Additional surveys may be required.

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Ellis County, Oklahoma

Legal Description: Indian Meridian, T0170N, R0250W, section 5, aliquot SWNW

Acres: 40.1

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: EL-07

Ellis County, Oklahoma

Legal Description: Indian Meridian, T0170N, R0250W, section 7, aliquot 9

Acres: 17.4

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: EL-08

Ellis County, Oklahoma

Legal Description: Indian Meridian, T0170N, R0250W, section 18, aliquot 1

Acres: 15

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs
Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: EL-09

Ellis County, Oklahoma

Legal Description: Indian Meridian, T0170N, R0250W, section 18, aliquot 4

Acres: 8.8

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.
Ellis County, Oklahoma

Legal Description: Indian Meridian, T0170N, R0250W, section 18, aliquot 5

Acres: 15.5

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: EL-12

Ellis County, Oklahoma

Legal Description: Indian Meridian, T0170N, R0250W, section 18, aliquot 8

Acres: 27

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Ellis County, Oklahoma

Legal Description: Indian Meridian, T0170N, R0250W, section 19, aliquot 1

Acres: 31.2

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: EL-14

BLM surface parcel boundaries are approximate. Additional surveys may be required.

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Ellis County, Oklahoma

Legal Description: Indian Meridian, T0170N, R0250W, section 19, aliquot 4

Acres: 26.6

Current Public Access: No

Recreation Use: No

ROW Available: Alt A - available for ROWs  Alt B - available for ROWs  Alt C - available for ROWs  Alt D - available for ROWs

Suitable for Retention or Disposal: Alt A - Dispose  Alt B - Dispose  Alt C - Dispose  Alt D - Dispose

Impact on access: None (there is no current public access)
ELLIS COUNTY, OKLAHOMA

Legal Description: Indian Meridian, T0180N, R0250W, section 32, aliquot 1

Acres: 34

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Ellis County, Oklahoma

Legal Description: Indian Meridian, T0180N, R0250W, section 33, aliquot 1

Acres: 41.7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: GE-02B

Greer County, Oklahoma

Legal Description: Indian Meridian, T0060N, R0210W, section 21, aliquot W1/2 SE1/4 SE1/4

Acres: 19.9

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: GE-03

Greer County, Oklahoma

Legal Description: Indian Meridian, T0070N, R0200W, section 32, aliquot 9

Acres: 4.5

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Greer County, Oklahoma

Legal Description: Indian Meridian, T0070N, R0200W, section 32, aliquot 10

Acres: 15.4

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Greer County, Oklahoma

Legal Description: Indian Meridian, T0070N, R0210W, section 2, aliquot 8

Acres: 1.4

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Greer County, Oklahoma

Legal Description: Indian Meridian, T0070N, R0210W, section 2, aliquot 9

Acres: 3.5

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: GE-07

Greer County, Oklahoma

Legal Description: Indian Meridian, T0070N, R0210W, section 5, aliquot 12

Acres: 3.2

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

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BLM Surface Tract Number: GE-08

Greer County, Oklahoma

Legal Description: Indian Meridian, T0070N, R0210W, section 12, aliquot 1

Acres: 10.4

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

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BLM Surface Tract Number: GE-09

Greer County, Oklahoma

Legal Description: Indian Meridian, T0070N, R0230W, section 1, aliquot 4

Acres: 40.4

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (no recreational value)
Greer County, Oklahoma

Legal Description: Indian Meridian, T0080N, R0210W, section 34, aliquot 10

Acres: 6.5

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: GR-03

Grady County, Oklahoma

Legal Description: Indian Meridian, T0060N, R0080W, section 31, aliquot SESENW,S2SWNE

Acres: 29.9

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs   Alt B- available for ROWs
Alt C- available for ROWs   Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose   Alt B- Dispose   Alt C- Dispose   Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: HM-02

Harmon County, Oklahoma

Legal Description: Indian Meridian, T0010N, R0250W, section 28, aliquot 1

Acres: 33.1

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs, Alt B- available for ROWs, Alt C- available for ROWs, Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose, Alt B- Dispose, Alt C- Dispose, Alt D- Dispose

Impact on access: None (there is no current public access)
Harmon County, Oklahoma

Legal Description: Indian Meridian, T0010N, R0250W, section 29, aliquot 3

Acres: 11.7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Harmon County, Oklahoma

Legal Description: Indian Meridian, T0050N, R0250W, section 20, aliquot Vinson (Francis) TS

Acres: 29.1

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (no recreational value)
BLM Surface Tract Number: HP-01

Harper County, Oklahoma

Legal Description: Indian Meridian, T0290N, R0240W, section 18, aliquot 5

Acres: 9.3

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- ROW exclusion  Alt C- ROW exclusion  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Harper County, Oklahoma

Legal Description: Indian Meridian, T0290N, R0260W, section 22, aliquot 7

Acres: 1.2

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: JF-02

Jefferson County, Oklahoma

Legal Description: Indian Meridian, T0060S, R0080W, section 26, aliquot 9

Acres: 63.6

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

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BLM Surface Tract Number: JF-03

Jefferson County, Oklahoma

Legal Description: Indian Meridian, T0060S, R0090W, section 2, aliquot 3

Acres: 43.4

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Jefferson County, Oklahoma

Legal Description: Indian Meridian, T0060S, R0090W, section 2, aliquot 4

Acres: 47.4

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: JF-05

Jefferson County, Oklahoma

Legal Description: Indian Meridian, T0060S, R0090W, section 2, aliquot SESE

Acres: 40.1

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs
Alt B- available for ROWs
Alt C- available for ROWs
Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose
Alt B- Dispose
Alt C- Dispose
Alt D- Dispose

Impact on access: None (there is no current public access)
Jefferson County, Oklahoma

Legal Description: Indian Meridian, T0060S, R0090W, section 11, aliquot 1

Acres: 38.1

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Jefferson County, Oklahoma

Legal Description: Indian Meridian, T0060S, R0090W, section 11, aliquot 3

Acres: 40.2

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: JK-01

Jackson County, Oklahoma

Legal Description: Indian Meridian, T0010N, R0180W, section 5, aliquot 5

Acres: 8.6

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

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Jackson County, Oklahoma

Legal Description: Indian Meridian, T0010N, R0190W, section 14, aliquot 3

Acres: 1.7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: JK-03

Jackson County, Oklahoma

Legal Description: Indian Meridian, T0010N, R0190W, section 23, aliquot 3

Acres: 2.2

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.

Jackson County, Oklahoma

Legal Description: Indian Meridian, T0010N, R0190W, section 28, aliquot 5

Acres: 2.1

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Jackson County, Oklahoma

Legal Description: Indian Meridian, T0010S, R0190W, section 30, aliquot 6

Acres: 13.3

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: JK-07

BLM surface parcel boundaries are approximate. Additional surveys may be required.

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This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.

Jackson County, Oklahoma

Legal Description: Indian Meridian, T0010S, R0190W, section 30, aliquot 7

Acres: 18.3

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs Alt B- available for ROWs Alt C- available for ROWs Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose Alt B- Dispose Alt C- Dispose Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: JK-08

Jackson County, Oklahoma

Legal Description: Indian Meridian, T0010S, R0190W, section 30, aliquot 8

Acres: 18.3

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: JK-10

Jackson County, Oklahoma

Legal Description: Indian Meridian, T0020S, R0190W, section 17, aliquot 6

Acres: 13.5

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: KF-01

BLM surface parcel boundaries are approximate. Additional surveys may be required.

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Kingfisher County, Oklahoma

Legal Description: Indian Meridian, T0160N, R0050W, section 24, aliquot 5

Acres: 21.1

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Kingfisher County, Oklahoma

Legal Description: Indian Meridian, T0160N, R0050W, section 24, aliquot 6

Acres: 43.6

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- ROW exclusion
Alt C- ROW exclusion  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: KF-04

Kingfisher County, Oklahoma

Legal Description: Indian Meridian, T0180N, R0080W, section 25, aliquot NWNW

Acres: 39.8

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Kiowa County, Oklahoma

Legal Description: Indian Meridian, T0070N, R0210W, section 2, aliquot 14

Acres: 7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  
Alt B- available for ROWs  
Alt C- available for ROWs  
Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  
Alt B- Dispose  
Alt C- Dispose  
Alt D- Dispose

Impact on access: None (there is no current public access)
Kiowa County, Oklahoma

Legal Description: Indian Meridian, T0070N, R0210W, section 25, aliquot 10

Acres: 37.8

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: KW-04

Kiowa County, Oklahoma

Legal Description: Indian Meridian, T0070N, R0210W, section 34, aliquot Cooperton TS

Acres: 20.7

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (no recreational value)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

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Kiowa County, Oklahoma

Legal Description: Indian Meridian, T0070N, R0160W, section 22, aliquot Gotebo TS

Acres: 10.7

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs   Alt B- available for ROWs  
Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose   Alt B- Dispose   Alt C- Dispose  Alt D- Dispose

Impact on access: None (no recreational value)
Kiowa County, Oklahoma

Legal Description: Indian Meridian, T0060N, R0180W, section 3, aliquot Hobart TS

Acres: 10.5

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Kiowa County, Oklahoma

Legal Description: Indian Meridian, T0040N, R0170, section 27, aliquot Roosevelt TS

Acres: 4.7

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs
Alt B- available for ROWs
Alt C- available for ROWs
Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose
Alt B- Dispose
Alt C- Dispose
Alt D- Dispose

Impact on access: None (no recreational value)
Kay County, Oklahoma

Legal Description: Indian Meridian, T0290N, R0030E, section 25, aliquot 5

Acres: 4.9

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Logan County, Oklahoma

Legal Description: Indian Meridian, T0160N, R0040W, section 1, aliquot 5

Acres: 19.5

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- ROW exclusion  Alt C- ROW exclusion  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: LG-02

Logan County, Oklahoma

Legal Description: Indian Meridian, T0160N, R0040W, section 1, aliquot 6

Acres: 13.4

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- ROW exclusion  Alt C- ROW exclusion  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Major County, Oklahoma

Legal Description: Indian Meridian, T020N, R0100W, section 10, aliquot 2

Acres: 18.8

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs   Alt B- ROW exclusion
             Alt C- ROW exclusion   Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose   Alt B- Dispose   Alt C- Dispose   Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.
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BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.

Major County, Oklahoma

Legal Description: Indian Meridian, T0200N, R0160W, section 34, aliquot 21

Acres: 11.2

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: OK-01

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.

Oklahoma County, Oklahoma

Legal Description: Indian Meridian, T0110N, R0030W, section 1, aliquot 9

Acres: 0.1

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (no recreational value)
BLM Surface Tract Number: OK-02

Oklahoma County, Oklahoma

Legal Description: Indian Meridian, T0110N, R0030W, section 4, aliquot 12

Acres: 0.4

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (no recreational value)
BLM Surface Tract Number: OK-03

Oklahoma County, Oklahoma

Legal Description: Indian Meridian, T0110N, R040W, section 11, aliquot 12

Acres: 1

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: OK-04

Oklahoma County, Oklahoma

Legal Description: Indian Meridian, T0110N, R0040W, section 12, aliquot 8

Acres: 1

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (no recreational value)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.
BLM Surface Tract Number: OK-05

Oklahoma County, Oklahoma

Legal Description: Indian Meridian, T0120N, R0010W, section 1, aliquot 8

Acres: 1.3

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.
BLM surface parcel boundaries are approximate. Additional surveys may be required.

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This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.

Oklahoma County, Oklahoma

Legal Description: Indian Meridian, T0120N, R0040W, section 19, aliquot 1

Acres: 3.3

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: OK-07

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.

Oklahoma County, Oklahoma

Legal Description: Indian Meridian, T0130N, R0020W, section 35, aliquot 6

Acres: 1.5

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: OK-10

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.

Oklahoma County, Oklahoma

Legal Description: Indian Meridian, T0120N, R0010E, section 25, aliquot

Acres: 0.7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs   Alt B- available for ROWs   Alt C- available for ROWs   Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose   Alt B- Dispose   Alt C- Dispose   Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: OK-12

Oklahoma County, Oklahoma

Legal Description: Indian Meridian, T0140N, R0010E, section 28, aliquot 19

Acres: 0.5

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Oklahoma County, Oklahoma

Legal Description: Indian Meridian, T0140N, R0010E, section 30, aliquot 17

Acres: 0.5

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: PA-04

Payne County, Oklahoma

Legal Description: Indian Meridian, T0180N, R0030E, section 23, aliquot Cemetery

Acres: 12.7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs Alt B- available for ROWs Alt C- available for ROWs Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose Alt B- Dispose Alt C- Dispose Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: PO-01

Pottawatomie County, Oklahoma

Legal Description: Indian Meridian, T0060N, R0030E, section 35, aliquot 3 or 13

Acres: 19.1

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- ROW exclusion  Alt C- ROW exclusion  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: PO-02

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.

Pottawatomie County, Oklahoma

Legal Description: Indian Meridian, T0060N, R0030E, section 35, aliquot 5

Acres: 15.2

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs   Alt B- ROW exclusion   Alt C- ROW exclusion   Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose   Alt B- Dispose   Alt C- Dispose   Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: PO-03

Pottawatomie County, Oklahoma

Legal Description: Indian Meridian, T0110N, R0020E, section 13, aliquot 6

Acres: 36.7

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (no recreational value)
BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.

Pittsburg County, Oklahoma

Legal Description: Indian Meridian, T0050N, R0150E, section 4, aliquot 1, BLK 109

Acres: 1.4

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (no recreational value)
BLM Surface Tract Number: PT-10

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.

Pittsburg County, Oklahoma

Legal Description: Indian Meridian, T0050N, R0160E, section 2, aliquot 3, SENW

Acres: 63.7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Roger Mills County, Oklahoma

Legal Description: Indian Meridian, T0180N, R0210W, section 26, aliquot 4

Acres: 25.7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Tillman County, Oklahoma

Legal Description: Indian Meridian, T0010S, R0190W, section 18, aliquot 2

Acres: 1

Current Public Access: No

Recreation Use: No

ROW Available: Alt A - available for ROWs  Alt B - available for ROWs  Alt C - available for ROWs  Alt D - available for ROWs

Suitable for Retention or Disposal: Alt A - Dispose  Alt B - Dispose  Alt C - Dispose  Alt D - Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: TL-03

Tillman County, Oklahoma

Legal Description: Indian Meridian, T0010S, R0190W, section 19, aliquot 9

Acres: 25.8

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: TL-04

Tillman County, Oklahoma

Legal Description: Indian Meridian, T0010S, R0190W, section 30, aliquot 12

Acres: 27.8

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.
BLM Surface Tract Number: TL-05

Tillman County, Oklahoma

Legal Description: Indian Meridian, T0020S, R0190W, section 17, aliquot 4

Acres: 0.6

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: TL-05 or JK-09

Jackson County, Oklahoma

Legal Description: Indian Meridian, T0020S, R0190W, section 17, aliquot 4, 5

Acres: 24.2

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.
BLM Surface Tract Number: TL-06

Tillman County, Oklahoma

Legal Description: Indian Meridian, T0020S, R0200W, section 1, aliquot 8

Acres: 8.4

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: TL-07

Tillman County, Oklahoma

Legal Description: Indian Meridian, T0020S, R0200W, section 1, aliquot 9

Acres: 14.3

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Tillman County, Oklahoma

Legal Description: Indian Meridian, T0040S, R0170W, section 10, aliquot 1A

Acres: 13.7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Tillman County, Oklahoma

Legal Description: Indian Meridian, T0040S, R0170W, section 10, aliquot 1B

Acres: 145.7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs   Alt B- available for ROWs
               Alt C- available for ROWs   Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose   Alt B- Dispose   Alt C- Dispose   Alt D- Dispose

Impact on access: None (there is no current public access)
Tillman County, Oklahoma

Legal Description: Indian Meridian, T0040S, R0170W, section 10, aliquot 2B

Acres: 44.3

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
Tillman County, Oklahoma

Legal Description: Indian Meridian, T0040S, R0170W, section 15, aliquot B

Acres: 39.6

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: TL-12

Tillman County, Oklahoma

Legal Description: Indian Meridian, T0050S, R0140W, section 1, aliquot 3

Acres: 30.7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: TL-13

Tillman County, Oklahoma

Legal Description: Indian Meridian, T0050S, R0140W, section 1, aliquot 4

Acres: 40.6

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: TL-14

Tillman County, Oklahoma

Legal Description: Indian Meridian, T0050S, R0140W, section 1, aliquot 8

Acres: 5.7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: TX-01

Texas County, Oklahoma

Legal Description: Cimarron Meridian, T0030N, R0160E, section 24, aliquot SWNW

Acres: 39.5

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs
          Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: TX-02

Texas County, Oklahoma

Legal Description: Cimarron Meridian, T0060N, R0160E, section 10, aliquot 2

Acres: 31.5

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: WD-05

Woods County, Oklahoma

Legal Description: Indian Meridian, T0250N, R0140W, section 18, aliquot 3

Acres: 41.6

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (no recreational value)
BLM Surface Tract Number: WD-07

Woods County, Oklahoma

Legal Description: Indian Meridian, T0270N, R0200W, section 2, aliquot 1

Acres: 6.2

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- ROW exclusion
                        Alt C- ROW exclusion  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: WD-08

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

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Woods County, Oklahoma

Legal Description: Indian Meridian, T0290N, R0200W, section 18, aliquot 3

Acres: 23.7

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)
BLM Surface Tract Number: WD-09

Woods County, Oklahoma

Legal Description: Indian Meridian, T0270N, R0140W, section 24, aliquot Alva TS

Acres: 1.1

Current Public Access: Yes - public road

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (no recreational value)
BLM Surface Tract Number: WS-01

Washita County, Oklahoma

Legal Description: Indian Meridian, T0080N, R0150W, section 35, aliquot 5

Acres: 33.2

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.
BLM Surface Tract Number: WW-02

Woodward County, Oklahoma

Legal Description: Indian Meridian, T0240N, R017W, section 1, aliquot SE1/4 SE1/4

Acres: 39.9

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

This map is for illustrative purposes only and is not suitable for parcel-specific decision making. The areas depicted are approximate and may be updated without notice.
BLM Surface Tract Number: WW-03

Woodward County, Oklahoma

Legal Description: Indian Meridian, T0240N, R0170W, section 12, aliquot NE1/4 NE1/4

Acres: 39.8

Current Public Access: No

Recreation Use: No

ROW Available: Alt A- available for ROWs  Alt B- available for ROWs  Alt C- available for ROWs  Alt D- available for ROWs

Suitable for Retention or Disposal: Alt A- Dispose  Alt B- Dispose  Alt C- Dispose  Alt D- Dispose

Impact on access: None (there is no current public access)

BLM surface parcel boundaries are approximate. Additional surveys may be required.

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

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Appendix O
Comment Summary and Response Report
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## APPENDIX O.1. COMMENT SUMMARY AND RESPONSE REPORT

### O.1 INTRODUCTION

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</tr>
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</tr>
<tr>
<td>O-2</td>
</tr>
<tr>
<td>O-3</td>
</tr>
<tr>
<td>O-4</td>
</tr>
<tr>
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</tr>
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## Acronyms and Abbreviations

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<thead>
<tr>
<th>Acronym</th>
<th>Full Phrase</th>
</tr>
</thead>
<tbody>
<tr>
<td>APD</td>
<td>application for permit to drill</td>
</tr>
<tr>
<td>BIA</td>
<td>US Department of the Interior, Bureau of Indian Affairs</td>
</tr>
<tr>
<td>BLM</td>
<td>US Department of the Interior, Bureau of Land Management</td>
</tr>
<tr>
<td>BTEX</td>
<td>benzene, toluene, ethylbenzene, and xylene</td>
</tr>
<tr>
<td>CARA</td>
<td>Comment Analysis and Response Application</td>
</tr>
<tr>
<td>CEQ</td>
<td>Council on Environmental Quality</td>
</tr>
<tr>
<td>COA</td>
<td>condition of approval</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
</tr>
<tr>
<td>CSU</td>
<td>controlled surface use</td>
</tr>
<tr>
<td>DOI</td>
<td>US Department of the Interior</td>
</tr>
<tr>
<td>EA</td>
<td>environmental assessment</td>
</tr>
<tr>
<td>EIS</td>
<td>environmental impact statement</td>
</tr>
<tr>
<td>ESA</td>
<td>Endangered Species Act of 1973</td>
</tr>
<tr>
<td>FERC</td>
<td>Federal Energy Regulatory Commission</td>
</tr>
<tr>
<td>FLPMA</td>
<td>Federal Land Policy and Management Act of 1976</td>
</tr>
<tr>
<td>GHG</td>
<td>greenhouse gas</td>
</tr>
<tr>
<td>HAP</td>
<td>hazardous air pollutant</td>
</tr>
<tr>
<td>IBA</td>
<td>important bird area</td>
</tr>
<tr>
<td>LN</td>
<td>lease notice</td>
</tr>
<tr>
<td>MBTA</td>
<td>Migratory Bird Treaty Act of 1918</td>
</tr>
<tr>
<td>MLA</td>
<td>Mineral Leasing Act</td>
</tr>
<tr>
<td>MOU</td>
<td>memorandum of understanding</td>
</tr>
<tr>
<td>NAAQS</td>
<td>National Ambient Air Quality Standards</td>
</tr>
<tr>
<td>NEPA</td>
<td>National Environmental Policy Act of 1970</td>
</tr>
<tr>
<td>NOx</td>
<td>nitrogen oxide</td>
</tr>
<tr>
<td>NSO</td>
<td>no surface occupancy</td>
</tr>
<tr>
<td>OFO</td>
<td>Oklahoma Field Office</td>
</tr>
<tr>
<td>OSMRE</td>
<td>Office of Surface Mining Reclamation and Enforcement</td>
</tr>
<tr>
<td>PM$_{2.5}$</td>
<td>particulate matter with a diameter of less than 2.5 micrometers</td>
</tr>
<tr>
<td>PM$_{10}$</td>
<td>particulate matter with a diameter of less than 10 micrometers</td>
</tr>
<tr>
<td>RFDS</td>
<td>reasonably foreseeable development scenario</td>
</tr>
<tr>
<td>RMP</td>
<td>resource management plan</td>
</tr>
<tr>
<td>ROW</td>
<td>right-of-way</td>
</tr>
<tr>
<td>RPZ</td>
<td>resource protective zone</td>
</tr>
<tr>
<td>TL</td>
<td>timing limitation</td>
</tr>
<tr>
<td>USC</td>
<td>US Code</td>
</tr>
<tr>
<td>USFWS</td>
<td>US Fish and Wildlife Service</td>
</tr>
<tr>
<td>USGS</td>
<td>United States Geological Survey</td>
</tr>
<tr>
<td>VOC</td>
<td>volatile organic compound</td>
</tr>
</tbody>
</table>
Appendix O. Comment Summary and Response Report

O.1 INTRODUCTION
This report describes the public comment and response process to finalize the Oklahoma, Kansas, and Texas Joint Environmental Impact Statement (EIS) for the United States Department of the Interior (DOI), Bureau of Land Management (BLM) Oklahoma Field Office (OFO) Resource Management Plan (RMP) and the Bureau of Indian Affairs (BIA) Eastern Oklahoma and Southern Plains Regional Offices Integrated RMP. These documents are referred to as either the Draft Joint EIS/BLM RMP and BIA Integrated RMP or Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP, depending on the context.

The appendix is divided into three main parts, as follows:

• **Section 1** defines terms useful in understanding this document and summarizes public involvement related to release of the Draft Joint EIS/BLM RMP and BIA Integrated RMP.
• **Section 2** describes how public comments were acquired, categorized, addressed, and documented.
• **Section 3** presents substantive comments organized by specific comment issue category that relate to an aspect of the National Environmental Policy Act of 1969 (NEPA), the BLM planning process, or specific resources and resource uses. Each topic or subtopic contains excerpted substantive comments from individual letters, emails, or written submissions and the BLM’s response to the comments.

O.1.1 Definitions
The terms listed and defined in this section are provided to help commenters find their substantive comments and understand the responses.

**Comment**
A comment is a distinct statement or question about a particular topic, such as the following:

• Purpose and need for action
• The BLM’s use of facts, methods, or analyses in the Draft Joint EIS/BLM RMP and BIA Integrated RMP
• Matters outside the scope of the Draft Joint EIS/BLM RMP and BIA Integrated RMP

**Comment Analysis and Response Application (CARA)**
CARA is the BLM’s online comment tracking system. Its database stores the full texts of all correspondence and allows each comment to be coded by topic and issue. The BLM entered all unique submissions and applicable commenter information and then analyzed all substantive comments and classified them in the CARA system.

**Commenter**
A commenter is any potentially interested or affected party. A commenter could be a private citizen, state, local, or tribal government, environmental group, water user or irrigation district, civic or community organization, business, or other entity.
Comment Issue Category
This is the resource topic or issue that a substantive comment addresses. It may concern the NEPA process, including alternatives, the affected environment section of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, or a specific resource category, such as water quality.

Comment Response
The BLM prepares a response for each comment. In its response, the BLM states, as appropriate, relevant policy or guidance related to the concern, notes document locations where issues of concern are addressed, explains agency rationale for decisions, and notes how the Draft Joint EIS/BLM RMP and BIA Integrated RMP was updated.

Submission
This is any mailed or emailed comment submitted by a commenter. A submission may contain any number of comments.

Substantive Comment
A substantive comment is one that is relevant to the scope of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the environmental analysis, or NEPA process that merits a response. Comments that state the commenter’s support for or opposition to an alternative are not substantive. Additional details related to the definition of substantive comments are in Section 2, Comment Analysis, of this report.

O.1.2 Draft Joint EIS/BLM RMP and BIA Integrated RMP Availability and Public Outreach
A notice of availability announcing the release of the Draft Joint EIS/BLM RMP and BIA Integrated RMP was published in the Federal Register on November 19, 2018, initiating the formal 90-day public comment period; due to a lapse in appropriations and a subsequent partial government shutdown, the comment period was extended an additional 45 days to March 24, 2019. The BLM has continued to accept comments beyond this date, but they are not included in this report.

The BLM maintains a project mailing list. All contacts on the mailing list received a postcard announcing the availability of the Draft Joint EIS/BLM RMP and BIA Integrated RMP. The postcard also notified the public of upcoming Draft Joint EIS/BLM RMP and BIA Integrated RMP meetings and announced the public review period. All project-related documents were available via the project website, at https://go.usa.gov/xVPk3.

During the comment period, the BLM held a series of public open house meetings across the planning area. At these meetings, the agency provided attendees with a brief overview of the plan and helpful information about making effective comments. A total of 110 people attended the six meetings (see Table O-1 for meeting locations and number of attendees).

Table O-1
Draft Joint EIS/BLM RMP and BIA Integrated RMP Public Meetings

<table>
<thead>
<tr>
<th>Location</th>
<th>Date (2019)</th>
<th>Address</th>
<th>Number of Attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wichita, Kansas</td>
<td>Tuesday, February 26</td>
<td>Lionel D. Alford Branch Library 3447 S. Meridian</td>
<td>0</td>
</tr>
<tr>
<td>Muskogee, Oklahoma</td>
<td>Wednesday, February 27</td>
<td>Martin Luther King Center 300 Martin Luther King St.</td>
<td>4</td>
</tr>
<tr>
<td>Norman, Oklahoma</td>
<td>Thursday, February 28</td>
<td>National Weather Center 120 David L Boren Blvd.</td>
<td>12</td>
</tr>
<tr>
<td>Amarillo, Texas</td>
<td>Monday, March 4</td>
<td>Warford Activity Center 1330 NW 18th Ave.</td>
<td>81</td>
</tr>
</tbody>
</table>
O.2 COMMENT PROCESS

O.2.1 Comment Collection

The BLM recognizes that commenters invested considerable time and effort to submit comments on the Draft Joint EIS/BLM RMP and BIA Integrated RMP. It developed a systematic process for cataloging comments, as described in detail below, to ensure that all substantive comments were tracked and considered.

Unique Submissions

The BLM evaluated all written submissions that it received during the public comment period and documented them in this report. It received 34 unique written submissions, 21 of which (62 percent) were submitted via the ePlanning website (CARA), 7 (20 percent) were received via email, and 6 (18 percent) were submitted via comment cards at public meetings. Some commenters sent their submissions via the US Postal Service, but these were duplicative of submissions sent via other means. In the event that duplicate submissions were received via both the ePlanning website and the US Postal Service, only the ePlanning submissions were counted.

The public comment form available at the public open houses on the Draft Joint EIS/BLM RMP and BIA Integrated RMP (see Section 1) provided instructions for requesting confidentiality and for withholding individual names or addresses from public review or from disclosure under the Freedom of Information Act. To ensure that public comments were properly registered and that none were overlooked, the BLM used a multi-phase management and tracking system. Handwritten submissions were logged and given a unique identification number and then were entered manually into CARA.

The BLM considered submissions to be associated with an organization, nonprofit, industry, or government when they were on official letterhead of that group or when signed by representatives in an official capacity and using their title. People who noted an affiliation with a group, such as a member of an organization, were counted as individuals. Table O-2 provides a list of all commenters by affiliation, and Table O-3 lists individual commenters without any affiliation. Commenters are listed alphabetically by the organization name or commenter’s last name.

The largest number of unique submissions (22 submissions; 65 percent) were received from individuals; this includes anonymous submissions. Organizations and nonprofits accounted for 10 submissions (29 percent). Federal government agencies provided one submission (3 percent), and a tribal government provided one submission (3 percent). See Table O-4, below.

The BLM entered all unique submissions, including relevant affiliation and commenter contact information, into its CARA database, organized by a unique identifying number.
### Table O-2

**Commenters by Affiliation**

<table>
<thead>
<tr>
<th>Type</th>
<th>Affiliation</th>
<th>Commenter Name</th>
<th>Submission Number</th>
<th>Substantive Comment Number(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Government</td>
<td>US Environmental Protection Agency Region 6</td>
<td>Keith Hayden; Cheryl T. Seager</td>
<td>27</td>
<td>N/A</td>
</tr>
<tr>
<td>Tribal Government</td>
<td>Earthjustice Rocky Mountain Office (on behalf of Pawnee Nation of Oklahoma)</td>
<td>Michael Freeman</td>
<td>25</td>
<td>3, 4, and 6-8.</td>
</tr>
<tr>
<td>Organization/Nonprofits</td>
<td>Arabian Horse Club; Panhandle Trail Riders</td>
<td>Kathleen Henson</td>
<td>33</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Crown of Texas Arabian Horse Club; Panhandle Trail Riders</td>
<td>Mary Herring</td>
<td>24</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Center for Biological Diversity</td>
<td>Wendy Park</td>
<td>14</td>
<td>1-3, 5-18, 21-94, 97, 98.</td>
</tr>
<tr>
<td></td>
<td>Center for Biological Diversity</td>
<td>Wendy Park</td>
<td>26</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Center for Biological Diversity</td>
<td>Wendy Park</td>
<td>15, 16, 17, and 18</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Oklahoma Farm Bureau</td>
<td>Marla R. Peek</td>
<td>28</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Oklahoma Independent Petroleum Association-Oklahoma Oil and Gas Association</td>
<td>Withheld</td>
<td>13</td>
<td>2, 6-8, 10-33, 35-47, 49-53, 55-58, 60, and 61.</td>
</tr>
</tbody>
</table>

1 The submission totals differ from the number of commenters due to multiple signers of one submission, such as EPA Region 6. In addition, some commenters submitted multiple submissions, such as the Center for Biological Diversity.

2 CARA does not code comments sequentially within a submission, thus substantive comment numbers are not consecutive within each submission.

3 Submissions marked with “N/A” did not contain any substantive comments.

### Table O-3

**Submissions and Substantive Comments by Individuals**

<table>
<thead>
<tr>
<th>First Name</th>
<th>Last Name</th>
<th>Submission Number</th>
<th>Substantive Comment Number(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ian</td>
<td>Margrave</td>
<td>1</td>
<td>N/A</td>
</tr>
<tr>
<td>Withheld</td>
<td>Withheld</td>
<td>2</td>
<td>N/A</td>
</tr>
<tr>
<td>David</td>
<td>Parker</td>
<td>4</td>
<td>N/A</td>
</tr>
<tr>
<td>Withheld</td>
<td>Withheld</td>
<td>5</td>
<td>N/A</td>
</tr>
<tr>
<td>Withheld</td>
<td>Withheld</td>
<td>6</td>
<td>N/A</td>
</tr>
<tr>
<td>Withheld</td>
<td>Withheld</td>
<td>7</td>
<td>N/A</td>
</tr>
<tr>
<td>Thomas</td>
<td>Follis</td>
<td>8</td>
<td>N/A</td>
</tr>
<tr>
<td>Withheld</td>
<td>Withheld</td>
<td>9</td>
<td>N/A</td>
</tr>
<tr>
<td>Withheld</td>
<td>Withheld</td>
<td>10</td>
<td>N/A</td>
</tr>
<tr>
<td>Jennifer</td>
<td>Starkey</td>
<td>11</td>
<td>N/A</td>
</tr>
</tbody>
</table>
### First Name Last Name Submission Number Substantive Comment Number(s)

<table>
<thead>
<tr>
<th>First Name</th>
<th>Last Name</th>
<th>Submission Number</th>
<th>Substantive Comment Number(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cynthia</td>
<td>Schrader</td>
<td>12</td>
<td>N/A</td>
</tr>
<tr>
<td>Withheld</td>
<td>Withheld</td>
<td>20</td>
<td>N/A</td>
</tr>
<tr>
<td>Withheld</td>
<td>Withheld</td>
<td>21</td>
<td>N/A</td>
</tr>
<tr>
<td>Sharon</td>
<td>Brown</td>
<td>22</td>
<td>N/A</td>
</tr>
<tr>
<td>Arlene</td>
<td>Middleton</td>
<td>23</td>
<td>N/A</td>
</tr>
<tr>
<td>Withheld</td>
<td>Withheld</td>
<td>29</td>
<td>N/A</td>
</tr>
<tr>
<td>Robert</td>
<td>Berman</td>
<td>30</td>
<td>N/A</td>
</tr>
<tr>
<td>Mary</td>
<td>Femniaik</td>
<td>31</td>
<td>N/A</td>
</tr>
<tr>
<td>Tommy</td>
<td>Henderson</td>
<td>32</td>
<td>1</td>
</tr>
<tr>
<td>Alan</td>
<td>Van Onguealle</td>
<td>34</td>
<td>N/A</td>
</tr>
<tr>
<td>Stephen</td>
<td>Lee</td>
<td>35 and 36</td>
<td>(35) 1; (36) 1, 3, and 4</td>
</tr>
</tbody>
</table>

1 The submission totals differ from the number of commenters due to multiple submissions from a single author, for example, submissions 35 and 36 above.

2 CARA does not code comments sequentially within a submission, thus substantive comment numbers are not consecutive within each submission.

3 Submissions marked with “N/A” did not contain any substantive comments.

### Submissions by Commenter Affiliation

<table>
<thead>
<tr>
<th>Affiliation</th>
<th>Number of Unique Submissions (Percent of Total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal government</td>
<td>1 (3%)</td>
</tr>
<tr>
<td>Tribal government</td>
<td>1 (3%)</td>
</tr>
<tr>
<td>State government</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Local government</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Private industry</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Elected officials</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Individuals</td>
<td>22 (65%)</td>
</tr>
<tr>
<td>Organizations and nonprofits</td>
<td>10 (29%)</td>
</tr>
</tbody>
</table>

### Comment Analysis

Once all comment submissions were received and catalogued through the process described above, the BLM reviewed each one to understand the commenter’s overall intent and perspective. All substantive comments were numbered and assigned a comment code appropriate to their content.

During this analysis, the BLM relied on the Council on Environmental Quality’s (CEQ) regulations to determine what constitutes a substantive comment. A substantive comment does one or more of the following:

- Questions, with a reasonable basis, the accuracy of the information or analysis in the Draft Joint EIS/BLM RMP and BIA Integrated RMP
- Questions, with a reasonable basis, the adequacy of the information or analysis in the Draft Joint EIS/BLM RMP and BIA Integrated RMP
- Presents reasonable alternatives, other than those presented in the Draft Joint EIS/BLM RMP and BIA Integrated RMP, that meet the purpose of and need for the proposed action and addresses significant issues
- Questions, with a reasonable basis, the merits of an alternative or alternatives
• Causes changes in or revisions to the preferred alternative
• Questions, with a reasonable basis, the adequacy of the planning process itself

Additionally, the BLM NEPA Handbook (H-1601-1) identifies the following types of substantive comments:

• Comments on the adequacy of the analysis—Comments that express a professional disagreement with the conclusions of the analysis or assert that the analysis is inadequate are substantive but may or may not lead to changes in the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Interpretations of analyses should be based on professional expertise. Where there is disagreement within a professional discipline, a careful review of the various interpretations is warranted. In some cases, public comments may necessitate a reevaluation of analytical conclusions. If, after reevaluation, the BLM Authorized Officer responsible for preparing the EIS does not think that a change is warranted, the response should provide the rationale for that conclusion.

• Comments that identify new impacts, alternatives, or mitigation measures—Public comments on a draft EIS are substantive if the commenters identify impacts, alternatives, or mitigation measures that were not addressed in the draft. This type of comment requires the BLM Authorized Officer to determine whether it warrants further consideration. If it does, the Authorized Officer must determine whether the new impacts, new alternatives, or new mitigation measures should be analyzed in the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP, a supplement to the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, or a completely revised and recirculated Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP.

• Disagreements with significance determinations—Comments that directly or indirectly question, with a reasonable basis, determinations on the significance or severity of impacts are substantive. A reevaluation of these determinations may be warranted and may lead to changes in the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. If, after reevaluation, the BLM Authorized Officer does not think that a change is warranted, the response should provide the rationale for that conclusion.

Comments that failed to meet the above description were considered nonsubstantive; for example, many commenters expressed personal opinions or preferences. Also considered nonsubstantive are those comments that had little relevance to the adequacy or accuracy of the Draft Joint EIS/BLM RMP and BIA Integrated RMP and were commentary on resource management or impacts, without any real connection to the document. Others were considered out of scope because they dealt with existing law, rule, regulation, or policy.

In some cases, commenters provided comments on other land use plans outside of the planning area. These nonsubstantive comments did not provide specific information to assist the BLM in making changes to the alternatives or impact analysis in the Draft Joint EIS/BLM RMP and BIA Integrated RMP; therefore, the BLM did not address these comments further.

Opinions, feelings, and preferences for one element or one alternative over another and comments of a personal or philosophical nature were all read, analyzed, and considered; however, because such comments are not substantive, the BLM did not include them in this report or respond to them.

Note that, while the BLM reviewed and considered all comments, they were not counted as “votes.” The NEPA public comment period is not an election, nor does it result in a representative sampling of the population; therefore, public comments are not appropriate to be used as a democratic decision-making tool or as a scientific sampling mechanism.
Of the 34 unique submissions received, 6 contained substantive comments. A total of 150 unique substantive comments were contained in all comment submissions.¹ Not included in the total count were suggestions for new data or science (76), editorial comments (1), requests for information (1), and requests for government-to-government consultation (1). The BLM and BIA took these comments into consideration and have reached out to cooperating agencies and tribes for additional meetings. Copies of all submissions received on the Draft Joint EIS/BLM RMP and BIA Integrated RMP are available by request from the BLM OFO in Norman, Oklahoma.

For each submission, the BLM identified and put substantive comments into one comment category. These codes were queried and tallied to provide information on comment categories, as summarized in Table O-5. Comment categories generally follow the sections presented in the Draft Joint EIS/BLM RMP and BIA Integrated RMP, though some relate to the planning process. Resource sections that did not receive comments are not included in the table below. Coded comments were divided into subcategories related to the purpose and need, alternatives (BLM or BIA), best available information or baseline data, impacts analysis (BLM or BIA), and cumulative impacts.

### Table O-5
Substantive Comments by Issue Category¹

<table>
<thead>
<tr>
<th>Comment Issue Category Description</th>
<th>Number of Total Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose and Need</strong></td>
<td>0</td>
</tr>
<tr>
<td>Resources not carried forward for analysis</td>
<td>-</td>
</tr>
<tr>
<td>Lands with wilderness characteristics</td>
<td>0</td>
</tr>
<tr>
<td>BLM backcountry byways</td>
<td>0</td>
</tr>
<tr>
<td>Wilderness</td>
<td>0</td>
</tr>
<tr>
<td><strong>Alternatives</strong></td>
<td>-</td>
</tr>
<tr>
<td>New alternative—BLM</td>
<td>2</td>
</tr>
<tr>
<td>New alternative—BIA</td>
<td>0</td>
</tr>
<tr>
<td>BLM alternatives (specific change)</td>
<td>0</td>
</tr>
<tr>
<td>BIA alternatives (specific change)</td>
<td>0</td>
</tr>
<tr>
<td><strong>GIS Data and Maps</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>Process</strong></td>
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<tr>
<td>Regulations, laws, and policies</td>
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<tr>
<td><strong>Impacts Analysis</strong></td>
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<tr>
<td>Geology</td>
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<td>Soil</td>
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<tr>
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<tr>
<td>Fish and wildlife</td>
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<tr>
<td>Special status species</td>
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<tr>
<td>Paleontology</td>
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<td>Visual</td>
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<tr>
<td>Wildland fire management</td>
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<tr>
<td>Caves and karsts</td>
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</table>

¹ Many submissions included more than one comment, so the submissions yielded approximately 150 individual comments in all submissions.
### O. Comment Summary and Response Report (Comment Process)

<table>
<thead>
<tr>
<th>Comment Issue Category Description</th>
<th>Number of Total Comments</th>
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<tbody>
<tr>
<td>Resource uses</td>
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<td>Coal</td>
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<td>Mineral materials</td>
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<td>Lands and realty</td>
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<td>Travel, transportation, and access</td>
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<td>Livestock grazing</td>
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<tr>
<td>Prime and unique farmlands, agriculture</td>
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<td>Special Designations</td>
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<td>Areas of environmental concern</td>
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<td>National historic trails</td>
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<tr>
<td>National, state, and BLM scenic byways</td>
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<td>Social and Economic Conditions</td>
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<td>Treaty rights and tribal interests</td>
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<td>Environmental justice</td>
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<td>Public health and safety</td>
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<tr>
<td>Socioeconomics</td>
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</table>

Comments that related to the impacts of management of one resource or another were coded under the affected resource, following the structure of the impacts analysis in the Draft Joint EIS/BLM RMP and BIA Integrated RMP, Chapter 4; for example, comments on the impacts of oil and gas development on water resources were coded under water resources.

### O.3 Comment Categories, Summaries, and Responses

For each comment issue category, the BLM reviewed substantive comments and provided a response and cited one or more of the following:

- Relevant laws, standards, or criteria that defined the BLM’s approach
- Information from the Draft Joint EIS/BLM RMP and BIA Integrated RMP as it relates to the comment
- Whether the comment resulted in changes to the document
- Rationale for why changes were warranted or not

Comments citing editorial changes to the document, such as spelling and grammatical changes, were coded, reviewed, and incorporated as appropriate into the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. These editorial comments did not receive a summary or response in this report.

In the sections below, responses are provided for each substantive comment. Individual substantive comments are followed by responses in each section. Each substantive comment retains the unique identifier code for the submission, as well as information on the commenter and commenter affiliation, if applicable.
O.3.1 Substantive Comments and Responses

Though the BLM and BIA read and responded to all comments submitted, many remedies to the comments are outside of the BLM and BIA jurisdiction and reside with state regulatory agencies. The following are responses to the substantive comments received.2

Submitter: OIPA-OKOGA

Submission Number: 13

Substantive Comment (2): BLM must acknowledge and protect valid existing lease rights. Any new stipulations, land use designations or other management prescriptions in the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP cannot supersede stipulations in existing leases or unduly burden current operations.

Response: As stated in Sections 2.4.1 and 2.4.2 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, each alternative would “... preserve valid existing rights, which include any leases, claims, or other use authorizations established before a new or modified authorization, change in land designation, or new or modified regulation is approved.”

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA “hard look” requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment from implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives, and actions described in that chapter are plan-level resource management decisions that do not result in direct, on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced its 2016 reasonably foreseeable development scenario (RFDS) or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS realization. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical using available data. The impact analysis includes both quantitative and qualitative assessments.

2 CARA software sometimes mis-transcribes or corrects comments with grammatical errors, but original submissions were reviewed for context.
Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated for each proposed alternative presented in Chapter 2. In the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP, the BLM addresses in the following chapters and sections potential impacts on the following resource values and uses identified directly or indirectly in your comment submission:

- BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.
- Energy and Minerals—Chapter 4 Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts on Energy and Minerals Chapter 5, Section 5.4.2.1
- Socioeconomics—Chapter 4, Section 4.2.4.3 and 4.3.23 and Cumulative Impacts on Socioeconomics Chapter 5, Section 5.4.4

Substantive Comment (6): The Draft RMP/EIS cannot impose habitat designations as de facto critical habitat in violation of the Endangered Species Act.

Response: In the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA use the appropriate critical habitats, as defined by the Endangered Species Act of 1973 (ESA). The Draft Joint EIS/BLM RMP and BIA Integrated RMP also discusses crucial habitat, which is not the same as critical habitat and is not afforded the same protections. The Crucial Habitat Assessment Tool is a spatial model developed by the Kansas Biological Survey (2017) and is used to designate and prioritize areas for lesser prairie-chicken conservation activities and industry development. As such, management under the Draft Joint EIS/BLM RMP and BIA Integrated RMP is within the BLM’s authority.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or
situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.
- Special Status Species—Chapter 4, Sections 4.2.1.9 and 4.3.7 and Cumulative Impacts on Special Status Species Chapter 5, Section 5.4.1.7

Substantive Comment (7): BLM uses overly broad land use designations, including unduly burdensome avoidance and exclusion designations for rights-of-way necessary for safe, efficient and economical domestic energy production.

Response: BLM Handbook H-1601-1, Appendix C, Section E, requires the BLM to identify the following, consistent with the goals and objectives for natural resources in the planning area: right-of-way (ROW) avoidance or exclusion areas; these are areas to be avoided but may be available for ROWs with special stipulations and areas that are not available for ROWs under any conditions. As such, the ROW avoidance and exclusion areas defined in the Draft Joint EIS/BLM RMP and BIA Integrated RMP are consistent with laws and BLM policies.

The BLM uses land use designations and ROW exclusion and avoidance areas to protect resources or to limit conflicts with other uses. ROW avoidance or exclusion areas are developed to protect soil resources, water resources, fish and wildlife, cultural resources, renewable energy, areas of critical environmental concern, national trails, and Wild and Scenic Rivers.

Lease applicants could apply for new land use authorizations in ROW avoidance areas; however, to be approved, a proposed project may be subject to resource surveys and reports, construction and reclamation engineering, long-term monitoring, special design features, special siting requirements, timing limitations (TLs), relocation, or other special conditions.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of
RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.
- Energy and Minerals—Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts on Energy and Minerals Chapter 5, Section 5.4.2.1
- Lands and Realty Chapter 4, Sections 4.2.2.5 and 4.3.16 and Cumulative Impacts for Lands and Realty Chapter 5, Section 5.4.2.5

Substantive Comment (8): Alternative C elevates environmental concerns above other resource considerations in violation of the Federal Land Policy and Management Act’s multiple use mandate. BLM cannot adopt Alternative C or the management prescriptions therein.

Response: In Sections 2.4.1 (BLM Alternative Summary) and 2.4.2 (BIA Alternative Summary) of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA state in the Management Common to All Alternatives section that, under all alternatives, they would comply with state and federal laws, regulations, policies, and standards and would implement actions originating from laws, regulations, and policies.

The BLM and BIA have reviewed all actions in the Draft Joint EIS/BLM RMP and BIA Integrated RMP for compliance with required laws, regulations, and policies.

As described in Section 2.3 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA followed the BLM’s planning process to develop a reasonable range of alternatives. As such, the range includes evaluation of alternatives that focus on conservation of resources, as well as on development of resources, all of which fall within the breadth of FLPMA’s multiple use and sustained yield requirements as well as the Mineral Leasing Act. Under FLPMA, not all uses must take place on all acres. Their development was based on input received from the public, cooperating agencies, and interdisciplinary teams. Each alternative within the reasonable range of alternatives was developed to address the planning issues, meet the purpose and need, comply with FLPMA and meet the BIA’s tribal responsibilities. As stated in Section 2.4.1, page 2-6, of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM would “comply with state and federal laws, regulations, policies, and standards . . . .” Further, compliance with existing laws, regulations, and BLM and BIA policies are stated as planning criteria in Section 1.8, page 1-33.
During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.

Substantive Comment (10): Comment No. 1: BLM must structure the Final RMP such that statutory obligations are adhered to, including obligations set forth in FLPMA, NEPA, the Energy Policy Act of 2005, and the MLA. First, BLM must maximize resource values through a rational, consistently applied set of regulations and procedures which promote the concept of multiple use management 43 C.F.R. § 1601.0-2. To accomplish this mandate, BLM must adhere to agency guidance and policy directives. The Executive and Secretarial Orders, instructional memoranda and policy guidance identified above are designed to facilitate consistent application of regulations and procedures that provide regulatory and business certainty. The Final RMP must not adhere to the principles of multiple use without elevating environmental concerns above other resource considerations. Moreover, the stipulations and conditions of approval imposed by the Final RMP must allow operators to use as much of the leasehold as necessary to extract Federal minerals and prevent waste. 30 US. C. § 225; 43 C.F.R. § 3101.1-2.
Response: In Sections 2.4.1 (BLM Alternative Summary) and 2.4.2 (BIA Alternative Summary) of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA state in the Management Common to All Alternatives section that, under all alternatives, they would comply with state and federal laws, regulations, policies, and standards and would implement actions originating from laws, regulations, and policies.

The BLM and BIA have reviewed all actions in the Draft Joint EIS/BLM RMP and BIA Integrated RMP for compliance with required laws, regulations, and policies.

In Sections 2.4.1 (BLM Alternative Summary) and 2.4.2 (BIA Alternative Summary) of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA state in the Management Common to All Alternatives section that, under all alternatives, they would comply with state and federal laws, regulations, policies, and standards and would implement actions originating from laws, regulations, and policies.

The BLM and BIA have reviewed all actions in the Draft Joint EIS/BLM RMP and BIA Integrated RMP for compliance with required laws, regulations, and policies.

In Section 2.4.1, page 2-6, of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges its responsibilities to “comply with state and federal laws, regulations, policies, and standards . . . .”. Further, compliance with existing laws, regulations, and BLM and BIA policies is stated under planning criteria in Section 1.8, page 1-33; the Mineral Leasing Act is stated as a specific preliminary planning criterion on page 1-34.

All of the proposed alternatives provide for some level of development of mineral and renewable energy resources consistent with the BLM’s multiple use mandate and FLPMA; as such, all alternatives comply with the Energy Policy Act of 2005. Only an alternative that would prevent development across all BLM-administered or BIA-managed lands would be inconsistent with the Energy Policy Act of 2005, which was dismissed from further analysis in Section 2.5.2 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.

Substantive Comment (11): Comment No.2: The Draft RMP/EIS must recognize private land owner rights, including limitations of BLM jurisdiction on private surface. The Draft RMP/EIS states that BLM cannot access BLM-administered lands through private property without private landowner consent. However, the Draft EIS needs to recognize the limitations of the Federal nexus consistent with Permanent IM 2018-014 and applicable law. BLM’s authority is limited to downhole impacts in fee/fee/fee/fed situations, and BLM cannot require landowner access as a condition to permit. Requested Revision: BLM must revise the Draft RMP/EIS to acknowledge the limits of the Federal nexus and BLM jurisdiction with respect to private surface owners. BLM should include a discussion of Permanent IM 2018-014, including recognition that NHPA, NEPA and ESA obligations may be limited on non-Federal surface.

Response: The BLM does not have the authority to enter non-federal lands without landowner consent. Authority granted by 43 CFR 3161.1(4)(b) and Onshore Order #1 provide BLM personnel regulatory access to private split-estate lands during APD processing. Any other access to private lands would be gained according to appropriate laws, regulations, and agency policies.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.
Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

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- BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.
- Lands and Realty: Chapter 4, Section 4.2.2.5 and 4.3.16 and Cumulative Impacts for Lands and Realty Chapter 5, Section 5.4.2.5

Substantive Comment (12): 1. Alternative C violates the MLA and FLPMA. Alternative C elevates environmental concerns and seeks to avoid environmental impacts. Draft RMP/EIS at 2-8. Indeed, under this resource conservation alternative, “[r]esource production would generally be secondary to restoring and protecting important habitats ...” Jd This alternative would prevent oil and gas development on more than 13% of lands that would be open to leasing under other alternatives. Draft RMP/EIS at 2-10. This significant reduction in lands open to leasing is not necessary to prevent unnecessary and undue degradation of resources and is not the most judicious use of the land. 43 U.S.C. § 1702(c). Consequently, Alternative C’s unnecessary restriction of oil and gas resources violates FLPMA’s multiple use mandate. Moreover, Alternative C would impose additional surface restrictions on some leases. Draft RMP/EIS at D-19-D-20. This restriction on surface directly conflicts with a lessee’s right to use as much of the leased land as necessary for exploration and development of resources Pursuant to the MLA 43C.F.R. §3101.1-2.

Response: In Sections 2.4.1 (BLM Alternative Summary) and 2.4.2 (BIA Alternative Summary) of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA state in the Management Common to All Alternatives section that, under all alternatives, they would comply with state and federal laws, regulations, policies, and standards and would implement actions originating from laws, regulations, and policies.

The BLM and BIA have reviewed all actions in the Draft Joint EIS/BLM RMP and BIA Integrated RMP for compliance with required laws, regulations, and policies.

As described in Section 2.3 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA followed the BLM’s planning process to develop a reasonable range of alternatives. As such, the range includes evaluation of alternatives that focus on conservation of resources, as well as on development of resources, all of which fall within the breadth of FLPMA’s multiple use and sustained yield requirements as well as the Mineral Leasing Act. Under FLPMA, not all uses must take place on all acres. Alternatives were developed based on input received from the public, cooperating agencies, and interdisciplinary teams. Each alternative was developed to address the planning issues, meet the purpose and need, comply with FLPMA, and meet the BIA’s tribal responsibilities. Management under all alternatives complies with the Mineral Leasing Act and FLPMA. As stated in Section 2.4.1, page 2-6, of the Draft Joint EIS/BLM RMP and BIA
Integrated RMP, the BLM would “comply with state and federal laws, regulations, policies, and standards...”. Further, compliance with existing laws, regulations, and BLM and BIA policies are stated as planning criteria in Section 1.8, page 1-33; on page 1-34, the Mineral Leasing Act is stated as a specific preliminary planning criterion.

Over 99% of the OK-KS-TX planning area is under the surface management authority of other Federal SMAs. It is beyond BLM’s administrative and regulatory authority to open lands to fluid minerals development without first gaining consent from the other Federal surface management agency (SMAs) responsible for surface land use management and administration. Alternative C would classify 3,820,000 acres as “OPEN” for potential fluid minerals development, whereas Alternative A (No Action Alternative) makes 3,976,700 acres available for potential fluid minerals development. The difference between acres available under Alternative C versus Alternative A equates to 4.10 percent less land “OPEN” for potential fluid mineral development in Alternative C. Conversely, when you compare Alternative B (4,393,300 acres) to Alternative A (3,976,700 acres), the BLM is proposing to allocate 9.58 percent more public land as “OPEN” to potential fluid minerals development under Alternative B’s proposed land use management decision. When comparing land use allocations, it is only appropriate to measure one proposed action alternative against the “No Action” alternative, as only one alternative could possibly replace the current land allocations and associated land use management decisions. Comparing proposed land use allocations and resource management decisions in order to develop numbers that support personal opinion or an organization’s position does not represent an unbiased and valid measure of the proposed land use alternatives. The mathematical expression found in the comment submission appears to have been developed to support a particular position, rather than express an unbiased comparison of the proposed land allocations and land use management decisions found in the OKT DRAFT Joint EIS/BLM RMP and BIA IRMP.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Oklahoma, Kansas, and Texas Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or
situation, as described in **Chapter 3**, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

**Chapter 4**, Environmental Consequences, and **Chapter 5**, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in **Chapter 2**. The Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: **Chapter 4, Section 4.2**, BIA Impacts Analysis: **Chapter 4, Section 4.3** and Cumulative Impacts **Chapter 5, Section 5.4**.

**Substantive Comment (13)**: 2. Alternative C promotes environmental concerns over multiple use. Critically, BLM does not identify any resources that require the additional protection provided by the management decisions in Alternative C; rather, BLM assessment of resources states that additional protections result in greater protection from impacts to resources. See, e.g., Draft RMP/EIS at 2- 87-92 (indicating that most impacts to air quality, geology, soils and water resources would be similar to Alternative B, but provide increased protections compared to Alternative A). Couching impacts to resources in terms of the greatest beneficial impact rather than avoiding unnecessary or undue degradation illustrates that Alternative C does not promote multiple use, contrary to FLPMA.

**Response**: In Sections 2.4.1 (BLM Alternative Summary) and 2.4.2 (BIA Alternative Summary) of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA state in the Management Common to All Alternatives section that, under all alternatives, they would comply with state and federal laws, regulations, policies, and standards and would implement actions originating from laws, regulations, and policies.

The BLM and BIA have reviewed all actions in the Draft Joint EIS/BLM RMP and BIA Integrated RMP for compliance with required laws, regulations, and policies.

As described in Section 2.3 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA followed the BLM planning process to develop a reasonable range of alternatives. As such, the range includes evaluation of alternatives that focus on conservation of resources, as well as on development of resources, all of which fall within the breadth of FLPMA’s multiple use and sustained yield requirements as well as the Mineral Leasing Act. Under FLPMA, not all uses must take place on all acres. Alternatives were developed based on input received from the public, cooperating agencies, and interdisciplinary teams. Each alternative was developed to address the planning issues, meet the purpose and need, comply with FLPMA, and meet the BIA’s tribal responsibilities; management under all alternatives complies with FLPMA. As stated in Section 2.4.1, page 2-6, of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM would “comply with state and federal laws, regulations, policies, and standards . . . .” Further, compliance with existing laws, regulations, and BLM and BIA policies are stated as planning criteria in Section 1.8, page 1-33.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Oklahoma, Kansas, and Texas Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. **Chapter 4** of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in **Chapter 2**. The land use allocations and resource management goals, objectives and actions described in **Chapter 2** are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level
decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.

Substantive Comment (14): 3. Alternative C violates the Energy Policy Act. The Energy Policy Act requires BLM to ensure stipulations are only as restrictive as necessary to protect the applicable resource. 42 U.S.C. § 15922(b)(3)(C). As discussed above, the analysis for Alternative C does not demonstrate that the additional protections are necessary to protect resources, but merely provide additional, but unnecessary, restrictions on operations, which violates the Energy Policy Act of 2005 and increases the risk of legal challenges to the RMP.

Response: In Sections 2.4.1 (BLM Alternative Summary) and 2.4.2 (BIA Alternative Summary) of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA state in the Management Common to All Alternatives section that, under all alternatives, they would comply with state and federal laws, regulations, policies, and standards and would implement actions originating from laws, regulations, and policies.

The BLM and BIA have reviewed all actions in the Draft Joint EIS/BLM RMP and BIA Integrated RMP for compliance with required laws, regulations, and policies.

As described in Section 2.3 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA followed the BLM planning process to develop a reasonable range of alternatives. Alternatives were developed based on input received from the public, cooperating agencies, and interdisciplinary teams. Each alternative was developed to address the planning issues, meet the purpose and need, comply with FLPMA, and meet the BIA’s tribal responsibilities.
The Energy Policy Act citation is referring to a memorandum of understanding (MOU) between the DOI and the Department of Agriculture regarding Forest Service lands. The BLM does not administer surface estate for other surface management agencies, which define the contents of the stipulation.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.
- Energy and Minerals: Chapter 4, Section 4.2.2.1 and Section 4.3.16 and Cumulative Impacts for Energy and Minerals: Chapter 5, Section 5.4.2.1

Substantive Comment (15): 4. Alternative C results in unlawful waste. The MLA requires BLM and lessees to prevent waste of leased mineral and maximize economic recovery of oil and gas. 30 U.S.C. § 225; 43 C.F.R. § 3162.1(a). Alternative C restricts the surface disturbance on some leases, potentially constraining a lessee’s ability to access minerals. Moreover, Alternative C designates additional land as right-of-way (ROW) exclusion or avoidance areas. Restrictions on access, pipelines and power lines to leases would limit economic recovery of oil and natural gas resources.
Response: In Sections 2.4.1 (BLM Alternative Summary) and 2.4.2 (BIA Alternative Summary) of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA state in the Management Common to All Alternatives section that, under all alternatives, they would comply with state and federal laws, regulations, policies, and standards and would implement actions originating from laws, regulations, and policies.

The BLM and BIA have reviewed all actions in the Draft Joint EIS/BLM RMP and BIA Integrated RMP for compliance with required laws, regulations, and policies.

Management under Alternative C complies with the Mineral Leasing Act (MLA). As stated in Section 2.4.1, page 2-6, of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM would “comply with state and federal laws, regulations, policies, and standards . . . .” Further, compliance with existing laws, regulations, and BLM and BIA policies are stated as planning criteria in Section 1.8, page 1-33; on page 1-34, the Mineral Leasing Act is stated as a specific preliminary planning criterion.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.
• Energy and Minerals: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Energy and Minerals: Chapter 5, Sections 5.4.2.1
• Lands and Realty: Chapter 4, Section 4.2.2.5 and 4.3.16 and Cumulative Impacts for Lands and Realty Chapter 5, Section 5.4.2.5

Substantive Comment (16): Alternative C harms the States, local and Federal economies. Alternative C closes large portions of the planning area to oil and gas leasing, designates additional lands as ROW exclusion or avoidance areas, and imposes overly burdensome restrictions on oil and gas development. These actions would negatively impact oil and gas development and discourage investment in oil and gas leases in the planning area. Oil and gas leasing and development benefits the States of Oklahoma, Texas, and Kansas and local economies because a portion of lease sale receipts go directly to the state, production provides royalties and tax revenues, and development creates local jobs. The Federal government also receives a portion of lease sale receipts, royalties, and taxes.

Response: As described in Section 2.3 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA followed the BLM’s planning process to develop a reasonable range of alternatives. Alternatives were developed based on input received from the public, cooperating agencies, and interdisciplinary teams. Each alternative, including Alternative C, was developed to address the planning issues, meet the purpose and need, comply with FLPMA, and meet the BIA’s tribal responsibilities. Impacts on socioeconomics are adequately disclosed in Sections 4.2.4.3 and 5.4.4.3 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.
Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.
- Energy and Minerals: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Energy and Minerals: Chapter 5, Sections 5.4.2.1
- Lands and Realty: Chapter 4, Sections 4.2.2.5 and 4.3.16 and Cumulative Impacts for Lands and Realty Chapter 5, Section 5.4.2.5

Substantive Comment (17): However, OIPA-OKOGA proposes that BLM ultimately adopt a modified version of Alternative B in the Record of Decision for the Final RMP. Although Alternative B serves as a “middle ground” alternative that seeks to promote multiple uses while protecting other resource values, as proposed, Alternative B is not viable because it violates the Energy Policy Act of 2005 and established BLM policy. The Energy Policy Act of 2005 and BLM handbooks and manuals require BLM to ensure lease stipulations are “only as restrictive as necessary to protect the resource for which the stipulations are provided.” 42 U.S.C. § 15922(b)(3)(C); see also BLM Handbook 1624-I at III-11 (same); BLM Handbook 1601-1, App’x Cat 24 (same). Moreover, when developing a RMP, policy dictates that BLM should specifically “provide evidence that less restrictive measures were considered but found inadequate to provide effective protection for other land uses or resource values.” BLM Handbook 1624-I at III-14.

Response: The Energy Policy Act citation is referring to an MOU between DOI and the Department of Agriculture regarding Forest Service lands. The BLM does not administer surface estate for other surface management agencies, which define the contents of the stipulation.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.
Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.
- Energy and Minerals—Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts on Energy and Minerals Chapter 5, Section 5.4.2.1
- Lands and Realty: Chapter 4, Sections 4.2.2.5 and 4.3.23 and Cumulative Impacts for Lands and Realty Chapter 5, Section 5.4.2.5

Substantive Comment (18): Alternative B adopts management prescriptions that are more restrictive than Alternative D, the maximum development option, but utilizes similar land use designations. Several of the management prescriptions utilized in Alternative B are outside BLM’s jurisdiction or unnecessarily restrictive to oil and gas development and thus contrary to the Energy Policy Act of 2005.

Response: In Sections 2.4.1 (BLM Alternative Summary) and 2.4.2 (BIA Alternative Summary) of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA state in the Management Common to All Alternatives section that, under all alternatives, they would comply with state and federal laws, regulations, policies, and standards and would implement actions originating from laws, regulations, and policies.

The BLM and BIA have reviewed all actions in the Draft Joint EIS/BLM RMP and BIA Integrated RMP for compliance with required laws, regulations, and policies.

In accordance with the NEPA’s Forty Most Asked Questions, “the EIS is not the Record of Decision, but instead constitutes the information and analysis on which to base a decision.” As such, the decision-maker can select portions of alternatives to include in the Record of Decision, wherein the rationale for this decision will be described.

As described in Section 2.3 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA followed the BLM’s planning process to develop a reasonable range of alternatives. Alternatives were developed based on input received from the public, cooperating agencies, and interdisciplinary teams. Each alternative was developed to address the planning issues, meet the purpose and need, comply with FLPMA, and meet the BIA’s tribal responsibilities.

Management under all alternatives is within the BLM’s jurisdiction. Section 2.4.1, page 2-6, describes management common to all alternatives, including “[compliance] with state and federal laws, regulations, policies, and standards, including the FLPMA multiple use and sustained yield mandates for BLM-administered lands.”
All of the proposed alternatives provide for some level of development of mineral and renewable energy resources consistent with the BLM’s multiple use mandate and FLPMA; as such, all alternatives comply with the Energy Policy Act of 2005. Only an alternative that would prevent development across all BLM-administered or BIA-managed lands would be inconsistent with the Energy Policy Act of 2005, which was dismissed from further analysis in Section 2.5.2 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.
- Energy and Minerals: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Energy and Minerals: Chapter 5, Sections 5.4.2.1
- Lands and Realty: Chapter 4, Sections 4.2.2.5 and 4.3.16 and Cumulative Impacts for Lands and Realty Chapter 5, Section 5.4.2.5

Substantive Comment (19): Specifically, Alternative B should adopt the follow portions of Alternative D for the BLM Joint RMP: RMP: No use of green completions involving recovery and cleanup of natural gas
Response: The BLM has reviewed new information and public comments on the Draft Joint EIS/BLM RMP and BIA Integrated RMP and believes that Alternative B still meets the requirements under FLPMA. Following the Final Joint EIS/BLM RMP and BIA Integrated RMP review period, the BLM will develop the approved plan in the Record of Decision and will extract various parts of the alternatives. In accordance with NEPA’s Forty Most Asked Questions, “the EIS is not the Record of Decision, but instead constitutes the information and analysis on which to base a decision”; as such, the decision-maker can select portions of alternatives to include in the Record of Decision. The rationale for this decision will be described in the Record of Decision.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.
• Air Resources: Chapter 4, Sections 4.2.1.1 and 4.3.1 and Cumulative Impacts for Air Resources, Chapter 5, Section 5.4.1.1
• Air Quality: Chapter 4, Section 4.2.1.2
• Climate Change: Chapter 4, Section 4.2.1.3
• Visual Resources: Chapter 4, Section 4.2.1.12 and 4.3.10 and Cumulative Impacts for Visual Resources, Chapter 5, Section 5.4.1.10
• Energy and Minerals—Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts on Energy and Minerals, Chapter 5, Section 5.4.2.1
• Lands and Realty: Chapter 4, Sections 4.2.2.5 and 4.3.16 and Cumulative Impacts for Energy and Minerals, Chapter 5, Section 5.4.2.5

Substantive Comment (20): Alternative B should adopt the following portions of Alternative D for the BIA Integrated RMP: Allow temporary adverse impacts on air quality and air quality related values, to the extent allowed by applicable law, when necessary to promote mineral or other resource development (Draft RMP/EIS at 2-55); Defer to other agencies with primary jurisdiction for air (Draft RMP/EIS at 2-56); Only adopt such measures as are needed to meet minimum requirements of applicable law (Draft RMP/EIS at 2-56-2-57); No BIA climate program. All funding directed to Federally recognized Indian tribes (Draft RMP/EIS at 2-57); Defer to other agencies with primary jurisdiction for aquatic habitats (Draft RMP/EIS at 2-58); Comply with minimum standards for vegetation set forth in executive orders, laws, regulations, guidance and court decrees (Draft RMP/EIS at 2-59); Allow affected Federally recognized Indian tribes to make final decision that may impact fish and wildlife assets (Draft RMP/EIS at 2-62; 2-72; 2-74); and Mitigate to minimize disturbance to nesting migratory birds if necessary, to comply with FWS and Federally recognized Indian tribal recommendations (Draft RMP/EIS at 2-62).

Response: The BLM has reviewed new information and public comments on the Draft Joint EIS/BLM RMP and BIA Integrated RMPs and believes that Alternative B still meets the requirements for a reasonable range of alternatives under FLPMA and is consistent with BLM Handbook H1601-1. Following the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP review period, the BLM will develop the approved plan in the Record of Decision and will extract various parts of the alternatives. In accordance with NEPA’s Forty Most Asked Questions, “the EIS is not the Record of Decision, but instead constitutes the information and analysis on which to base a decision”; as such, the decision-maker can select portions of alternatives to include in the Record of Decision. The rationale for this decision will be described in the Record of Decision.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level guidance, as required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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- BIA Impacts Analysis: Chapter 4, Section 4.3 and Chapter 5 Section 5.4
- Air Resources: Chapter 4, Section 4.3.1 and Cumulative Impacts for Air Resources Chapter 5, Section 5.4.1.1
- Treaty Rights and Tribal Interests: Chapter 4, Section 4.3.21 and Cumulative Impacts for Treaty Rights and Tribal Interests Chapter 5, Section 5.4.4.1.
- Vegetation Resources: Chapter 4, Section 4.3.5 and Cumulative Impacts for Vegetation Resources Chapter 5, Section 5.4.1.5
- Special Status Species: Chapter 4, Section 4.3.7 and Cumulative Impacts for Special Status Species Chapter 5, Section 5.4.1.7

Substantive Comment (21): Comment No. 5: The RFD Scenario in the Draft RMP/EIS assumes that “up to 85 wells per year will be developed in the maximum Federal minerals decision area by 2040.” Draft RMP/EIS at 4-3. However, the source of this assumption is not clear. The RFD Scenario, set forth in Appendix I, does not provide that conclusion. Instead, the information in the RFD Scenario suggests that the total number of wells drilled on Federal and Trust lands routinely exceeds this assumed total See Draft RMP/EIS, App’x I at 221-23 (Chart 5 identifying wells drilled, Chart 6 identifying fee wells associated with Federal and Trust lands, and Chart 7 identifying Federal and Trust wells drilled by State). The RFD does not clarify how BLM ultimately decided to assume 85 wells per year in the RFD Scenario or if that assumption includes Federal and Trust or just Federal lands. See Draft RMP/EIS at 1-34 (“For federal and Indian oil and gas and other minerals, reasonably foreseeable development scenarios will be prepared); Draft RMP/EIS at 4-481 (Table 4-52 states that 12 to 46 wells will be drilled in Oklahoma). It is critical for BLM to provide clarity on the assumed wells drilled per year in the RFD Scenario. Clarification will minimize future litigation risk and ensure that the RMP can be appropriately tiered to in future NEPA documents. Requested Action: BLM should revise the Final RMP to provide clarity on the number of wells assumed to be drilled each year under the RFD Scenario. Specifically, BLM should clarify how that total was reached, whether it applies to Federal and Trust lands, and whether the assumption is scalable.

Response: The 85 well per year estimate is shown in Chart 50 of Appendix I in the Reasonably Foreseeable Development Scenario (RFDS; upper realistic range projection). The historical well completions shown in Chart 50 correspond to actual wells drilled shown in Chart 5 (see also Table 25 on page 41 of the
RFDS in Appendix I). Page 45 of the RFDS explains the method behind developing the projections shown in Chart 50. The BLM revised the Final Joint EIS/BLM RMP and BIA Integrated RMP text on page 4-3 to cite Chart 50 in the assumption. It also clarified that this projection is for federal and trust minerals in the upper realistic range of projections.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2 and Cumulative Impacts Analysis: Chapter 5, Section 5.4

Substantive Comment (22): Requested Action: BLM should revise the Final RMP to provide clarity on the methodology used to determine the assumed surface disturbance in the RFD Scenario. BLM should remove outliers to ensure an accurate and supportable assumption.

Response: The reasonably foreseeable development scenario (see Appendix I of the Draft Joint EIS/BLM RMP and BIA Integrated RMP) was based on a reasonable, technical, and scientific estimate of anticipated oil and gas activity; this, in turn, was based on the best available information and data available at the time of the
study. A detailed description of the method used to determine the RFDS is presented in Section 1 of Appendix I.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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- BLM Impacts Analysis: Chapter 4, Section 4.2 and Cumulative Impacts Analysis: Chapter 5, Section 5.4

Substantive Comment (23): The RFD Scenario does not adequately address what percentage of water used is made up with recycled water. BLM should acknowledge operators’ recycling efforts that have led to significant decreases in fresh water demand. For example, one OIPA-OKOGA operator processes nearly 30,000 barrels of water per day—both produced and frac flowback water—from one field. This saves that operator nearly 10 million barrels of fresh water sourcing need per year. Discussion of the benefits of using recycled water is necessary for this analysis, especially as use of recycled water increases over time. The use of recycled water and longer horizontal laterals minimizes impacts to other resource values and decreases surface disturbance. Critically, operators receive temporary water use permits from the State, which has been delegated regulatory authority from the EPA. Thus, while it is important for BLM to recognize efforts
to use recycled water, BLM must also recognize that it does not have jurisdiction over hydraulic fracturing. Requested Action: BLM should provide additional discussion of the use and benefits of recycled water in the Final EIS.

Response: The states are responsible for water use allocations, permitting, and disposal. The RFDS is a snapshot in time that predicts water quantity use only. Its purpose is also to show the amount of water use during the development and production phases of operation. Planning level impacts from energy development are discussed in the Joint EIS/BLM RMP and BIA Integrated RMP and not the RFDS. The use of recycled water for completion processes is a function of state water permitting and beyond the administrative functions of the BLM’s land use planning effort.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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- BLM Impacts Analysis: Chapter 4, Section 4.2, and Cumulative Impacts Analysis: Chapter 5, Section 5.4
- Water Resources: Chapter 4, Sections 4.2.1.6 and Cumulative Impacts for Water Resources: Chapter 5, Section 5.4.1
O. Comment Summary and Response Report (Comment Categories, Summaries, and Responses)

Substantive Comment (24): The Draft Joint EIS/BLM RMP and BIA Integrated RMP designates portions of the planning area as ROW exclusion or avoidance areas, such as Important Bird Areas, Special Recreation Management Areas, Visual Resource Management areas, wetlands, and habitat. ROWs are critical for operators to access leases, transport oil and gas, and provide power to facilities on leases. BLM must unequivocally state that ROWs will be granted for all existing leases. Requested Actions: 1. BLM should include language in the Final RMP and EIS acknowledging that current Federal oil and gas leases are valid existing rights. The ultimate Record of Decision should include a specific discussion that valid existing rights will be recognized, upheld, and protected, and conditions of approval imposed on valid existing rights must be based on subsequent, site-specific information and environmental analysis. 2. The Final RMP and EIS must expressly state that operators of valid existing leases will be granted ROWs even within areas proposed for restrictive land use designations.

Response: The Draft Joint EIS/BLM RMP and BIA Integrated RMP adequately states that valid existing rights will be preserved; for example, see pages 1-33, 2-6, and 2-12. For existing uses that do not have a valid existing right, such as a ROW, the Joint EIS/BLM RMP and BIA Integrated RMP will not result in a de facto authorization for that use; however, if the use has an existing authorization, the Joint EIS/BLM RMP and BIA Integrated RMP will in no way vacate or modify that authorization.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:
Substantive Comment (25): The Draft RMP/EIS does not provide discussion of the limits of BLM’s authority on private surface. Rather the Draft RMP/EIS states that “BLM’s jurisdiction extends to state and private surface lands, where the Federal government has retained the mineral rights.” Draft RMP/EIS at 3-58; see also Draft RMP/EIS at 3-135 (“Where surface management is private or the responsibility of other entities, impacts on cultural resources are not necessarily considered, except when there is a Federal action, such as an application for permit to drill”). Requested Action: The Final RMP and EIS must include a discussion of the limitations of BLM’s jurisdiction on fee and Tribal surface, including, but not limited to, inability to impose reclamation requirements on privately-owned surface.

Response: Chapter 3, Affected Environment, of the Draft Joint EIS/BLM RMP and BIA Integrated RMP describes varying resources in the planning area. These two separate instances quoted by the commenter are accurate when taken in the context of the information presented in those respective sections of the Draft Joint EIS/BLM RMP and BIA Integrated RMP. That document does not grant additional rights to the BLM in respect to private lands. Federal, state, and local laws recognize private landownership and appropriately constrain non-owner actions on these private lands.

Section 1.3 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP describes the BLM and BIA decision areas, or the areas for which the BLM and BIA have management responsibilities. As described in this section, “Management direction and actions provided apply only to the BLM and BIA decision areas. The decision areas cover only the BLM-administered and BIA-managed surface lands and subsurface mineral estate in the planning area, with the exception of oil and gas mineral estate in Osage County.” No change is required for the Final Joint EIS/BLM RMP and BIA Integrated RMP.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.
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- BLM Impacts Analysis: Chapter 4, Section 4.2 and Chapter 5, Section 5.4
- Lands and Realty: Chapter 4, Sections 4.2.2.5 and Cumulative Impacts for Lands and Realty Chapter 5, Section 5.4.2.5

**Substantive Comment (26):** Comment No. 10: BLM issued Permanent IM 2018-014 on June 12, 2018. See supra § ILB.3.d. Permanent IM 2018-014 instructs field offices to tailor environmental analyses (including NHPA, NEPA and ESA obligations) to the scope of the Federal undertaking, describes NEPA, NHPA and ESA obligations in fee-fee-fed situations, and identifies the scope of Federal jurisdiction on fee surface. Specifically, a Surface Use Plan of Operations or onsite inspection is not required for fee-fee-fed wells. The Draft RMP/EIS fails to provide any analysis, description, or even acknowledgement of Permanent IM 2018-014. Given the prevalence of Federal minerals beneath and around privately-owned surface in the planning area, BLM should include a discussion of this BLM policy guidance. Requested Action: The Final RMP and EIS should include a discussion of Permanent IM 2018-014, including guidance on NHPA, NEPA and ESA obligations and BLM jurisdiction in fee-fee-fed situations.

**Response:** As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions when project-level reviews are tiered to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 Code of Federal Regulations [CFR] 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an environmental document (environmental assessment [EA] or EIS). If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when applications for permits to drill (APDs) are submitted.

Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

In Section 2.4.1, page 2-6, of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges its responsibilities to “comply with state and federal laws, regulations, policies, and standards . . . .” Further,
compliance with existing laws, regulations, and BLM and BIA policies are stated as planning criteria in Section 1.8, page 1-33.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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- BLM Impacts Analysis: Chapter 4, Section 4.2 and Chapter 5, Section 5.4
- Lands and Realty: Chapter 4, Sections 4.2.2.5 and Cumulative Impacts for Lands and Realty Chapter 5, Section 5.4.2.5

Substantive Comment (27): BLM must provide for exception, waiver and modification of mitigation measures, conditions of approval and other operational restriction to achieve operational flexibility within a programmatic document such as the Draft RMP/EIS. There is no basis to mandate restrictions across the planning area without any mechanism to allow for operational flexibility and to allow site-specific conditions to dictate how development should proceed. Requested Action: BLM should include the following language for all mitigation measures, conditions of approval and other operational restrictions in the Draft RMP/EIS: Exception: An exception may be granted if the applicant submits a plan that indicates that impacts of the proposed action can be adequately mitigated or there is no reasonable alternative location to develop a lease
and avoid the identified resource. The Field Manager will allow development to satisfy the conditions of the lease. Modification: The Field Manager may modify the condition of approval or the boundaries of the stipulation area if impacts of the proposed action can be adequately mitigated or there is no reasonable alternative location to develop a lease and avoid the identified resource. Waiver: A waiver may be granted if, on the leasehold, it is determined that the resource of concern no longer exists or has been destroyed, or if all impacts of the proposed action can be adequately mitigated or there is no reasonable alternative location to develop a lease and avoid the identified resource.

Response: Waivers, exceptions, and modifications are developed at the discretion of the BLM Field Office, and the OFO has purposely designed lease stipulations to provide for timely, site-specific surveys. This is to ensure that stipulations and COAs are consistent with a pragmatic, science-based approach to land use that is contextually, geographically, and temporally appropriate. All stipulations, except at the Cross Bar Management Area, are stipulations assigned by the other Federal SMA with surface management authority. The BLM does not have authority to grant waivers, exceptions, or modifications to other SMA’s stipulations (see LN-15 for further explanation). Table ES-1 identifies surface management authorities.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2 and Chapter 5, Section 5.4
• Energy and Minerals: Chapter 4, Sections 4.2.2.1 and Cumulative Impacts for Lands and Realty
  Chapter 5, Section 5.4.2.1

Substantive Comment (28): Requested Action: BLM should remove the stipulation requiring closed-loop fluids systems in lands with sensitive soils, and instead allow that requirement to be imposed as a condition of approval at the APD stage, following site-specific information and environmental analysis.

Response: In accordance with the BLM Land Use Planning Handbook, fluid mineral allocations are determined during the planning process, along with identifying proposed stipulations necessary to meet resource condition objectives. Conditions of approval are assigned during the lease phase of the process after site-specific surveys and additional NEPA analysis. Controlled surface use (CSU) stipulation CSU-1 specifically requires a site survey. A CSU stipulation is the appropriate stipulation to protect this resource value.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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• BLM Impacts Analysis: Chapter 4, Section 4.2 and Cumulative Impacts Chapter 5, Section 5.4.
- Soil Resources: Chapter 4, Sections 4.2.1.5 and Cumulative Impacts for Soil Resources Chapter 5, Section 5.4.1.3
- Energy and Minerals: Chapter 4, Sections 4.2.2.1 and Cumulative Impacts for Energy and Minerals Chapter 5, Section 5.4.2.1

Substantive Comment (29): The Draft RMP/EIS exacerbates the concerns with low profile facilities because BLM does not provide any exception, waiver or modification criteria to afford flexibility to both BLM and operators. Draft RMP/EIS at D-22. Requested Actions: 1. BLM should remove the stipulation requiring low profile facilities in VRM III designated areas. 2. BLM needs to provide exception criteria for each Lease Stipulations, particularly to account for circumstances where exceptions to surface occupancy and controlled surface use would result in less overall impacts to other resource values.

Response: CSU-7 was removed from the Final Joint EIS/BLM RMP and BIA Integrated RMP.

Substantive Comment (30): Requested Action: 1. BLM should amend stipulation TL-2 to state that NSO buffers will be imposed around designated critical habitat or where site-specific surveys have found that Least Tern are present, and the proposed action would impact the bird or its habitat. 2. BLM should amend stipulation TL-2 to allow for exception, waiver and modification when Least Tern are not present.

Response: TL-2 was revised to state “occupied” habitat.

Substantive Comment (31): Furthermore, BLM does not provide any analysis or justification for its imposition of a 415-foot buffer. Without explaining why this buffer is necessary, BLM has violated the Energy Policy Act of 2005 by failing to show that the stipulation is only as restrictive as necessary to protect the resource at issue. The appropriate restriction for protection of this resource should be delineated by the United States Army Corps of Engineers, consistent with that agency’s jurisdiction.

Response: The 415-foot-width resource protective zone (RPZ) that the BLM built for wetlands and riparian areas is designed as follows:

Zone A—A 25-foot-width RPZ upland from the high-water line to protect the watercourse via vegetation filtration and ground stability provided by vegetation

Zone B—A 90-foot-width RPZ upland from the upland edge of Zone A to protect larger vegetation, such as trees and shrubs, that provide for filtering, soil stability, syncing, and a wildlife corridor along the watercourse.

Zone C—A 300-foot-width RPZ to protect threatened, endangered, and special status species associated with wetlands and riparian areas. Also, this RPZ is the buffer size that the USFWS recommends around wetlands and riparian areas.

These areas added together create a 415-foot-width buffer. These RPZs are supported in the scientific literature; example references are as follows:

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.
Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

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- BLM Impacts Analysis: Chapter 4, Section 4.2 and Cumulative Impacts Chapter 5 Section 5.4
- Water Resources: Chapter 4, Sections 4.2.1.6 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4.
- Vegetation Resources: Chapter 4, Sections 4.2.1.7 and Cumulative Impacts for Vegetation Resources Chapter 5, Section 5.4.1.5.

Substantive Comment (32): Finally, BLM should allow for variances that permit temporary occupation of NSO. Temporary occupancy may be required for water transfer purposes and to conduct seismic surveys or other operations necessary to develop the leasehold. Protective measures can be developed to ensure that temporary occupation would still uphold the objectives identified in the creation of this stipulation and would not result in unnecessary or undue degradation. Requested Action: 1. BLM should amend stipulation NSO-6 to remove the inclusion of intermittent streams and ephemeral channels from waterbodies encompassed by the stipulation. 2. BLM should amend stipulation NSO-6 to require the BLM biologist to conduct site specific analysis to determine the parameters of the riparian-wetland area or waterbody and to determine if operations would result in unnecessary or undue degradation requiring imposition of the stipulation. 3. BLM should state that variances to the NSO stipulation will be allowed, permitting temporary occupancy, in limited circumstances to ensure that necessary operations can be performed.

Response: No change. There are already waivers, exceptions, and modifications assigned to the stipulation. Operational conditions of approval will be added to the lease when lease applications are submitted, following surveys and with subsequent NEPA analysis. All NSO stipulations, except at the Cross Bar Management Area, are stipulations assigned by the other Federal SMA with surface management authority. The BLM does not have authority to grant waivers, exceptions, or modifications to other SMA’s stipulations (see LN-15 for further explanation). Table ES-1 identifies surface management authorities.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Oklahoma, Kansas, and Texas Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public
lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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- Water Resources: Chapter 4, Sections 4.2.1.6 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4.
- Vegetation Resources: Chapter 4, Sections 4.2.1.7 and Cumulative Impacts for Vegetation Resources Chapter 5, Section 5.4.1.5.

Substantive Comment (33): The concerns with this stipulation are exacerbated by the fact that BLM does not provide for modifications or waivers. BLM must ensure that flexibility is available to allow for technical and operational needs that may arise. Requested Action: 1. BLM should stipulation CSU-1 to serve as a lease notice for potential conditions of approval on lands designated to have sensitive soils. 2. BLM should amend stipulation CSU-1 to require BLM biologist to conduct site specific analysis to determine not only what special design, construction, implementation, mitigations and/or reclamation might be required, but whether a surface disturbance buffer is necessary to prevent unnecessary or undue degradation of soil resources. 3. BLM should stipulation CSU-1 to allow for waivers and modifications in appropriate circumstances.

Response: CSU-1 includes an exception; a modification or waiver is not necessary. There is flexibility in the standard terms and conditions.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Oklahoma, Kansas, and Texas Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The
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- Soil Resources: Chapter 4, Sections 4.2.1.5 and Cumulative Impacts on Soil Resources Chapter 5, Section 5.4.1.3
- Energy and Minerals: Chapter 4, Sections 4.2.2.1 and Cumulative Impacts for Energy and Minerals Chapter 5, Section 5.4.2.1

Substantive Comment (35): Requested Action: The Final EIS and RMP should explain the difference between a NAAQS exceedance and designation of a nonattainment area and should clarify that the NAAQS allow some exceedances and require at least 3 years of qualified data before a non-exceedance determination can be made.

Response: Section 3.2.1 has been revised to include the suggested information under Current Conditions. As discussed in this section, most of the planning area is in attainment with the National Ambient Air Quality Standards (NAAQS), and Clean Air Conformity would not apply to federal actions in these areas. In nonattainment or maintenance areas, Clean Air Act conformity would be assessed during project-specific analyses.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Oklahoma, Kansas, and Texas Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human
and natural environment of implementing a reasonable range of alternatives presented in **Chapter 2**. The land use allocations and resource management goals, objectives and actions described in **Chapter 2** are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in **Chapter 3**, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

**Chapter 4**, Environmental Consequences, and **Chapter 5**, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in **Chapter 2**. The Final Joint EIS addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- **BLM Impacts Analysis**: **Chapter 4, Section 4.2**, and **BIA Impacts Analysis**: **Chapter 4, Section 4.3** and Cumulative Impacts, **Chapter 5, Section 5.4**.
- **Air Resources**: **Chapter 4, Sections 4.2.1.1** and **4.3.1** and Cumulative Impacts for Air Resources: **Chapter 5, Section 5.4.1.1**.
- **Air Quality**: **Chapter 4, Sections 4.2.1.2**

**Substantive Comment (36):** Comment No. 20: In assessing the air quality impacts of each alternative, the authors correctly note that “[m] ineral resource development and operation would be subject to Federal and state emissions control regulations in place at the time development occurs.” Draft RMP/EIS at 4-10. Requested Action: The Final EIS and RMP should further explain that the BLM and BIA rely on the regulatory agencies with jurisdiction over individual projects to effectively implement and enforce applicable regulations.

**Response: Section 4.2.1.1** has been revised to include the suggested information under *Methods of Analysis*.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. **Chapter 4** of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in **Chapter 2**. The land use allocations and
resource management goals, objectives and actions described in **Chapter 2** are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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**Chapter 4**, Environmental Consequences, and **Chapter 5**, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in **Chapter 2**. The Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: **Chapter 4, Section 4.2**, and BIA Impacts Analysis: **Chapter 4, Section 4.3** and Cumulative Impacts, **Chapter 5, Section 5.4**.
- Air Resources: **Chapter 4, Sections 4.2.1.1** and **4.3.1** and Cumulative Impacts for Air Resources: **Chapter 5, Section 5.4.1.1**.
- Air Quality: **Chapter 4, Sections 4.2.1.2**

**Substantive Comment (37):** BLM has the authority to require mitigation in certain circumstances but cannot make a blanket commitment in a programmatic NEPA document to implement mitigation measures. Requested Action: 1. The Final EIS and RMP should clarify that BLM is not an air quality regulatory agency and has authority over emissions. 2. The Final and RMP should include a statement that BLM can, and should, satisfy its obligation to ensure compliance with Federal, state, and local regulations by including brief statements in leases or APDs directing the facility to comply with such regulations.

**Response:** As described in **Table 2-2**, row 7, of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM would implement mitigation measures only within its authority and, as such, is not a blanket commitment. While primary authority for controlling emissions is delegated to state air agencies, the BLM may have authority for controlling other emissions under current or future regulations. Page 4-16 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP states that the BLM is required to comply with federal, state, and local air quality regulations, classifications, standards, and air pollution requirements.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance,
the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- BLM Impacts Analysis: Chapter 4, Section 4.2, and Cumulative Impacts, Chapter 5, Section 5.4.
- Air Resources: Chapter 4, Sections 4.2.1.2 and Cumulative Impacts for Air Resources: Chapter 5, Section 5.4.1.1.

Substantive Comment (38): Comment No. 24: There appear to be clerical errors in the Draft RMP/EIS regarding the number of acres open to oil and gas leasing under standard terms and conditions (pages 4-27 and 4-29) and the number of existing wells in Oklahoma (page 5-5). Requested Action: Confirm and clarify the lease acreage numbers.

Response: On page 4-29, the sentence was revised to “Under Alternative B, more of the decision area would be open to oil and gas leasing (2,707,900 acres), subject to standard terms and conditions . . . .” On page 5-5, under Oil and Gas Development, the number of existing wells was revised to 541,301. This was a typographical error.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of
the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. **Chapter 4** of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in **Chapter 2**. The land use allocations and resource management goals, objectives and actions described in **Chapter 2** are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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**Chapter 4**, Environmental Consequences, and **Chapter 5**, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in **Chapter 2**. The Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: **Chapter 4**, Section 4.2, BIA Impacts Analysis **Chapter 4**, Section 4.3 and Cumulative Impacts, **Chapter 5**, Section 5.4.
- Energy and Minerals: **Chapter 4**, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Energy and Minerals **Chapter 5**, Section 5.4.2.1

**Substantive Comment (39):** B. Climate Change and Greenhouse Gas Emissions Comment No. 25: OIPA-OKOGA supports the use of appropriate quantitative and qualitative tools to analyze the greenhouse gas (GHG) emissions and climate change impacts of the proposed action, while recognizing data limitations and uncertainties inherent in programmatic NEPA analyses for land use planning purposes. The Draft RMP/EIS appropriately describes climate conditions and trends affecting the planning area. It reports global, national, and planning area GHG emissions and estimates the GHG emissions from Federal, state and private, and Indian mineral estates in the planning area. Draft RMP/EIS at 4-22-4-25. Requested Action: The Final EIS should further explain the uncertainties associated with GHG emission estimates and the impossibility of precisely quantifying GHG emissions in a programmatic NEPA document.

**Response:** The BLM and BIA use the latest and most accurate emissions estimates and modeling data available at the state and federal level to estimate greenhouse gas (GHG) emissions. The method used for
estimating emissions can be found in **Section 3** of **Appendix G** and in **Section 2.1.4** of **Appendix JI** of the Draft Joint EIS/BLM RMP and BIA Integrated RMP.

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- BLM Impacts Analysis: **Chapter 4**, **Section 4.2**, and BIA Impacts Analysis: **Chapter 4**, **Section 4.3**
- Air Resources: **Chapter 4**, **Sections 4.2.1.2** and Cumulative Impacts for Air Resources: **Chapter 5**, **Section 5.4.1.1**.
- Climate Change: **Chapter 4**, **Section 4.2.1.3**

**Substantive Comment (40):** Comment No. 26: In discussing the cumulative impacts of project GHG emissions, the Draft RMP/EIS states that “[o]btaining an accurate picture of GHG emissions from projected oil and gas development and coal mining requires an analysis of the full lifecycle potential of these resources.” Draft RMP/EIS at 5-34. This misstates applicable law. Courts have held that end-use or downstream GHG emissions should be excluded from NEPA analyses except where the downstream combustion is so interconnected with the proposed action that the emissions are an indirect impact of the action, and the
reviewing agency has the legal authority to act on the information produced by analyzing the downstream emissions. Sierra Club v. FERC, 867 F.3d 1357, 1371-73 (D.C. Cir. 2017); Dine CARE v. OSMRE, 82 F. Supp. 3d 1201, 1212-13 (D. Colo. 2015); WildEarth Guardians v. OSMRE, 104 F. Supp. 3d 1208, 1230 (D. Colo. 2015). Requested Action: The Final EIS and RMP should specify that, consistent with applicable law, end-use or downstream emissions will not be included in the programmatic NEPA analysis.

Response: Recent court cases have required that the BLM evaluate the environmental consequences of the downstream combustion of coal, oil, and gas open to potential development (see, for example, claim 3 of Western Organization of Resource Councils, et al vs BLM). As such, this type of analysis is appropriate to include in the Draft Joint EIS/BLM RMP and BIA Integrated RMP.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Air Resources: Chapter 4, Sections 4.2.1.2 and Cumulative Impacts for Air Resources: Chapter 5, Section 5.4.1.1.
- Climate Change: Chapter 4, Section 4.2.1.3
Substantive Comment (41): Comment No. 28: The Draft RMP/EIS should not impose requirements for species that are not listed or proposed for listing. Requested Action: Lease Notice #1 should be revised to apply only to listed species or those species that are proposed for listing.

Response: In accordance with BLM Manual 6840, Special Status Species Management, the objectives of the BLM’s special status species policy are: “A. To conserve and/or recover ESA-listed species and the ecosystems on which they depend so that ESA protections are no longer needed for these species; and B. To initiate proactive conservation measures that reduce or eliminate threats to sensitive species to minimize the likelihood of and need for listing of these species under the ESA.” Further, the BLM’s land use planning handbook, H-1601-1, Appendix C, states that land use plans should “Identify desired outcomes, strategies, restoration opportunities, use restrictions, and management actions to conserve and recover special status species.” As such, it is appropriate for Lease Notice (LN)-1 to apply to all special status plant species.

Unlike lease stipulations which are legally connected to the standard terms and conditions of a lease contract, lease notices do not alter the standard terms and conditions of a lease contract. Essentially, a lease notice is a ‘buyer beware’ notification (see glossary for further explanation).

LN-1 was revised to align with current policies and was also revised to remove references to “potential” habitat.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Energy and Minerals: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Energy and Minerals: Chapter 5, Section 5.4.2.1
- Special Status Species: Chapter 4, Sections 4.2.1.9 and 4.3.7 and Cumulative Impacts for Special Status Species: Chapter 5, Section 5.4.1.7

Substantive Comment (42): Comment No. 29: The Draft RMP/EIS should not impose survey requirements and mitigation measures on “potential habitat” or areas adjacent to potential habitat and should not impose mitigation requirements on “potential habitat.” Any mitigation measures should be confined to occupied habitat based upon site specific surveys. Requested Action: In the Final RMP, Lease Notice 1, should be revised to remove references to “potential habitat,” limit surveys to suitable habitat, and confine mitigation measures to occupied habitat based on site-specific surveys.

Response:

Unlike lease stipulations which are legally connected to the standard terms and conditions of a lease contract, lease notices do not alter the standard terms and conditions of a lease contract. Essentially, a lease notice is a ‘buyer beware’ notification (see glossary for further explanation).

LN-1 was revised to align with current policies and to remove references to “potential” habitat.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Energy and Minerals: **Chapter 4, Sections 4.2.2.1** and **4.3.13** and Cumulative Impacts for Energy and Minerals **Chapter 5, Section 5.4.2.1**
- Special Status Species: **Chapter 4, Sections 4.2.1.9** and **4.3.7** and Cumulative Impacts for Special Status Species **Chapter 5, Section 5.4.1.7**

**Substantive Comment (43):** Comment No. 30: Lease Notice #2 is overly broad and does not specify the basis for BLM recommendations for modifications to exploration and development proposals to avoid any BLM approved activity that would contribute to a need to list a species or its habitat. Draft RMP/EIS at D-32. Requested Action: The Final RMP should specify that any BLM recommended modifications to exploration and development proposals will be based on site-specific surveys.

**Response:** Unlike lease stipulations which are legally connected to the standard terms and conditions of a lease contract, lease notices do not alter the standard terms and conditions of a lease contract. Essentially, a lease notice is a ‘buyer beware’ notification (see glossary for further explanation).

Legally binding lease stipulations identifying the specific resource or resource use to be protected would be placed on a proposed lease parcel before the oil and gas lease sale.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. **Chapter 4** of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Energy and Minerals: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Energy and Minerals Chapter 5, Section 5.4.2.1
- Special Status Species: Chapter 4, Sections 4.2.1.9 and 4.3.7 and Cumulative Impacts for Special Status Species Chapter 5, Section 5.4.1.7

Substantive Comment (44): Comment No. 31: BLM is not authorized to unilaterally impose Endangered Species Act requirements on tribal land; species conservation requirements affecting Indian lands must be determined on the basis of government-to-government consultation. Secretarial Order 3206 requires BLM to defer to tribal conservation and management plans for tribal trust resources that govern activities on Indian land and address the conservation needs of listed species. Requested Action: The Final RMP must recognize that tribal lands are not in the public domain and are not subject to the same land use controls as Federal public lands.

Response: Secretarial Order 3206 is one of the policies that would be followed, as stated in the first bullet under Section 2.2.1. If required, during government-to-government consultation, Secretarial Order 3206 would be considered when discussing ESA-listed species.

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- Treaty Rights and Tribal Interests: Chapter 4, Sections 4.2.4.1 and 4.3.21 and Cumulative Impacts on Treaty Rights and Tribal Interests: Chapter 5, Section 5.4.4.
- Special Status Species: Chapter 4, Sections 4.2.1.9 and 4.3.7 and Cumulative Impacts for Special Status Species Chapter 5, Section 5.4.1.7.

Substantive Comment (45): Comment No. 32: The Draft RMP/EIS requires clearance surveys to be conducted in all suitable American Burying Beetle habitat. The Draft RMP/EIS does not specify the FWS protocol is referenced in this stipulation, nor does it discuss the American Burying Beetle Oil and Gas Industry Conservation Plan. Requested Action: 1. The Draft RMP/EIS should be revised to clarify that CSU-4 will not apply if the American Beetle is delisted. 2. The Draft /EIS should be revised to identify the FWS protocols referenced in CSU-4. 3. CSU-4 should be revised to acknowledge and be consistent with the American Burying Beetle Oil and Industry Conservation Plan. 4. BLM should that waivers, exceptions, and/or modifications may be granted upon consultation with FWS.

Response: As stated in CSU-4, the BLM would follow the current protocol for American burying beetle. As of April 2019, this is the USFWS’s Region 6 Presence/Absence Survey Protocol for the American burying beetle (March 2016), but the protocol may be revised over the life of the Joint EIS/BLM RMP and BIA Integrated RMP. As such, the wording ensures that the most current guidance would be applied. CSU-4 clearly states that waivers, exceptions, and modifications would be determined during consultation with the USFWS.

CSU-4 was revised to remove “proposed for downlisting” and “endangered” to be just “Federally-listed species.” The Final Joint EIS/BLM RMP and BIA Integrated RMP was updated globally to relay the current status of the American burying beetle.

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- Special Status Species: **Chapter 4**, Sections 4.2.1.9 and 4.3.7 and Cumulative Impacts for Special Status Species **Chapter 5**, Section 5.4.1.7.

**Substantive Comment (46):** BLM’s discussion of “crucial habitat” and attendant protections is troublesome for two reasons. First, BLM never defines crucial habitat, so identification of what constitutes crucial habitat is speculative. Second, and more importantly, the lesser prairie chicken is not a listed species under the ESA. The ESA requires the listing agency to designate critical habitat at the time a species is listed. 16 U.S.C. § 1533(a)(3); 50 C.F.R. § 424.12(a). BLM’s designation of “crucial habitat” appears to be a de facto designation of critical for a non-listed species. This de facto designation is contrary to law and improperly attaches special management considerations or protections. At bottom, BLM cannot create a special designation of habitat for the lesser prairie chicken in an effort to impose additional restrictions on other valid resource uses. Requested Action: 1. The Draft RMP/EIS should be revised to clarify what constitutes “crucial habitat” for the lesser prairie chicken, what lands are designated as “crucial habitat,” and how “habitat” is to be managed. 2. BLM must remove any special management considerations or protections for
lesser prairie chicken inconsistent with the Lesser Prairie Chicken Range-wide Conservation Plan or the Oklahoma Lesser Prairie Chicken Conservation Plan.

**Response:** Crucial habitat is not the same as critical habitat. The Draft Joint EIS/BLM RMP and BIA Integrated RMP uses the appropriate critical habitats, as defined in the ESA. The Joint EIS/BLM RMP and BIA Integrated RMP also discusses crucial habitat, which is not afforded the same protections as critical habitat. The crucial habitat assessment tool is a spatial model developed by the Kansas Biological Survey (Houts 2017) used to designate and prioritize areas for lesser prairie-chicken conservation and industry development. In accordance with the MOU between the US Department of the Interior Bureau of Land Management and the US Fish and Wildlife Service to Promote the Conservation of Migratory Birds, the BLM shall “As practicable, protect, restore, and conserve habitat of migratory birds, addressing the responsibilities in Executive Order 13186.” Further, the MOU states that the BLM shall “Address the conservation of migratory bird habitat and populations when developing, amending, or revising management plans for BLM lands . . . .” As such, proposed management under the Draft Joint EIS/BLM RMP and BIA Integrated RMP is within the BLM’s authority.

FLPMA Section 102(a)(8) provides for protection of certain public lands in their natural condition, that will provide food and habitat for fish and wildlife and domestic animals.

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The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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**Chapter 4**, Environmental Consequences, and **Chapter 5**, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in **Chapter 2**. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP
addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2. BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.
- Energy and Minerals: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Energy and Minerals Chapter 5, Section 5.4.2.1
- Special Status Species: Chapter 4, Sections 4.2.1.9 and 4.3.7 and Cumulative Impacts for Special Status Species Chapter 5, Section 5.4.1.7

**Substantive Comment (47):** Comment No. 34: The Draft RMP/EIS states that “[p]lacing ROW restrictions under Alternative B would reduce potential impacts on special status species when compared with Alternative A, particularly for the ... lesser prairie-chicken.” Draft RMP/EIS at 2-104. The imposition of ROW restrictions to reduce impacts to special status species, including the lesser prairie chicken, violates valid existing rights, FLPMA, and the Energy Policy Act of 2005. ROWs are critical for the efficient and environmentally sound development of leases. See infra Section IX.B. BLM cannot modify valid existing rights through the land use planning process and must ensure that no ROW restrictions would apply to valid existing leases.

**Response:** The Draft Joint EIS/BLM RMP and BIA Integrated RMP adequately states that valid existing rights will be preserved (e.g., see pages 1-33, 2-6, and 2-12). For existing uses that do not have a valid existing right, such as a ROW, the document will not in fact be an authorization for that use; however, if the use has an existing authorization, the Joint EIS/BLM RMP and BIA Integrated RMP will in no way vacate or modify that authorization.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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- Lands and Realty: **Chapter 4**, Sections 4.2.2.5 and 4.3.16 and Cumulative Impacts for Lands and Realty **Chapter 5**, Section 5.4.2.5

**Substantive Comment (49):** Comment No. 35: The Draft RMP/EIS imposes blanket restriction on migratory birds in an effort to prevent incidental take. These restrictions include timing limitations, designation of ROW avoidance areas, and the possibility BLM will impose additional constraints when issuing an APD. However, many of these birds are not listed species, and the MBTA does not require these protections. While the ESA requires protection of habitat, the MBTA does not obligate BLM to protect migratory bird habitat. See Seattle Audubon Soc. v. Evans, 952 F.2d 297, 302-D3 (9th Cir. 1991) (holding that the ESA is broader than the MBTA, and the MBTA does obligate agencies to protect habitat). Disturbance does not constitute a take under the MBTA, and the MBTA does not regulate indirect impacts. Compare 50 C.F.R. § 10.12 (“take” means to pursue, hunt, shoot, wound, kill, trap, capture or collect) with 50 C.F.R. § 22.3 (under the Bald and Golden Eagle Protection Act, “take” means to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb). The MBTA is focused on preventing “take” of birds, eggs and nests. The Draft RMP/EIS thus imposes restrictions beyond legal requirements and are not in accordance with the MBTA or policy guidance. See M-Opinion 37050; FWS June Memorandum (agencies do not have authority to require mitigation for incidental take and the MBTA does not prohibit destruction of inactive nests). Imposing blanket restrictions to prevent incidental take expands the definition of take in the MBTA and violates FLPMA’s multiple use mandate. Requested Action: The Draft RMP/EIS should be revised to remove unnecessary restrictions and ensure consistency with the META and applicable DOI policy and guidance.

**Response:** In Sections 2.4.1 (BLM Alternative Summary) and 2.4.2 (BIA Alternative Summary) of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA state in the Management Common to All Alternatives section that, under all alternatives, they would comply with state and federal laws, regulations, policies, and standards and would implement actions originating from laws, regulations, and policies.

The BLM and BIA have reviewed all actions in the Draft Joint EIS/BLM RMP and BIA Integrated RMP for compliance with required laws, regulations, and policies.

The BLM’s obligations to protect migratory birds extend beyond the ESA and Migratory Bird Treaty Act of 1918 (MBTA). They include responsibilities in Executive Order 13186 and the subsequent Memorandum of
Understanding between the US Department of the Interior Bureau of Land Management and the US Fish and Wildlife Service to Promote the Conservation of Migratory Birds. This MOU states that both agencies shall "As practicable, protect, restore, and conserve habitat of migratory birds, addressing the responsibilities in Executive Order 13186." Further, the MOU states that the BLM shall "Address the conservation of migratory bird habitat and populations when developing, amending, or revising management plans for BLM lands . . . ." As such, proposed management under the Draft Joint EIS/BLM RMP and BIA Integrated RMP is within the BLM's authority.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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- Energy and Minerals: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Energy and Minerals Chapter 5, Section 5.4.2.1
Substantive Comment (50): Comment No. 36: The Draft RMP/EIS states that operational constraints may apply under some Alternatives, including but not limited to avoidance of surface disturbing activities during nesting seasons. See Draft RMP/EIS at D-37 (LN-5). However, the Draft EIS does not specify what the restrictions may be for each species. BLM should provide information that identifies potential stipulations. Not providing any source of what restrictions could be placed on a lease creates regulatory uncertainty and discourages investment in Federal leases. Requested Action: 1. The Draft RMP/EIS should be revised to remove unnecessary restrictions and ensure consistency with the MBTA and applicable DOI policy and guidance. 2. The Draft RMP/EIS should be revised to specify what restrictions might apply to oil and gas operations based on species present on Federal leases.

Response: In Sections 2.4.1 (BLM Alternative Summary) and 2.4.2 (BIA Alternative Summary) of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA state in the Management Common to All Alternatives section that, under all alternatives, they would comply with state and federal laws, regulations, policies, and standards and would implement actions originating from laws, regulations, and policies.

The BLM and BIA have reviewed all actions in the Draft Joint EIS/BLM RMP and BIA Integrated RMP for compliance with required laws, regulations, and policies.

Unlike lease stipulations which are legally connected to the standard terms and conditions of a lease contract, lease notices do not alter the standard terms and conditions of a lease contract. Essentially, a lease notice is a ‘buyer beware’ notification (see glossary for further explanation).

Legally binding lease stipulations identifying the specific resource or resource use to be protected would be placed on a proposed lease parcel before the oil and gas lease sale.

The BLM has an obligation to protect migratory birds under Executive Order 13186, the MBTA, and the ESA.

A portion of LN-5 was revised as follows: “The lease or portions of the lease fall within the Central Flyway for Migratory Birds. As defined in the BLM site survey, which will be conducted at the APD stage, the project proponent may be required to follow additional conditions of approval that are developed to mitigate impacts on migratory birds under the Migratory Bird Treaty Act and on USFWS Birds of Conservation Concern.”

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Energy and Minerals: Chapter 4, Section 4.2.2.1 and Section 4.3.13 and Cumulative Impacts for Energy and Minerals Chapter 5, Section 5.4.2.1

Substantive Comment (51): Comment No. 37: The Draft RMP/EIS designates certain portions of the planning area as open subject to major constraints-no surface occupancy. While OIPA-OKOGA recognizes that this land use designation is necessary and appropriate in certain circumstances, BLM should allow for variances that permit temporary occupation of NSO under certain circumstances. Temporary occupancy may be required for water transfer purposes and to conduct seismic surveys or other operations necessary to develop the leasehold. Protective measures can be developed to ensure that temporary occupation would still maintain the objectives identified in the creation of this designation and would not result in unnecessary or undue degradation. Requested Action: BLM should revise the Draft RMP/EIS to specify that variances to NSO stipulations will be allowed, permitting temporary occupancy, in limited circumstances to ensure that necessary operations can be performed.

Response: Decisions for land use allocations have been made to emphasize multiple-use, as required by FLPMA. Additional changes to the no surface occupancy (NSO) stipulation at this time are not needed. The BLM believes the stipulations are adequate and that they comply with relevant statutes and regulations. Most lands classified as open with major stipulations are under the authority of other federal or state surface management agencies; as such, those agencies developed stipulations for land use. The BLM has no authority to change stipulations attached to lands under the administrative authority of other federal or state surface management agencies.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and
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The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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- Energy and Minerals: Chapter 4, Section 4.2.2.1 and Cumulative Impacts for Energy and Minerals Chapter 5, Section 5.4.2.1

Substantive Comment (52): Comment No. 38: The Draft RMP/EIS excludes portions of the planning area from ROWs. Draft RMP/EIS at ES-18. ROWs are essential to efficient, economical and responsible energy development. Operators must be able to access leases, provide power to facilities, and transport oil and gas from the lease. Restrictions on access, pipelines and power lines to leases would limit economic recovery of oil and natural gas resources. Pipelines are also environmentally beneficial because decreased truck traffic results in less long-term surface disturbance. The avoidance and exclusion of ROWs is inconsistent with Executive Order 13783.

Response: The FLPMA requires the BLM to affirmatively plan and manage its resources in combination, in order to support multiple uses now and in the future. The BLM is required to make judicious use of the land and to make periodic adjustments in use to address changing needs and conditions. The BLM is also required to consider the relative values of resources and not necessarily the combination of uses that will give the greatest economic return or the greatest unit output. BLM Handbook H-1601-1, Appendix C, Section E, requires the BLM to identify the following, consistent with the goals and objectives for natural resources in the planning area: ROW avoidance or exclusion areas (areas to be avoided but may be available for ROWs with special stipulations and areas that are not available for ROWs under any conditions). As such, the ROW
avoidance and exclusion areas defined in the Draft Joint EIS/BLM RMP and BIA Integrated RMP are consistent with laws and BLM policies.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Lands and Realty: Chapter 4, Section 4.2.2.5 and 4.3.16 and Cumulative Impacts for Lands and Realty Chapter 5, Section 5.4.2.5

Substantive Comment (53): 1. BLM fails to properly analyze the impact of ROW avoidance and exclusion areas on oil and gas development. Table 2-5 of the Draft RMP/EIS compares the environmental consequences of each alternative analysis. BLM acknowledges that ROW avoidance or exclusion areas vary based on the alternative, but BLM provide no discussion or analysis of whether this impact is necessary. For example, BLM acknowledges that Alternative B would reduce impacts on water resources because more lands would be
managed as ROW exclusions or avoidance areas. Draft RMP/EIS at 2-91. However, BLM does not state that this more restrictive management is necessary to protect resources. Additionally, the Draft RMP/EIS states that Important Bird Areas (IBA) will be managed as ROW avoidance areas. Draft RMP/EIS at 2-48. Table 2-2 indicates that between 9,900 and 14,800 acres would be impacted from ROW avoidance designations, depending on the alternative. Id. However, over 441,000 acres of the planning area are identified as IBAs. Draft RMP/EIS at 3-91-3-92. It is unclear what acreage would actually be designated as ROW avoidance. Regardless, the Draft RMP/EIS does not address how such designations would impact fluid mineral development or whether such designations are necessary. Furthermore, BLM does not have jurisdiction to regulate private land. See Standing Rock Sioux Tribe v. US Army Corps of Eng’rs, 205 F. Supp. 3d 4, 25 (D.D.C. 2016) (Federal agencies do not have jurisdiction over private property owners or on private property where it cannot assert control of the action). Imposing restrictions on use of private property could also diminish investment-backed expectations, exposing BLM to potential Fifth Amendment takings claims. Consequently, BLM cannot and should not designate IBAs as ROW avoidance areas. The overly broad designation of ROW exclusions and avoidance areas is unduly burdensome and inconsistent with the Energy Policy Act of 2005 and BLM policy and guidance.

Response: In Sections 2.4.1 (BLM Alternative Summary) and 2.4.2 (BIA Alternative Summary) of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA state in the Management Common to All Alternatives section that, under all alternatives, they would comply with state and federal laws, regulations, policies, and standards and would implement actions originating from laws, regulations, and policies.

The BLM and BIA have reviewed all actions in the Draft Joint EIS/BLM RMP and BIA Integrated RMP for compliance with required laws, regulations, and policies.

BLM Handbook H-1601-1, Appendix C, Section E, requires the BLM to identify the following, consistent with the goals and objectives for natural resources in the planning area: ROW avoidance or exclusion areas (areas to be avoided but may be available for ROWs with special stipulations and areas that are not available for ROWs under any conditions). Further, as described in Section 2.3 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA followed the BLM’s planning process to develop a reasonable range of alternatives. This was based on input received from the public, cooperating agencies, and interdisciplinary teams. The BLM and BIA developed each alternative to address the planning issues, meet the purpose and need, comply with FLPMA, and meet the BIA’s tribal responsibilities. Management under all alternatives for ROW avoidance and exclusion areas is consistent with laws and BLM policies.

Acres of IBAs presented in Table 2-2 apply to BLM-administered federal mineral estate, whereas acres presented in Chapter 3 show acres of IBAs in the planning area, regardless of surface administration. As stated on page 3-92, “No BLM-administered surface lands in the planning area are IBAs.”

The BLM does have limited jurisdiction over private surface where these areas overlay BLM-administered federal subsurface minerals. Management actions for IBAs are consistent with the BLM’s obligations to protect migratory birds under Executive Order 13186, the MBTA, and the ESA.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land
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- Lands and Realty: Chapter 4, Section 4.2.2.5 and 4.3.16 and Cumulative Impacts for Lands and Realty Chapter 5, Section 5.4.2.5

Substantive Comment (55): BLM does not adequately address valid existing rights. The Draft RMP/EIS states that “preparers of the fluid minerals analysis made the following assumptions: Valid existing leases will be managed under the stipulations in effect when the leases were issues.” Draft RMP/EIS at 4-439. Additionally, the Draft RMP/EIS states that each alternative would preserve valid existing rights, including “leases, claims, or other use authorizations.” Draft RMP/EIS at 2-6. ROWs are critical for operators to access leases, transport oil and gas, and provide power to facilities on leases. If ROWs are not granted for existing leases because of a designated avoidance or exclusion area, a lessee’s valid existing rights would be impacted by the inability to efficiently and effectively operate. BLM must unequivocally state that ROWs will be granted for all existing leases. Requested Actions: 1. The Draft RMP/EIS should not have ROW avoidance or exclusion areas where lands are available to oil and gas leasing, but instead require site-specific planning to minimize impacts to other resource values. 2. The Final RMP and EIS should unequivocally provide that valid existing rights will not be impeded by ROW exclusion or avoidance designations.

Response: The Draft Joint EIS/BLM RMP and BIA Integrated RMP adequately states that valid existing rights will be preserved (e.g., see pages 1-33, 2-6, and 2-12). For existing uses that do not have a valid existing right, such as ROWs, the Joint EIS/BLM RMP and BIA Integrated RMP would not in fact authorize that use;
however, if the use has an existing authorization, the Joint EIS/BLM RMP and BIA Integrated RMP will in no way vacate or modify that authorization.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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- Energy and Minerals: Chapter 4, Section 4.2.2.1 and 4.3.13 and Cumulative Impacts for Energy and Minerals Chapter 5, Section 5.4.2.1
- Lands and Realty: Chapter 4, Section 4.2.2.5 and 4.3.16 and Cumulative Impacts for Lands and Realty Chapter 5, Section 5.4.2.5

Substantive Comment (56): Over 441,000 acres of the planning area are identified as IBAs. Draft RMP/EIS at 3-91-3-92. BLM uses National Audubon Society designations to identify IBAs, without any basis in law or regulation. BLM did not subject these designations to public comment, in violation of NEPA As noted above, BLM does not have jurisdiction to regulate private surface. Prohibiting, or at a minimum restraining, valid activities on private surface is not permissible. Moreover, the imposition of protective
measures on significant areas of land serves as a de facto regulation, which was not subjected to the appropriate procedures required by the Administrative Procedures Act. This designation, and the additional protections imposed in these designated areas are inconsistent with Federal law, including the MBTA.

Requested Action: The Draft RMP/EIS should be revised to remove Important Bird Area designations and other restrictions that are inconsistent with the MBTA.

Response: IBAs are not designated in the Joint EIS/BLM RMP and BIA Integrated RMP; they are a National Audubon Society designation and are included in Section 3.2.6 to help characterize the affected environment for migratory birds. As stated on page 3-92, “No BLM-administered surface lands in the planning area are IBAs.”

The BLM does have limited jurisdiction over private surface where these areas overlay BLM federal subsurface minerals. Management actions for IBAs are consistent with the BLM’s obligations to protect migratory birds under Executive Order 13186, the MBTA, and the ESA.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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• Fish and Wildlife: **Chapter 4, Sections 4.2.1.8 and 4.3.6 and Cumulative Impacts for Special Status Species **Chapter 5, Section 5.4.1.6
• Energy and Minerals: **Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Energy and Minerals **Chapter 5, Section 5.4.2.1

**Substantive Comment (57):** Requested Action: BLM should revise the Draft RMP/EIS to designate the Federal minerals underlying Fort Reno as open for leasing subject to major constraints (no surface occupancy).

**Response:** The ~6,565.21-acres administered by the USDA Agricultural Research Service for grazing research immediately west of El Reno, OK and near Fort Reno, identified in GIS as the 'Southwestern Livestock and Forage Research Station,' has proposed land use allocations of 'OPEN with a NSO stipulation' in Alternatives B and D and 'CLOSED' in Alternative C.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. **Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.**

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- BLM Impacts Analysis: **Chapter 4, Section 4.2 and Cumulative Impacts **Chapter 5, Section 5.4.
Substantive Comment (58): It is vital that BLM properly designate what areas will be open to oil and gas leasing in the Final RMP. The land use designations made will be utilized for future leasing decisions, and uncertainty about what lands are open for leasing or what stipulations apply to lands that are open creates regulatory uncertainty and exposes BLM to litigation risk. Requested Action: BLM must provide a precise description of what lands are open for oil and gas leasing, and what stipulations will apply.

Response: Lands available for leasing are stated in Chapter 2. The Draft Joint EIS/BLM RMP and BIA Integrated RMP explains that “any applicable federal lands along the 116-mile stretch of the Red River between the North Fork of the Red River and the 98th Meridian that will be more specifically identified and mapped when they are surveyed. (No exact acreages of federal lands are available at this time because the full 116-mile stretch has not been surveyed.) Any such survey would be conducted in accordance with applicable law.” Mapping of all federal lands has been conducted in GIS and allocations have been calculated (see Table 2-2).

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- **Energy and Minerals:** Chapter 4, Section 4.2.2.1 and Cumulative Impacts for Energy and Minerals Chapter 5, Section 5.4.2.1

**Substantive Comment (60):** Moreover, BLM provides no analysis describing the need for ROW restrictions to protect other resources. FLPMA does not require beneficial or reduced impacts to resources, rather it mandates that the Secretary prevent unnecessary or undue degradation of the lands. 43 U.S. C. § 1732(b). The Energy Policy Act of 2005 also requires that BLM impose the least restrictive stipulation necessary to protect the resource at issue. 42 U.S.C. § 15922(b)(3)(C). BLM simply cannot impose unnecessarily burdensome ROW restrictions in an effort to reduce impacts where less restrictive measures adequately prevent unnecessary or undue degradation. Requested Action: BLM should remove all proposed ROW restrictions unless it shows that such measures are necessary to prevent unnecessary or undue degradation.

**Response:** The FLPMA requires the BLM to affirmatively plan and manage its resources in combination, in order to support multiple uses now and in the future. The BLM is required to make judicious use of the land and to make periodic adjustments in use to address changing needs and conditions. The BLM is also required to consider the relative values of resources, and not necessarily the combination of uses that will give the greatest economic return or the greatest unit output. BLM Handbook H-1601-1, Appendix C, Section E, requires the BLM to identify the following, consistent with the goals and objectives for natural resources in the planning area: ROW avoidance or exclusion areas (areas to be avoided but that may be available for ROWs with special stipulations and areas that are not available for ROWs under any conditions). As such, the ROW avoidance and exclusion areas defined in the Draft Joint EIS/BLM RMP and BIA Integrated RMP are consistent with laws and BLM policies.

All of the proposed alternatives provide for some level of development of mineral and renewable energy resources, consistent with BLM’s multiple use mandate and FLPMA; as such, all alternatives comply with the Energy Policy Act of 2005. Only an alternative that would prevent development across all BLM-administered or BIA-managed lands would be inconsistent with the Energy Policy Act of 2005; this was dismissed from further analysis in Section 2.5.2 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP.

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- Lands and Realty: Chapter 4, Sections 4.2.2.5 and 4.3.16 and Cumulative Impacts for Lands and Realty Chapter 5, Section 5.4.2.5

Substantive Comment (61): The Draft RMP/EIS repeatedly states that reclamation is required. Draft RMP/EIS at 2-6 (each alternative promotes rapid reclamation); 2-62 (requiring reclamation plan for non-agriculture leases); 2-89 (authorized disturbances require reclamation plans); D-14 (requirement that operators show how successful reclamation would be required). First, the Draft RMP/EIS needs to include a discussion acknowledging that the agency does not have authority to regulate reclamation on privately-owned or tribal surface. See supra § V.B. Second, BLM appropriately requires site-specific reclamation actions that “reflect the environmental concerns and reclamation potential of the site.” Draft RMP/EIS at 2-89. However, BLM states that if avoidance of sensitive soils is unattainable, the operator must submit an operation plan that, amongst other things, shows how the area will be successfully reclaimed. Draft RMP/EIS at D-14. Unfortunately, the Draft RMP/EIS provides no description, criteria or assessment of successful reclamation. This open-ended requirement subjects BLM to unnecessary disputes and inconsistent application. Rather than impose an undefined and subjective “successful reclamation showing” before such activity even occurs, BLM should require operators to adhere to Oklahoma Corporation Commission reclamation requirements or demonstrate that the operator’s best management practices will prevent unnecessary or undue degradation of the lands, as required by FLPMA Requested Action: 1. BLM should include a discussion in the Final RMP and EIS acknowledging that it does not have to regulate reclamation on privately-owned or tribal surface. 2. BLM should include a discussion in the Final RMP and EIS stating that reclamation on BLM-managed surface must adhere to Oklahoma Corporation Commission, or operators must demonstrate that best management practices will prevent unnecessary or undue degradation of resource values.

Response: The BLM does have authority to require reclamation and restoration on split-estate, federal, and tribal lands within the surface use plan of operations in the APD. Text has been clarified in chapter 2,
page 2-6 “...where specifically authorized under laws regulations or policy.” The reclamation text on page 2-62 applies to BIA management not BLM and is appropriate. CSU-1 in the Final Joint EIS/BLM RMP and BIA Integrated RMP has been revised to clarify that federal and state reclamation mandates would be adhered to.

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- Treaty Rights and Tribal Interests: **Chapter 4**, Sections 4.2.4.1 and 4.3.21 and Cumulative Impacts on Treaty Rights and Tribal Interests: **Chapter 5**, Section 5.4.4
- Energy and Minerals: **Chapter 4**, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Energy and Minerals **Chapter 5**, Section 5.4.2.1
- Lands and Realty: **Chapter 4**, Sections 4.2.2.5 and 4.3.16 and Cumulative Impacts for Lands and Realty **Chapter 5**, Section 5.4.2.5
Submitter: Center For Biological Diversity

Submission Number: 14

Substantive Comment (1): This letter specifically addresses new information supporting a ban on fracking and oil and gas leasing on public lands in Oklahoma and Texas, which we urge BLM to adopt in the new EIS/RMP.

Response: In the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM considered a range of alternatives designed to meet its legal duties and purpose and need for action. According to the CEQ regulations and the DOI NEPA regulations, “[t]he range of alternatives includes those reasonable alternatives (paragraph 46.420(b)) that meet the purpose and need of the proposed action, and address one or more significant issues (40 CFR 1501.7(a)(2–3)) related to the proposed action. Since an alternative may be developed to address more than one significant issue, no specific number of alternatives is required or prescribed” (43 CFR 46.415(b)). Section 1.4.1, page 1-23, clearly states that “the purpose of this RMP is to ensure that BLM-administered lands in the planning area are managed in accordance with the multiple-use and sustained-yield principles mandated by the FLPMA (43 US Code [USC] 1702).” A no-leasing or no-fracking alternative would not meet the purpose and need, so was not considered (see Section 2.5.2).

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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• **Energy and Minerals**: Chapter 4, Section 4.2.2.1, and Cumulative Impacts for Energy and Minerals Chapter 5, Section 5.4.2.1

**Substantive Comment (2)**: One issue that has never been considered by either Oklahoma or Texas RMP is the impact of fossil fuel production on climate change. A growing body of studies shows that to avoid the worst effects of climate change and stay within scientifically advised temperature limits, drastic and immediate cuts in greenhouse gas emissions are needed. Indeed, there is no room for new fossil fuel extraction, and even oil and gas production in currently operating fields must be phased out. Opening up new areas of public lands to oil and gas leasing and high-volume hydraulic fracturing or “fracking” would undermine efforts to reduce emissions to scientifically-advised limits.

**Response**: The BLM and BIA used the most recent and best information available that was relevant to a land use planning-level analysis. The agencies consulted with other agencies and sources and collected, and incorporated data from them; some of these are the US Fish and Wildlife Service (USFWS), state agencies, local governments, and Native American tribes. As a result of these actions, the BLM and BIA gathered the data necessary to make a reasoned choice among the alternatives analyzed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP (see Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts). As a result, the BLM and BIA have taken a hard look, as required by the NEPA (40 CFR 1502.16), at the environmental consequences of the alternatives in the Draft Joint EIS/BLM RMP and BIA Integrated RMP. This was to enable informed decision-making.

The CEQ regulations require an EIS to “succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. The description shall be no longer than is necessary to understand the effects of the alternatives. Data and analyses in a statement shall be commensurate with the importance of the impact, with less important material summarized, consolidated, or simply referenced. Agencies shall avoid useless bulk in statements and shall concentrate effort and attention on important issues” (40 CFR 1502.15).

The BLM and BIA complied with these regulations in describing the affected environment. The requisite level of information necessary to make a reasoned choice among the alternatives in an EIS is based on the scope and nature of the proposed action. The analysis provided in Chapter 3, Affected Environment, and various appendices in the Draft Joint EIS/BLM RMP and BIA Integrated RMP is sufficient to support, at the general land use planning-level of analysis, the environmental impact analysis of management actions in the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP.

Impacts on climate change are analyzed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP and incorporated into the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP, beginning on page 4-22. This includes a quantification of GHG emissions from oil and gas and coal mining. Cumulative impacts on climate change are analyzed, beginning on page 5-33 and the BLM relied on the best available scientific information, documented further in Appendix K, Air Quality Modeling with CAMs Report, and Appendix G, the Greenhouse Gas Emissions and Climate Change Report.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of
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- BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.
- Climate Change: Chapter 4, Section 4.2.1.3 and Cumulative Impacts for Air Resources, Chapter 5, Section 5.4.1.1

Substantive Comment (3): For reasons set forth in this letter, we urge BLM to cease all new leasing of fossil fuels in the planning area, including oil and natural gas. We also urge BLM to prepare a full and thorough EIS that considers the significant unexamined impacts from the consequences of fossil fuel leasing. The EIS should consider a full range of alternatives, including: (1) an alternative that closes the entire planning area to oil and gas leasing; (2) an alternative that bans new hydraulic fracturing and other unconventional well stimulation activities, and require strict controls on natural gas emissions and leakage; and (3) an alternative that bans all oil and gas activities, or at minimum fracking, beneath and around dams and reservoirs in the planning area, in light of new studies recommending these buffers.

Response: In the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM considered a range of alternatives designed to meet its legal duties and purpose and need for action. According to the CEQ regulations and the DOI NEPA regulations, “[t]he range of alternatives includes those reasonable alternatives (paragraph 46.420(b)) that meet the purpose and need of the proposed action, and address one or more significant issues (40 CFR 1501.7(a)(2–3)) related to the proposed action. Since an alternative may be developed to address more than one significant issue, no specific number of alternatives is required or
O. Comment Summary and Response Report (Comment Categories, Summaries, and Responses)

prescribed” (43 CFR 46.415(b)). Section 1.4.1, page 1-23, clearly states that “the purpose of this RMP is to ensure that BLM-administered lands in the planning area are managed in accordance with the multiple-use and sustained-yield principles mandated by the FLPMA (43 USC 1702).” A no-leasing alternative would not meet the purpose and need, so it was not considered (see Section 2.5.2).

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2 and Cumulative Impacts Chapter 5, Section 5.4.
- Energy and Minerals: Chapter 4, Section 4.2.2.1 and Cumulative Impacts for Energy and Minerals Chapter 5, Section 5.4.2.1
- Water Resources: Chapter 4, Sections 4.2.1.6 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4.
- Air Resources, Chapter 4, Section 4.2.1.1 and Cumulative Impacts for Air Resources, Chapter 5, Section 5.4.1.1
- Air Quality, Chapter 4, Section 4.2.1.2.
- Climate Change: Chapter 4, Section 4.2.1.3
Substantive Comment (5): The DEIS does not Satisfy the National Environmental Policy Act’s (“NEPA”) “Hard Look” Requirement The DEIS as prepared is unlawfully deficient, as it omits several significant environmental consequences of oil and gas development in the planning area, and fails to consider new information that has arisen over the last two decades, which we discussed in the attached 2017 and 2018 Lease Sale Scoping Comments and Supplemental Protest. This includes information about fracking and wastewater-disposal induced seismicity, the effect of fracking on water resources, climate change, and greenhouse gas emissions.

Response: The requisite level of information necessary to make a reasoned choice among the alternatives in an EIS is based on the scope and nature of the proposed decisions. As the EIS analyzes land use planning-level decisions, which by their nature are broad in scope, the requisite level of data and information is more generalized. This is done so as to apply to a wide-ranging landscape perspective. Although the BLM and BIA realize that more data, and more site-specific data, could always be gathered, the data and analysis methods used in the EIS provide the necessary basis to make informed land use planning-level decisions.

The BLM and BIA considered the availability of data from all sources, the adequacy of existing data, data gaps, and the type of data necessary to support informed management decisions at the land use planning-level. The data needed to support broad-scale analysis of the planning area are substantially different from the data needed to support site-specific project analysis. The Final Joint EIS/BLM RMP and BIA Integrated RMP data and information are presented in map and table form and are sufficient to support the broad-scale analyses required for land use planning.

The BLM and BIA used the most recent and best information available that was relevant to a land use planning-level analysis. The agencies consulted with other agencies and sources and collected, and incorporated data from them; some of these are the US Fish and Wildlife Service (USFWS), state agencies, local governments, and Native American tribes. As a result of these actions, the BLM and BIA gathered the data necessary to make a reasoned choice among the alternatives analyzed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP (see Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts). As a result, the BLM and BIA have taken a hard look, as required by the NEPA (40 CFR 1502.16), at the environmental consequences of the alternatives in the Draft Joint EIS/BLM RMP and BIA Integrated RMP. This was to enable informed decision-making.

The CEQ regulations require an EIS to “succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. The description shall be no longer than is necessary to understand the effects of the alternatives. Data and analyses in a statement shall be commensurate with the importance of the impact, with less important material summarized, consolidated, or simply referenced. Agencies shall avoid useless bulk in statements and shall concentrate effort and attention on important issues” (40 CFR 1502.15).

The BLM and BIA complied with these regulations in describing the affected environment. The requisite level of information necessary to make a reasoned choice among the alternatives in an EIS is based on the scope and nature of the proposed action. The analysis provided in Chapter 4, Environmental Consequences, and various appendices in the Draft Joint EIS/BLM RMP and BIA Integrated RMP is sufficient to support, at the general land use planning-level of analysis, the environmental impact analysis of management actions in the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP (see section 4.2.1.2 Geology, 4.2.1.4, Water Resources, 4.2.1.5 Vegetation, 4.2.1.6 Fish and Wildlife. and 4.2.4.2 Public Health and Safety).

When an agency is drafting an EIS, NEPA does not impose substantive obligations on it; rather, NEPA simply requires that an agency take a hard look at the environmental consequences of its decision-making. See Robertson v. Methow Valley Citizens Council, 490 US 322, 350 (1989); and Friends of Animals v. Bureau of Land Mgmt., 2018 WL 1612836, at *11 (D. Or. Apr. 2, 2018): “Thus, the Ninth Circuit has affirmed that the
important question is whether the agency has taken a hard look at the environmental impacts of a proposed action.” This hard look includes determining whether the agency adequately evaluated all potential environmental impacts of the proposed action, analyzed all reasonable alternatives to the proposed action, and identified and disclosed to the public all foreseeable impacts of the proposed action (42 USC 4332(2)(C)). If, after it completes an EA, “an agency determines that the contemplated federal action will not significantly affect the environment, the federal agency may issue a finding of no significant impact [‘FONSI’] . . . in lieu of preparing an EIS” (Friends of Animals, 2018 WL 1612823, at *2 [quoting Native Ecosystems Council v. Tidwell, 599 F.3d 926, 937 (9th Cir. 2010)]).

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impact Analysis, Chapter 4, Section 4.3, and Cumulative Impacts Chapter 5, Section 5.4.
- Water Resources: Chapter 4, Sections 4.2.1.6 and Section 4.3.4 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4.
- Air Resources, Chapter 4, Sections 4.2.1.1 and 4.3.1 and Cumulative Impacts for Air Resources, Chapter 5, Section 5.4.1.1
- Air Quality, Chapter 4, Section 4.2.1.2.
- Climate Change: Chapter 4, Section 4.2.1.3
**Substantive Comment (6):** NEPA requires agencies to undertake thorough, site-specific environmental analysis at the earliest possible time and prior to any “irretrievable commitment of resources” so that the action can be shaped to account for environmental values. Pennaco Energy, Inc. v. United States DOI, 377 F.3d 1147, 1160 (10th Cir. 2004). Oil and gas leasing is an irretrievable commitment of resources. S. Utah Wilderness All. v. Norton, 457 F. Supp. 2d 1253, 1256 (D. Utah 2006). Thus, NEPA establishes “action-forcing” procedures that require agencies to take a “hard look,” at “all foreseeable impacts of leasing” before leasing can proceed. N.M. ex rel. Richardson v. BLM, 565 F.3d 683, 717 (10th Cir. 2009). Chief among these procedures is the preparation of an environmental impact statement (“EIS”). Id. BLM must conduct site-specific analysis of developing oil and gas minerals in the areas it proposes to keep open to oil and gas leasing. For example, in our 2018 Lease Sale Scoping Comments, incorporated here by reference, we pointed out numerous foreseeable, significant impacts likely to be caused by the exploration and development of lands in and around Choke Canyon Reservoir near Three Rivers, Texas. Oil and gas development in this area is reasonably foreseeable and ample information exists to inform site-specific analysis. For example, Choke Canyon Reservoir (and other areas within the planning area) are within the booming Eagle Ford Shale Play,1 [1 See Texas Railroad Commission, Eagle Ford Shale Play Map (Feb. 2017) (map showing Eagle Ford Shale Play spans Washington, Live Oak, Lee, and Burleson counties, in which proposed lease parcels are located). A flashdrive of all references and exhibits cited in this letter has been delivered to your office. ] in which horizontal drilling and fracking are the prevalent means of extraction.2 [2 Texas Railroad Commission, Eagle Ford Shale Task Force Report, 3-6 (2013) (noting enormous development potential of Eagle Ford unlocked by improved horizontal drilling and fracking techniques). ] The Austin Chalk (which overlies the Eagle Ford formation) is also an emerging play that has become economically feasible to develop given new horizontal drilling and multi-stage fracking technologies. Moreover, a recent draft Bureau of Reclamation study addressing the effects of oil and gas development proposed around Choke Canyon Reservoir and best management practices to mitigate those effects, provides detailed figures as to typical well pad size, surface disturbance, horizontal well bore lengths and orientation, water use, unique soil properties and associated air and water pollution hazards, abandoned wells, and other risk factors and effects of fracking in the Eagle Ford Shale.3 [3 U.S. Bureau of Reclamation, [Draft Final] Best Management Practices: Hydrocarbon Exploration, Development, and Production at Nueces River Project, Choke Canyon Reservoir, Texas, Chapter 1 (Aug. 2015) (“BoR Study”). ] The much more detailed analysis provided in this study is a stark contrast to BLM’s cursory DEIS. In addition, the Texas Railroad Commission tracks production levels and target formations for individual counties and oil and gas fields, such that reasonable projections of oil and gas production levels, transportation impacts, air emissions, and other impacts are feasible.4 [4 Eagle Ford Shale Task Force Report at 4-5 (showing total barrels of oil, condensate, and gas, produced per day in Eagle Ford Shale, number of wells, and “windows” for oil, wet gas, and dry gas extraction).] In addition, the EA for BLM’s December 2018 Texas lease sale projects that 53 wells could be developed around Choke Canyon Reservoir by assuming that 8 horizontal wells would be developed for every 640 acres of minerals leased, or 1 well for every 80 acres.5 [5 BLM, Draft EA for December 2018 Competitive Oil and Gas Lease Sale, Oklahoma Field Office (October 2018), available at https://eplanning.blm.gov/epl-front-office/projects/nepa/110573/160355/196053/December2018_OGLS_DRAFT_EA_2018-1022.pdf.] BLM therefore has enough information to perform an analysis of the impacts of fracking at Choke Canyon and other areas in the planning area, in which oil and gas leasing is expected.

**Response:** In Sections 2.4.1 (BLM Alternative Summary) and 2.4.2 (BIA Alternative Summary) of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA state in the Management Common to All Alternatives section that, under all alternatives, they would comply with state and federal laws, regulations, policies, and standards and would implement actions originating from laws, regulations, and policies.
The BLM and BIA have reviewed all actions in the Draft Joint EIS/BLM RMP and BIA Integrated RMP for compliance with required laws, regulations, and policies.

When an agency drafts an EIS, NEPA does not impose substantive obligations on it; rather, NEPA simply requires that an agency take a hard look at the environmental consequences of its decision-making. See Robertson v. Methow Valley Citizens Council, 490 US 322, 350 (1989); and Friends of Animals v. Bureau of Land Mgmt., 2018 WL 1612836, at *11 (D. Or. Apr. 2, 2018): “Thus, the Ninth Circuit has affirmed that the important question is whether the agency has taken a hard look at the environmental impacts of a proposed action.” This hard look includes determining whether the agency adequately evaluated all potential environmental impacts of the proposed action, analyzed all reasonable alternatives to the proposed action, and identified and disclosed to the public all foreseeable impacts of the proposed action (42 USC 4332(2)(C)).

If, after it completes an EA, “an agency determines that the contemplated federal action will not significantly affect the environment, the federal agency may issue a finding of no significant impact [‘FONSI’] . . . in lieu of preparing an EIS” (Friends of Animals, 2018 WL 1612823, at *2 [quoting Native Ecosystems Council v. Tidwell, 599 F.3d 926, 937 (9th Cir. 2010)]).

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:
Substantive Comment (7): However, the Reasonably Foreseeable Development Scenario for the planning area does not appear to project the number of new oil and gas wells that could be added to each local area of the planning area where oil and gas leasing is expected. It provides no breakdown of projected number of wells between states or shale plays or geographic regions. Instead, it simply provides a projection of wells over time for the entire planning area. This provides no sense of the particular areas subject to federal oil and gas leasing that are likely to see increased oil and gas development and fracking in the future. Given the extremely large area covered by the RMP, more localized projections are needed for the public to understand the specific areas where oil and development is likely to occur, and at what levels.

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

The RFDS (see Appendix I of the Draft Joint EIS/BLM RMP and BIA Integrated RMP) was based on a reasonable, technical, and scientific estimate of anticipated oil and gas activity and on the best information and data available at the time of the study. The BLM developed the RFDS to support the planning level analysis in the Joint EIS/BLM RMP and BIA Integrated RMP. Projections for future oil and gas production out to 2040 are provide in charts 44-49 of the RFD (Appendix I).

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use
allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2, and BIA Impacts Analysis: Chapter 4, Section 4.3
- Energy and Minerals: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Energy and Minerals Chapter 5, Section 5.4.2.1

Substantive Comment (8): BLM Should Consider Increased Seismicity Risk and Other Geological Hazards from Fracking The proliferation of unconventional oil and gas development, including increases in extraction and injection, will increase earthquake risk in Oklahoma, Kansas, and Texas. Accordingly, the EIS/RMP must fully assess the risk of induced seismicity caused by all unconventional oil and gas extraction and injection activities, including fracking and wastewater injection wells. Research has shown that in regions of the central and eastern United States where unconventional oil and gas development has proliferated in recent years, atypical earthquake activity has been documented extensively.6 [6 Ellsworth, W.L. Injection-Induced Earthquake, Science 341 (2013); Keranen, Katie et al., Potentially Induced Earthquakes in Oklahoma, USA: Links Between Wastewater Injection and the 2011 Mw5.7 Earthquake Sequence, Geology doi:10.1130/G34045.1 (March 26, 2013).] There, earthquake count has increased dramatically over the last decade, with more than 300 earthquakes with magnitude (M) >3 between 2010 through 2012, or an average of 100 events/year, compared with an average of 21 per year between 1967 and 2000.7 [7 Ellsworth 2013.] This surge of activity includes a magnitude 5.7 earthquake that struck Oklahoma in 2011, in close proximity to active fracking wastewater wells, 8 [8 Keranen, Katie M. et al., Potentially Induced Earthquakes in Oklahoma, USA: Links Between Wastewater Injection and the 2011 Mw 5.7 Earthquake Sequence, Geology 699 (2013).] and a 5.8 magnitude quake on September 3, 2016 that proved to be the most powerful earthquake ever recorded in Oklahoma.9 [9 Chen, Xiaowei et al., The Pawnee earthquake as a result of the interplay among injection, faults and aftershocks, Nature Scientific Reports 4945 (2017).] Research has linked much of the increased earthquake activity and several of the largest earthquakes in the U.S.
midcontinent in recent years to the disposal of wastewater into deep injection wells, which is well-established to pose a significant seismic risk. With increasing water use for fracking operations, wastewater injection volumes will surely increase and increase the risk of earthquakes. The injected fluids push stable faults past their tipping points, and thereby induce earthquakes. Disposal of fracking wastewater in Class II wells has been associated with earthquakes in several US states, including Oklahoma, Colorado, New Mexico, Arkansas, and Ohio. EPA 2016 HF Study, p. 8-25.) Horton attributed an earthquake swarm in northern Arkansas to fracking wastewater injection. Disposal of hydrofracking waste fluid by injection into subsurface aquifers triggers earthquake swarm in central Arkansas with potential for damaging earthquake. 83 Seismological Research Letters 250 (2012.) In the Raton Basin of southern Colorado and northern New Mexico, Rubinstein et al. (2014) presented evidence linking injection well disposal of produced water to seismic events. 14 Rubinstein, et al., The 2001-present induced earthquake sequence in the Raton Basin of northern New Mexico and southern Colorado, 104 Seismological Society of America Bulletin 2162 (2014.) Weingarten et al. (2015), in a study evaluating seismicity in multiple states, found a relationship between Class II wells and seismicity. 15 Weingarten, et al., Induced seismicity. High-rate injection is associated with the increase in U.S. mid-continent seismicity. 348 Science 1336 (2015.) In the panhandle regions of Oklahoma and Texas, all known earthquakes have occurred since petroleum development began between 1910 and 1920, suggesting induced seismicity. 16 16 Walter, et al., Natural and Induced Seismicity in the Texas and Oklahoma Panhandles, Seismological Research Letters (2018.) The likelihood of this has only worsened as in the 21st century, there are oil and gas wells covering nearly the entire eastern Panhandle region of Texas. In this region and western Oklahoma, recent earthquake activity occurs where historical large earthquakes are absent. There are now earthquakes that coincide with high-rate wastewater disposal wells and hydraulic fracturing. Thus, the record indicates that some Panhandle earthquakes are natural in origin, but some are probably induced, especially in the eastern Panhandle. Consistent evidence leads to the conclusion that disposal of wastewater from the production of oil and gas by deep injection is the probable cause of the surge of seismicity beginning in 2013 in Southern Kansas. 17 Rubinstein, et al., The 2013-2016 Induced Earthquakes in Harper and Sumner Counties, Southern Kansas, 108 Bulletin of the Seismological Society of America 674 (2018.) Seismicity correlates both in space and time with injection. From 1974 to the time of injection increase in 2012, no magnitude 4 or larger earthquakes occurred in Harper and Sumner counties. However, 6 large earthquakes occurred between 2012 and 2016 after the increase in injection activity.

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentified until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be
undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

Hydraulic fracturing is an implementation-level action; however, the potential for induced seismicity as a result of wastewater injection is discussed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP in Section 4.2.1.2, Environmental Consequences (BLM Geology). Future wastewater injection associated with oil and gas development may continue to cause seismic events in the planning area; however, it is extremely difficult to predict specific rates and locations of induced seismic events (Petersen et al. 2015). Risks of induced seismicity will be evaluated at the leasing and permitting stage, should a parcel be leased and a development proposal submitted. The state agency is the permitting authority on this issue. Risks will be evaluated using United States Geological Survey (USGS)-identified areas of higher seismic risk and, in Oklahoma, the Corporation Commission’s decisions and guidance (see Appendix I, Reasonably Foreseeable Development Scenario, for additional discussion).

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.
Substantive Comment (9): The mechanisms linking wastewater injection and earthquakes are understood: injection-induced increases in fluid pressure within aquifers and fault lubrication by injected fluids have the potential to destabilize well bores and cause preexisting faults to slip.18 [18 Brodsky, Emily and Lisa J. Lajoie, Anthropogenic Seismicity Rates and Operational Parameters at the Salton Sea Geothermal Field, 341 Science (2013); Davies, Richard et al., Induced Seismicity and Hydraulic Fracturing for the Recovery of Hydrocarbons, 45 Marine and Petroleum Geology 171 (2013).]

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

Wastewater injection is an implementation-level action; however, the potential for induced seismicity as a result of wastewater injection is discussed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP in Section 4.2.1.2, Environmental Consequences (BLM Geology). Future wastewater injection associated with oil and gas development may continue to cause seismic events in the planning area; however, it is extremely difficult to predict specific rates and locations of induced seismic events (Petersen et al. 2015). Risks of induced seismicity will be evaluated at the leasing and permitting stage, should a parcel be leased and a development proposal submitted. The state agency is the permitting authority on this issue. Risks will be evaluated using USGS-identified areas of higher seismic risk and, in Oklahoma, the Corporation Commission’s decisions and guidance (see Appendix I, Reasonably Foreseeable Development Scenario, for additional discussion).

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed
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- Water Resources: Chapter 4, Sections 4.2.1.6 and 4.3.4 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4
- Geology (Geologic Hazards): Chapter 4, Sections 4.2.1.4 and 4.3.2 and Cumulative Impacts for Geology, Chapter 5 Section 5.4.1.2
- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and Section 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (10): Injection-induced earthquakes pose a threat to public health both through the inherent destructiveness of earthquakes and the potential for earthquakes to jeopardize the integrity of oil and gas wells and create new pathways for fluid flow. New pathways for fluid flow could bring wastewater fluids or oil and gas into contact with the ground or surface water on which so many rely.
Response: According to the USGS,\(^3\) disposal of waste fluids that are a byproduct of oil production is the primary cause of the recent increase in earthquakes in the central United States. Seismicity can be induced at distances of 10 miles or more from and at significantly greater depths than the injection point. Properly constructed wells prevent drilling fluids, hydraulic fracturing fluids, deep saline formation waters, and oil and gas from entering aquifers.

Hydraulic fracturing processes and monitoring protocols are developed and instituted by state agencies. Additional references to the Kansas Corporation Commission and Oklahoma Corporation Commission on regulatory devices for injection wells and monitoring involved with hydraulic fracturing were added to Section 4.2.1.2.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by its policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of that document presents potential impacts on the human and natural environment from implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in that chapter are plan-level resource management decisions that do not result in direct, on-the-ground changes. Plan-level decisions establish land use allocations identifying resources uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation-level decisions.

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Substantive Comment (11): In addition, new studies have shown that fracking and not just wastewater injections can induce earthquakes. Induced seismicity has been linked to fracking events in Ohio, Oklahoma, and Canada.19 [19 Arenschield, Laura, Study ties 77 Ohio earthquakes to two fracking wells, Columbus Dispatch (Jan. 8, 2015) (“Arenschield 2015”), available at http://www.dispatch.com/content/stories/local/2015/01/08/research-ties-ohio-quakes-to-fracking.html; Skoumal, Richard, et al., Earthquakes Induced by Hydraulic Fracturing in Poland Township, Ohio (2015), available at http://www.bssaonline.org/content/early/2015/01/01/0120140168.abstract; Soraghan, Mike, Okla. officials link some quakes to fracking, E&E News Energywire (Dec. 12, 2016), available at http://www.eenews.net/energywire/stories/1060047006/; Gronewold, Nathaniel, New research suggests fracking triggered active faults, E&E News Energywire (November 28, 2016), available at http://www.eenews.net/energywire/stories/1060046240/; Mahani, Alireza B. et al., 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, 107 Bulletin of the Seismological Soc’y of Am. 542 (2017).] A 2015 study showed that 77 earthquakes occurring in March 2014 near Youngstown, Ohio triggered a microfault previously unknown to operators and regulators, including a magnitude 3.0 earthquake.20 [20 Arenschield 2015.] Fracking has been inferred to trigger the majority of injection-induced earthquakes in western Canada.21 [21 Bao, X. and Eaton, D.W., Fault activation by hydraulic fracturing in western Canada, Science 10.1125/science.aag2583 (2016).]

Response: State agencies develop and institute hydraulic fracturing processes and monitoring protocols. In Section 4.2.1.2, the BLM inserted additional references to the Kansas Corporation Commission and Oklahoma Corporation Commission on regulatory devices for injection wells and monitoring involved with hydraulic fracturing.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by its policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of that document presents potential impacts on the human and natural environment from implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in that chapter are plan-level resource management decisions that do not result in direct, on-the-ground changes. Plan-level decisions establish land use allocations identifying resources uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation-level decisions.

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- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and Section 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (12): One area the EIS needs to focus on is increased manmade earthquake risks near Choke Canyon Reservoir. Our supplemental protest of the December 2018 lease sale discussed the January 26-27, 2019 earthquakes that occurred at Choke Canyon Reservoir, which was likely a result of fracking and wastewater disposal. BLM must disclose in the EIS the history of earthquake activity at Choke Canyon; analyze recent earthquakes in this area and their probable cause; and analyze to what extent increased oil and gas activity here may worsen seismic risks and impact the safety of Choke Canyon Dam. It must also disclose any risks to water contamination and downstream communities, which could result from increased seismic activity (see 2018 Lease Sale Scoping Comments at pp. 8-18).

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions when project-level reviews are tiered to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).
Hydraulic fracturing and wastewater disposal are implementation-level actions; however, the potential for induced seismicity as a result of wastewater injection is discussed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP in Section 4.2.1.2, Environmental Consequences (BLM Geology). Future wastewater injection associated with oil and gas development may continue to cause seismic events in the planning area; however, it is extremely difficult to predict specific rates and locations of induced seismic events (Petersen et al. 2015). Risks of induced seismicity will be evaluated at the leasing and permitting stage, should a parcel be leased and a development proposal submitted. The state agency is the permitting authority on this issue. Risks will be evaluated using USGS-identified areas of higher seismic risk and, in Oklahoma, the Corporation Commission decisions and guidance (see Appendix I, Reasonably Foreseeable Development Scenario, for additional discussion).

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The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS realization. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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- Water Resources: Chapter 4, Sections 4.2.1.6 and 4.3.4 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4
- Geology (Geologic Hazards): Chapter 4, Sections 4.2.1.4 and 4.3.2 and Cumulative Impacts for Geology, Chapter 5 Section 5.4.1.2
• Public Health and Safety: **Chapter 4, Sections 4.2.4.2 and Section 4.3.22** and Cumulative Impacts for Public Health and Safety **Chapter 5, Section 5.4.4.2**

**Substantive Comment (13):** In light of these risks, a recent study that outlines a framework for risk assessment to analyze potential harm to sensitive infrastructure from induced seismicity in Canada, recommends an “exclusion zone within a 5 km radius (in horizontal space) surrounding vulnerable high-consequence facilities… and monitoring and response protocol to ensure that activity rates beyond the exclusion zone, to approximately 25 km, are kept below a specified limit.”22 [22 Atkinson, Gail, Strategies to prevent damage to critical infrastructure due to induced seismicity. Department of Earth Sciences, Western University, Canada (2017) (“Atkinson 2017”), available at http://www.inducedseismicity.ca/wp-content/uploads/Atkinson2017-FACETS.pdf.] The study stresses that these recommendations are meant to address induced seismicity from the hydraulic fracturing process, and that wastewater disposal wells may require a larger exclusion zone of 10 km.23 [23 Id.] BLM should consider the potential for manmade earthquakes to impact sensitive infrastructure such as pipelines, bridges, and dams in and around the planning area. BLM should also adopt these recommended exclusion zones for all lakes and dams in the planning area in the form of stipulations to be attached to oil and gas leases. These exclusion zones should limit both fracking activities and wastewater disposal/injection activities near dams and lakes.

**Response:** Stipulations for lakes and dams in the planning area are defined by other surface management agencies. For example, USACE special stipulation CE-SS 1-A (USACE special stipulation I-A) requires a 3,000-foot-wide buffer zone around all dams, spillways, and embankments. The BLM has no authority over the surface estate managed by these agencies.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by its policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. **Chapter 4** of that document presents potential impacts on the human and natural environment from implementing a reasonable range of alternatives presented in **Chapter 2.** The land use allocations and resource management goals, objectives and actions described in that chapter are plan-level resource management decisions that do not result in direct, on-the-ground changes. Plan-level decisions establish land use allocations identifying resources uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation-level decisions.

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**Chapter 4**, Environmental Consequences, and **Chapter 5**, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated within each proposed alternative presented in **Chapter 2**. The Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

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- **Geology (Geologic Hazards)**: **Chapter 4, Sections 4.2.1.4** and **4.3.2** and Cumulative Impacts for Geology, **Chapter 5 Section 5.4.1.2**
- **Public Health and Safety**: **Chapter 4, Sections 4.2.4.2** and **Section 4.3.22** and Cumulative Impacts for Public Health and Safety **Chapter 5, Section 5.4.4.2**

**Substantive Comment (14)**: The draft EIS/RMP cursorily dismisses the potential for earthquake impacts, noting that “induced seismicity as a result of this activity is difficult to estimate at the planning stage. It is best to evaluate possible impacts when there is an application for a permit to drill.”24 [24 Bureau of Land Management, Oklahoma Field Office, Draft Joint EIS/RMP and BIA Integrated RMP (2018) at 51 (“BLM Oklahoma Field Office Draft EIS/RMP 2018”).] But BLM already knows the areas in which operators have interest and have projected where and how many wells will be developed throughout the planning area. Further, it will be too late for the agency to evaluate potential impacts from induced seismicity when there is an application for a permit to drill after lease rights are granted. And past practice shows BLM has failed to analyze these impacts at the leasing stage. The DEIS’s bare analysis is not sufficient to determine whether or not significant geological hazards will or will not occur in the planning area, including areas like Choke Canyon Reservoir, Somerville Lake, and Lake Canton, where oil and gas operators have leased federal minerals in recent years. BLM needs to make sure the EIS/RMP thoroughly assesses geological hazards and increased seismicity risks at the planning stage, for individual regions where increased federal oil and gas development is reasonably expected, including the Eagle Ford shale, Barnett shale, and oil and gas plays in Oklahoma.

**Response**: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions when project-level reviews are tiered to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

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Hydraulic fracturing and wastewater disposal are implementation-level actions; however, the potential for induced seismicity as a result of wastewater injection is discussed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP in Section 4.2.1.2, Environmental Consequences (BLM Geology). Future wastewater injection associated with oil and gas development may continue to cause seismic events in the planning area; however, it is extremely difficult to predict specific rates and locations of induced seismic events (Petersen et al. 2015). Risks of induced seismicity will be evaluated at the leasing and permitting stage, should a parcel be leased and a development proposal submitted. The state agency is the permitting authority on this issue. Risks will be evaluated using USGS-identified areas of higher seismic risk and, in Oklahoma, the Corporation Commission decisions and guidance (see Appendix I, Reasonably Foreseeable Development Scenario, for additional discussion). State agencies develop and institute hydraulic fracturing processes and monitoring protocols. In Section 4.2.1.2, the BLM inserted additional references to the Kansas Corporation Commission and Oklahoma Corporation Commission on regulatory devices for injection wells and monitoring involved with hydraulic fracturing.

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• Public Health and Safety: **Chapter 4, Sections 4.2.4.2 and Section 4.3.22** and Cumulative Impacts for Public Health and Safety **Chapter 5, Section 5.4.4.2**

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**Substantive Comment (15):** The DEIS Fails to Take a Hard Look at the Impacts on Water Resources

Fracking on public land in Oklahoma, Kansas, and Texas would put sensitive water resources at risk. Fracking a single well requires millions of gallons of water.25 [25 The Academy of Medicine, Engineering and Science of Texas, Environmental and Community Impacts of Shale Development in Texas, 44 (2017) (“Texas Shale Report”), available at: http://tamest.org/wp-content/uploads/2017/07/Final-Shale-Task-Force-Report.pdf.] The large amount of water used for fracking is stressing water levels in areas where water use has been traditionally low, such as rural counties in Texas, including Live Oak and McMullen counties (where Choke Canyon Reservoir is located).26 [26 Id.] Construction of well pads and pipelines, spills and leaks, and the fracking process itself, and water contamination also pose threats to groundwater and surface water quality, as described further on pp. 18-23 of our 2018 Lease Sale Scoping Comments on BLM’s December 2018 Texas Lease Sale.

**Response:**

As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions when project-level reviews are tiered to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

The Draft Joint EIS/BLM RMP and BIA Integrated RMP adequately analyzes the impacts on water resources. Water depletions in the planning area are described in several places, including **Sections 4.2.1.4 and 5.4.1.4**.

When an agency is drafting an EIS, NEPA does not impose substantive obligations on it; rather it simply requires that an agency take a hard look at the environmental consequences of its decision-making. See **Robertson v. Methow Valley Citizens Council, 490 US 322, 350 (1989), and Friends of Animals v. Bureau of Land Mgmt., 2018 WL 1612836, at *11** (D. Or. Apr. 2, 2018): “Thus, the Ninth Circuit has affirmed that the important question is whether the agency has taken a hard look at the environmental impacts of a proposed action.” This hard look includes determining whether the agency adequately evaluated all potential environmental impacts of the proposed action, analyzed all reasonable alternatives to the proposed action, and identified and disclosed to the public all foreseeable impacts of the proposed action (42 USC 4332(2)(C)). If, after completing an EA, “an agency determines that the contemplated federal action will not significantly affect the environment, the federal agency may issue a finding of no significant impact ['FONSI'] . . . in lieu of
During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by its policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of that document presents potential impacts on the human and natural environment from implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in that chapter are plan-level resource management decisions that do not result in direct, on-the-ground changes. Plan-level decisions establish land use allocations identifying resources uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation-level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS realization. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, information provided by BLM experts, public comments during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated within each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- **BLM Impacts Analysis:** Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.
- **Water Resources:** Chapter 4, Sections 4.2.1.6 and 4.3.4 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4
- **Public Health and Safety:** Chapter 4, Sections 4.2.4.2 and Section 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

**Substantive Comment (16):** Water Quality The 2017 Lease Sale Scoping Comments detail the various pathways for water contamination BLM must disclose and analyze, including the potential for spills and leaks of fracking fluids, oil and gas, and wastewaters into the reservoir, its tributaries, groundwater, and surrounding lands; sedimentation from increased land disturbance around the reservoir; and increased surface runoff with greater land clearance for new well pads, pipelines, and roads.27 [27 Texas Shale Report at 127.] (See 2017 Lease Sale Scoping Comments at 22-30.)
Response: The pathways for water contamination that the commenter mentions are detailed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP in Section 4.2.1.4, beginning on page 4-55, and Section 5.4.1.4, beginning on page 5-39.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by its policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of that document presents potential impacts on the human and natural environment from implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in that chapter are plan-level resource management decisions that do not result in direct, on-the-ground changes. Plan-level decisions establish land use allocations identifying resources uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation-level decisions.

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- Water Resources: Chapter 4, Sections 4.2.1.6 and 4.3.4 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4
- Soil Resources: Chapter 4, Sections 4.2.1.5 and Section 4.3.3 and Cumulative Impacts for Soil Resources, Chapter 5 Section 5.4.1.3

Substantive Comment (17): The proximity of oil and gas wells in the planning area to drinking water sources such as Choke Canyon Reservoir and Lake Canton is of significant concern. According to the EPA, between 2000 and 2013, about 3,900 public water systems were estimated to have had at least one fracked well in one mile of their water source. These public water systems served more than 8.6 million people year-round in 2013. Another 3.6 million people were estimated to have gotten drinking water from non-
public water supply wells with at least one fracked well.\textsuperscript{28} [28 U.S. EPA, Hydraulic fracturing for oil and gas: impacts from the hydraulic fracturing water cycle on drinking water resources in the United States (Final Report). U.S. Environmental Protection Agency, Washington DC, USA (2016)(“EPA 2016 HF Study”), p. ES-8.] This is of great concern given the harmful chemicals found associated with fracking. Many toxic chemicals used in fracking and oil and gas extraction are water soluble and pose a threat to the water we drink. For example, 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.\textsuperscript{29} [29 CCST 2016 at 381.] There are also chemicals that are directly associated with fossil fuels and produced water, such as the BTEX chemicals. 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.\textsuperscript{30} [30 Yost, Erin et al., Estimating the Potential Toxicity of Chemicals Associated with Hydraulic Fracturing Operations Using Quantitative Structure-Activity Relationship Modeling, 50 Environmental Science and Technology 14 (2016).]

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions when project-level reviews are tiered to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

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The Draft Joint EIS/BLM RMP and BIA Integrated RMP addresses impacts on drinking water in Section 4.2.1.4, beginning on page 4-55, and in Section 5.4.1.4, beginning on page 5-39. Alternatives B, C, and D include NSO-3 and NSO-4 to protect drinking water and public municipal water wells.

Other federal surface management agency lands are not under the BLM’s administration. It cannot lease these minerals without consent from the surface management agency and a NEPA analysis completed at the lease sale and APD stages.

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- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and Section 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (18): These chemicals can be mobilized in a number of ways, one of which is spills. Several studies have noted spills of fracking fluids or additives, most of which were caused by equipment failure or human error. For instance, an EPA analysis characterized 151 spills of fracking fluids or additives on or near well sites in 11 states between January 2006 and April 2012. Of the total, 34% of the spills were due to equipment failure, 25% were due to human error, and more than 30% of the spills were from fluid storage units.31 [31 EPA 2016 HF Study, p. ES-22.] Similarly, in a study of spills reported to the Colorado Oil and Gas Conservation Commission, of 125 spills during well stimulation between January 2010 and August 2013, 51% were caused by human error, and 46% were caused by equipment failure. Furthermore, of the 151 spills analyzed by the EPA, the spill amount ranged from 5 gallons up to 19,320 gallons. Thirteen of the 151 spills reached a surface water body, with the largest spill volume reported reaching a water body being 7,350 gallons.32 [32 Id. at ES-23.] Also reported were spills reaching Pennsylvania surface waters between January 2008 and June 2013 with volumes ranging from 3,400 gallons to 227,000 gallons.33 [33 Id. at ES-24.] Such noted mobility of spill waters ultimately poses a threat to both surface and ground beneficial use waters. Similar threats are posed by spills of produced water as well.

Response: The pathways for water contamination that the commenter mentions are detailed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP in Section 4.2.1.4, beginning on page 4-55, and Section 5.4.1.4, beginning on page 5-39.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by its policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through
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- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and Section 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (21): Another concern is the increasing problem of uncontrolled fractures created by hydraulic fracturing operations causing “frack hits”-“an unplanned surge of pressurized fluid into another well, often resulting in surface spills” and causing damage to the well.42 [42 Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands, 80 Fed. Reg. 16128-01 (March 26, 2015).] Recently, a jury awarded damages to a vertical well owner whose well was damaged by a frack hit caused by horizontal well fracking operations; the high-pressured fracturing fluid shot past the area where production was to occur, and toward the vertical well’s production area, and the day after, frack fluid started erupting from the well into the air.43 [43 Soraghan, Mike, Small producer wins verdict against Devon in ‘frack hit’ case, E&E News, Aug. 17, 2017, available at: https://www.eenews.net/energywire/2017/08/17/stories/1060058877.] Numerous similar lawsuits have been filed against horizontal well operators.44 [44 Id.] The defendant claimed that it could not be held liable, because the fractures created by fracking were too hard to control, and cited a previous ruling noting that such fractures are “of immeasurable length and uncontrollable direction.”45 [45 Id.; see also H&S...
Equipment, Inc. v. Devon Energy Production Co., Case No. Civ-15-12440HE,Defs.’ Mot. for Summary Judgment, 23 (W.D.Okal. March 15, 2017) (Dkt. 35) (citing Coastal Oil & Gas Corp. v. Garza Energy Tr., 268 S.W.3d 1, 7, 32 (Tex. 2008)); Coastal Oil, 268 S.W.3d at 7 ("Estimates of [fracture] distances are dependent on available data and are at best imprecise. Clues about the direction in which fractures are likely to run horizontally from the well may be derived from seismic and other data, but virtually nothing can be done to control that direction...").] Regardless of whether the defendant was to blame, it is evident that frack hits are an inherent risk of horizontal drilling operations.

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions when project-level reviews are tiered to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

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The likelihood for uncontrolled fractures is not known at the planning level, and states set the spacing requirements for oil and gas wells. The BLM allows development according to state spacing laws, regulations, and policy.

In Section 4.2.1.4, beginning on page 4-55, and in Section 5.4.1.4, beginning on page 5-39, the Draft Joint EIS/BLM RMP and BIA Integrated RMP addresses impacts on water resources from spills.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by its policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of that document presents potential impacts on the human and natural environment from implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in that chapter are plan-level resource management decisions that do not result in direct, on-the-ground changes. Plan-level decisions establish land use allocations identifying resources uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation-level decisions.

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- Water Resources: Chapter 4, Sections 4.2.1.6 and 4.3.4 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4
- Geology (Geologic Hazards): Chapter 4, Sections 4.2.1.4 and 4.3.2 and Cumulative Impacts for Geology, Chapter 5 Section 5.4.1.2
- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and Section 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (22): Increased fracking activities could also threaten groundwater. A recent study focused on the southern Eagle Ford Shale region found evidence of “episodic contamination events potentially attributed to unconventional oil and gas development or other anthropogenic activities.” 46 [46 Hildenbrand, Z.L., et al., A reconnaissance analysis of groundwater quality in the Eagle Ford shale region reveals two distinct bromide/chloride populations, Science of the Total Environment, 575 (2017) 672-680.] Elevated levels of bromide were detected in groundwater, along with multiple volatile organic compounds and dissolved gas effervescence, suggesting contamination by unconventional oil and gas activities. Further, a study of 18 wells drilled in south Texas between 1990 and 2011; found 61 percent had well integrity or barrier failures mainly in shale zones.47 [47 Davies, Richard, Oil and gas wells and their integrity: Implications for shale and unconventional resource exploitation, Marine and Petroleum Geology, vol. 58 available at http://www.sciencedirect.com/science/article/pii/S0264817214000609.] In another study of groundwater in the Permian Basin, researchers monitored water quality in 42 private water wells over a 13-month period in three contiguous counties as unconventional oil and gas activities increased within the area.48 [48 Hildenbrand, Z.L., et al. Temporal variation in groundwater quality in the Permian Basin of Texas, a region of increasing unconventional oil and gas development, Science of the Total Environment, 562 (2016) 906-913.] Over time, the researchers found significant changes in total organic carbon and pH and ephemeral detections of ethanol, bromide, dichloromethane, and multiple volatile organic compounds after the initial sample phase. Detections of metal ions including barium, iron, selenium, and strontium also fluctuated over the 13-month period.49 [49 Id. at 912.] The paper noted a potential link between the contamination and unconventional oil and gas development, and that the most likely mechanism would be physical degradation of the protective casing in the vertical segments of fracked wells—a phenomenon observed in the Barnett and Marcellus shales.50 [50 Id.] Additionally, the accumulation of bromide and alcohol species “indicates that there may be longer standing residual changes in groundwater chemistry that can persist in regions engaged in unconventional oil and gas development.”51 [51 Id.]
Response: The BLM and BIA used the most recent and best information available that was relevant to a land use planning-level analysis. The agencies consulted with other agencies and sources and collected, and incorporated data from them; some of these are the US Fish and Wildlife Service (USFWS), state agencies, local governments, and Native American tribes. As a result of these actions, the BLM and BIA gathered the data necessary to make a reasoned choice among the alternatives analyzed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP (see Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts). As a result, the BLM and BIA have taken a hard look, as required by the NEPA (40 CFR 1502.16), at the environmental consequences of the alternatives in the Draft Joint EIS/BLM RMP and BIA Integrated RMP. This was to enable informed decision-making.

The CEQ regulations require an EIS to “succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. The description shall be no longer than is necessary to understand the effects of the alternatives. Data and analyses in a statement shall be commensurate with the importance of the impact, with less important material summarized, consolidated, or simply referenced. Agencies shall avoid useless bulk in statements and shall concentrate effort and attention on important issues” (40 CFR 1502.15).

The BLM and BIA complied with these regulations in describing the affected environment. The requisite level of information necessary to make a reasoned choice among the alternatives in an EIS is based on the scope and nature of the proposed action. The analysis provided in Chapter 3, Affected Environment, and various appendices in the Draft Joint EIS/BLM RMP and BIA Integrated RMP is sufficient to support, at the general land use planning-level of analysis, the environmental impact analysis of management actions in the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP.

The Draft Joint EIS/BLM RMP and BIA Integrated RMP addresses impacts on groundwater in Section 4.2.1.4, beginning on page 4-55 (see subsection beginning on page 4-61), and in Section 5.4.1.4, beginning on page 5-39 (see subsection beginning on page 5-42). In addition, the Joint EIS/BLM RMP and BIA Integrated RMP alternatives include management to conserve groundwater (see pages 2-21 and 2-22, 2-57 to 2-59, and NSO-6 in Appendix D, pages D-8 and D-9).

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by its policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of that document presents potential impacts on the human and natural environment from implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in that chapter are plan-level resource management decisions that do not result in direct, on-the-ground changes. Plan-level decisions establish land use allocations identifying resources uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation-level decisions.

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- Water Resources: Chapter 4, Sections 4.2.1.6 and 4.3.4 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4
- Geology (Geologic Hazards): Chapter 4, Sections 4.2.1.4 and 4.3.2 and Cumulative Impacts for Geology, Chapter 5 Section 5.4.1.2
- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and Section 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (23): The DEIS must not just disclose the particular pathways for water contamination but also disclose the potential severity of these effects on sensitive and scarce water resources. The potential consequences of a spill or leak could be severe and long-lasting. For example, in 2017, EPA officials shut down seven wastewater injection wells in Oklahoma, linking them to contamination of a creek that caused a fish kill, extremely high salt levels, and water temperatures of nearly 100 degrees in some parts of the creek.52 [52 Soraghan, Mike, EPA Orders 3 companies to shut wells in Okla., E&E News, Aug. 10, 2017, available at: https://www.eenews.net/stories/1060058609.] Contamination likely resulted from mechanical failures and could encompass a wider area than is presently known.53 [53 Id.] Despite finding continued pollution of the creek since August 2016, EPA did not order the shut-down until almost one year later, and after having conducted at least 20 inspections of the site. The extremely delayed response raises serious questions over the sufficiency of regulatory oversight to prevent significant impacts to the environment. Moreover, here, catastrophic consequences such as the contamination of an entire city’s drinking water source (e.g., Choke Canyon Reservoir, Lake Canton). The added risk to Choke Canyon Reservoir—a drinking water source for half a million people—is a significant factor that must be taken into account.

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.
Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

The Draft Joint EIS/BLM RMP and BIA Integrated RMP addresses impacts on water resources in Section 4.2.1.4, beginning on page 4-55, and in Section 5.4.1.4, beginning on page 5-39.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

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- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and Section 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2
Substantive Comment (24): Leaky wells can have severe and life-threatening consequences. In 2014, a water well exploded in Palo Pinto County, Texas due to the presence of thermogenic gas originating from deep layers targeted by oil and gas operators.54 [54 Soraghan, Mike, A flash fire, third-degree burns and an investigation without end, E&E News (June 1, 2016), available at http://www.eenews.net/stories/1060038097; Soraghan, Mike, Experts link gas well to explosion that injured family, E&E News (Feb. 14, 2017), available at http://www.eenews.net/energywire/2017/02/14/stories/1060049835.] The explosion injured a rancher, his father, and his daughter.

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

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Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

Well locations are determined on the site-specific level; however, the potential impacts caused by leaks are discussed in Section 4.2.1.4, Environmental Consequences (BLM Water Resources).

The BLM acknowledges the risks of leaks on public health and safety in Section 3.5.2 and on Table 4-16, on page 4-65. BMPs to reduce the likelihood for leaks are included in Appendix C.

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- Geology (Geologic Hazards): Chapter 4, Sections 4.2.1.4 and 4.3.2 and Cumulative Impacts for Geology, Chapter 5 Section 5.4.1.2
- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and Section 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.2

Substantive Comment (25): The DEIS fails to discuss the impact of fracking on water quantity in local streams and aquifers, and in light of water scarcity throughout the planning region. The DEIS does not explain in meaningful detail or concrete terms how water resources in local areas could be affected, but simply makes general statements stating the obvious. For example: “the impacts on water quantity from mineral development can be short term or long term, depending on the rate of use or the water source and whether the water is recycled.”55 [55 DEIS at 75.]

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

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Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

Water depletions in the planning area are described in several places in the Draft Joint EIS/BLM RMP and BIA Integrated RMP, including Sections 4.2.1.4 and 5.4.1.4.
During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and Section 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (26): BLM does not disclose in the DEIS what water sources quantity will be impacted or the rate of use of water they plan to consume for fracking. There is no information on how many wells will be in local areas of the planning area and their potential locations, so how is it possible for the DEIS to assess the impacts on water quantity? High levels of water use are unsustainable, especially as climate change-driven water scarcity threatens and stresses surface and groundwater sources across Texas. Water used in large quantities may lead to several kinds of harmful environmental impacts. The DEIS, however, fails to analyze the localized impact of increasing water extraction for fracking activities.
Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

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Water depletions in the planning area are described in several places in the Draft Joint EIS/BLM RMP and BIA Integrated RMP, including Section 4.2.1.4 and 5.4.1.4.

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**Substantive Comment (27):** The DEIS further fails to analyze the cumulative impact that increased water use for fracking is having on local water resources, including Choke Canyon Reservoir and its tributaries, in light of increasing water stress in the region. For example, increasing water use from fracking near Choke Canyon Reservoir could reduce the reservoir’s water supply, and could already be impacting the reservoir.56 [56 City of Corpus Christi Scope of Work.] Indeed, “concerns about groundwater over pumping to meet the fracking water supply demand and its impact on the water volume storage in the Lake Corpus Christi (LCC)/Choke Canyon Reservoir (CCR) System have...been raised.”57 [57 Id.] The City of Corpus Christi was concerned enough about the impact of fracking on the reservoir’s water supply that it commissioned a study to analyze the effect of groundwater loss on surface waters and formulate water management techniques to adapt to changing conditions.58 [58 See id.]

**Response:** As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

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Water depletions in the planning area are described in several places in the Draft Joint EIS/BLM RMP and BIA Integrated RMP, including Sections 4.2.1.4 and 5.4.1.4.

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Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

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Substantive Comment (28): Increased fracking could also exacerbate existing low-level water conditions at the reservoir. The reservoir has experienced steady declines in its water volume since about 2008, and is currently only at 25 percent of its maximum volume.59 [59 Texas Water Data, Choke Canyon Water Data Historical Trends, available at: https://waterdatafortexas.org/reservoirs/individual/choke-canyon.] Choke Canyon is also currently experiencing severe drought conditions, which have led to restrictions in Corpus Christi’s water use.60 [60 Progress Staff, Drought forces watering limits in Three Rivers Progress, The Progress (July 2, 2018), available at: https://www.mysoutex.com/the_progress/news/drought-forces-watering-limits-in-three-rivers/article_5196a992-7a4f-11e8-b89a-731cb8debcc8.html; Chandler, Greg, Officials Wait for Lake Levels to Trigger Drought Plan, KRIS-TV (June 29, 2018), available at: http://www.kristv.com/story/38375956/officials-wait-for-lake-levels-to-trigger-drought-plan.] Indeed, Corpus Christi is currently so strapped for water, that it is searching for new water sources to supplement its water supply.61 [61 Burns, Brian, City continues search for steady water supply as restrictions continue (June 29, 2018), available at: https://www.kiitv.com/article/news/local/city-continues-search-for-steady-water-supply-as-restrictions-continue/503-569319034.] Drought conditions could become more frequent and severe with climate change, and increasing water depletions from fracking in the region.62 [62 See note 209 & accompanying text below.]
Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

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Water depletions in the planning area are described in several places in the Draft Joint EIS/BLM RMP and BIA Integrated RMP, including Sections 4.2.1.4 and 5.4.1.4.

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- **Climate Change**: Chapter 4, Sections 4.2.1.3 and 4.3.1 and Cumulative Impacts for Air Resources Chapter 5, Section 5.4.1.1

### Substantive Comment (29)

BLM must quantify the total amount of water that could be depleted due to oil and gas leasing and fracking at Choke Canyon, and analyze how these depletions could affect the water supply for Corpus Christi and other communities, including groundwater resources that recharge the lake; recreational activities at the lake, such as boating and fishing; and fish and wildlife that depend on the reservoir and neighboring streams. BLM must also analyze the potential for dwindling water levels to increase the concentration of pollutants (including pollutants from fracking) in Choke Canyon Reservoir and impacted streams.

**Response**: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

Impacts from water depletions on water resources and fish and wildlife in the planning area are described in several places in the Draft Joint EIS/BLM RMP and BIA Integrated RMP, including Sections 4.2.1.4, 4.2.1.6, and 5.4.1.4. Recreation in this area is not under the BLM’s regulating authority.

The BLM does not have authority over water use in the various states. State regulatory and permitting agencies include the Texas Water Development Board and the Texas railroad Commission. According to the 2017 Texas State Water Plan (Texas Water Development Board 2017, Section 5.2), manufacturing water use is expected to increase by 2 percent, from 2020 to 2070 (Figure 5.6) and mining water use expected to “decrease slightly” by about 1 percent, from 2020 to 2070 (Figure 5.6).

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. **Chapter 4** of the Final Joint EIS/Proposed
BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

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- Water Resources: Chapter 4, Sections 4.2.1.6 and 4.3.4 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4
- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and Section 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2
- Fish and Wildlife: Chapter 4, Sections 4.2.18 and 4.3.6 and Cumulative Impacts for Fish and Wildlife Chapter 5, Section 5.4.1.6

Substantive Comment (30): EPA Study on Impacts of Fracking on Drinking Water Resources The EPA recently completed its study on the impacts of fracking on drinking water resources, which found scientific evidence that hydraulic fracturing activities can and has impacted drinking water resources.63 [63 U.S. Environmental Protection Agency, Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States (2016) (“USEPA 2016”).] The report identifies certain conditions under which impacts from hydraulic fracturing activities can be more frequent or severe.64 [64 See id. at ES-3.] The EPA identified a number of risk factors that may increase the risks of drinking water depletion and contamination, all of which are present with respect to the potential for increased fracking in the planning area.
Response: The BLM and BIA used the most recent and best information available that was relevant to a land use planning-level analysis. The agencies consulted with other agencies and sources and collected, and incorporated data from them; some of these are the US Fish and Wildlife Service (USFWS), state agencies, local governments, and Native American tribes. As a result of these actions, the BLM and BIA gathered the data necessary to make a reasoned choice among the alternatives analyzed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP (see Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts). As a result, the BLM and BIA have taken a hard look, as required by the NEPA (40 CFR 1502.16), at the environmental consequences of the alternatives in the Draft Joint EIS/BLM RMP and BIA Integrated RMP. This was to enable informed decision-making.

The CEQ regulations require an EIS to “succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. The description shall be no longer than is necessary to understand the effects of the alternatives. Data and analyses in a statement shall be commensurate with the importance of the impact, with less important material summarized, consolidated, or simply referenced. Agencies shall avoid useless bulk in statements and shall concentrate effort and attention on important issues” (40 CFR 1502.15).

The BLM and BIA complied with these regulations in describing the affected environment. The requisite level of information necessary to make a reasoned choice among the alternatives in an EIS is based on the scope and nature of the proposed action. The analysis provided in Chapter 3, Affected Environment, and various appendices in the Draft Joint EIS/BLM RMP and BIA Integrated RMP is sufficient to support, at the general land use planning-level of analysis, the environmental impact analysis of management actions in the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP.

The Draft Joint EIS/BLM RMP and BIA Integrated RMP addresses impacts on drinking water in Section 4.2.1.4, beginning on page 4-55, and in Section 5.4.1.4, beginning on page 5-39. Alternatives B, C, and D include NSO-3 and NSO-4 to protect drinking water and public municipal water wells.

State agencies develop and institute hydraulic fracturing processes and monitoring protocols. In Section 4.2.1.2, the BLM inserted additional references to the Kansas Corporation Commission and Oklahoma Corporation Commission on regulatory devices for injection wells and monitoring involved with hydraulic fracturing.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each
alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

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- Water Resources: Chapter 4, Sections 4.2.1.6 and 4.3.4 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4
- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and Section 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (31): Risk factor 1: Water withdrawals for hydraulic fracturing in times or areas of low water availability, particularly in areas with limited or declining groundwater resources. Fracking requires enormous water depletions, which could result in severe impacts on local water resources in the arid and drought-prone environments of Texas and Oklahoma. Water consumption from groundwater wells for oil and gas activities in McMullen County totaled over 8,400 acre-feet in 2014, while an individual groundwater well depleted well over 280 acre-feet of water in McMullen County, according to reports to the county’s water conservation district, though these records are incomplete.65 [65 McMullen and Live Oak Water Conservation District Spreadsheets of Oil and Gas Groundwater Use; Stewart, Lonnie, Email to Wendy Park (Feb. 9, 2017) (noting districts’ water use records are incomplete).] The DEIS must analyze water depletion impacts to local aquifers. 89% of water used in the Eagle Ford Shale Play was taken from regions of high and extremely high water stress, including McMullen County, where Choke Canyon parcels are located.66 [66 CERES 2016 at 3.] In Texas, groundwater use is not regulated, unless a local groundwater conservation district exists for the county.67 [67 TCEQ, Groundwater Regulation for Private Well Owners, available at https://www.tceq.texas.gov/response/drought/groundwater_regulation.html.] In the Eagle Ford Shale Play, operators used nearly 18 billion gallons of water in 2013, roughly 16 percent of the area’s total water consumption.68 [68 Environment America, Fracking By the Numbers, 13 (2016), available at http://www.environmentamerica.org/sites/environment/files/reports/Fracking%20by%20the%20Numbers%20US.pdf (“Environment America Report”).] In Oklahoma, average water use per well has exceeded three million gallons per well.69 [69 Id. at 24.] Oklahoma is also a region of high water stress, in part due to climate change.70 [70 CERES 2016 at 1.; Shafer 2014 at 445, 447.]

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier
project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

Water depletions in the planning area are described in several places in the Draft Joint EIS/BLM RMP and BIA Integrated RMP, including Sections 4.2.1.4 and 5.4.1.4.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:
BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.

Water Resources: Chapter 4, Sections 4.2.1.6 and 4.3.4 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4

Public Health and Safety: Chapter 4, Sections 4.2.4.2 and Section 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Climate Change: Chapter 4, Section 4.2.1

**Substantive Comment (32):** Risk factor 2: Spills during the handling of hydraulic fracturing fluids and chemicals or produced water that result in large volumes or high concentrations of chemicals reaching groundwater resources. Large volumes of chemicals and wastewater are used and produced in the completion of horizontal wells in the Eagle Ford Shale.71 [71 BoR Study at 2-8 - 2-9.] In 2015 2,700 spills occurred at oil and gas sites in Texas, though this figure may vastly underestimate spills, as the state does not track wastewater spills.72 [72 Soraghan, Mike, In Texas wastewater spills get less scrutiny, E&E News (Aug. 2, 2016), available at http://www.eenews.net/energywire/stories/1060041056.] Spills affecting groundwater or surface water in 2015 totaled 124 and 92 spills in Texas and Oklahoma, respectively.73 [73 Soraghan, Mike & Pamela King, Drilling mishaps damage water in hundreds of cases, E&E News (Aug. 8, 2016), available at http://www.eenews.net/energywire/stories/1060041279/.] Texas officials found 50 cases of groundwater contamination caused by oil and gas operations throughout the state that year.74 [74 Soraghan, Mike, Texas officials found 50 cases of groundwater contamination in 2015, E&E News (Sept. 6, 2016), available at http://www.eenews.net/energywire/stories/1060042314/; TCEQ, Joint Groundwater Monitoring and Contamination Report-2015 (June 2016), available at https://www.tceq.texas.gov/assets/public/comm_exec/pubs/sfr/056-15.pdf.] Spills occurred at oil and gas wells, waste disposal sites, and gas plants, and along pipelines. The number of groundwater contamination cases could be much larger in Texas, as hundreds of thousands of Texas’ oil and gas wells have not been inspected for five years due to a severe shortage of inspectors, increasing the risk of leaks and spills.75 [75 See n.10 above.] Just 158 inspectors are currently responsible for monitoring 435,000 wells, according to the Texas Railroad Commission.76 [76 Id.]

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

The BLM addresses impacts on groundwater in Section 4.2.1.4, beginning on page 4-55 (see subsection beginning on page 4-61), and Section 5.4.1.4, beginning on page 5-39 (see subsection beginning on page 5-
In addition, the Joint EIS/BLM RMP and BIA Integrated RMP alternatives include management to conserve groundwater (see pages 2-21 to 2-22, 2-57 to 2-59, and NSO-6 in Appendix D, page D-8 to D-9).

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

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- Water Resources: Chapter 4, Sections 4.2.1.6 and 4.3.4 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4
- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and Section 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (33): Risk factor 3: Injection of hydraulic fracturing fluids into wells with inadequate mechanical integrity, allowing gases or liquids to move to groundwater resources. Studies show that well casing failures are a chronic problem regardless of whether wells are old or new, fracked or not fracked.77 [77 Johnson, R. et al., The Environmental Costs and Benefits of Fracking, Annu. Rev. Environ. Resour. 2014. 39:7.1¬-7.36 (see pp. 7.11-7.14 for discussion of well failure rates); Johnson, Robert B., The
integrity of oil and gas wells, 111 Proceedings of the National Academy of Science 1092 (2014), available at http://www.pnas.org/content/111/30/10902; Ingraffea, A., Fluid Migration Mechanisms Due to Faulty Well Design and/or Construction: An Overview and Recent Experiences in the Pennsylvania Marcellus Play, Physicians Scientists & Engineers for Healthy Energy (Oct. 2012) (noting casing failures are “not rare” in the oil and gas industry”); Environment America Report at 11 (noting data from fracking wells in Pennsylvania from 2010 to 2012 show a 6 to 7 percent rate of well failure due to compromised structural integrity).] For example: 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 2010, one well integrity violation was issued for every six deep injection wells examined - more than 17,000 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 conditions that greatly increase the risk of fluid leakage and the threat of water contamination.78 [78 Lustgarten, Alexander, Are Fracking Wastewater Wells Poisoning Groundwater Beneath Our Feet?, Scientific American (June 2012), available at https://www.scientificamerican.com/article/are-fracking-wastewater-wells-poisoning-ground-beneath-our-feet/.] In a study of 18 wells drilled in south Texas between 1990 and 2011, 61 percent had well integrity or barrier failures mainly in shale zones.79 [79 Davies, Richard, Oil and gas wells and their integrity: Implications for shale and unconventional resource exploitation, Marine and Petroleum Geology, vol. 58 available at http://www.sciencedirect.com/science/article/pii/S0264817214000609.] Leaky wells can have severe and life-threatening consequences. In 2014, a water well exploded in Palo Pinto County, Texas due to the presence of thermogenic gas originating from deep layers targeted by oil and gas operators.80 [80 Soraghan, Mike, A flash fire, third-degree burns and an investigation without end, E&E News (June 1, 2016), available at http://www.eenews.net/stories/1060038097; Soraghan, Mike, Experts link gas well to explosion that injured family, E&E News (Feb. 14, 2017), available at http://www.eenews.net/energywire/2017/02/14/stories/1060049835.] The explosion injured a rancher, his father, and his daughter. In addition, the presence of unknown old and abandoned wells around Choke Canyon Reservoir increases the risk of groundwater contamination. Fractures from new wells may intersect with old and unplugged wells with failed casings: According to RRC data, Live Oak and McMullen counties have dozens of old, orphaned, and unplugged wells. When applying for a permit, hydrocarbon producers must survey (and plug, if necessary) all old and abandoned wells within a quarter mile of the injection site. The locations of older oil wells not in the RRC databases remain unknown. TCEQ Bulletin 6520, “Ground-Water Resources of La Salle and McMullen Counties, Texas” (TWC, August 1965) identified a potential threat of contamination of the water in the Carrizo Sand by the movement of brines from underlying saltwater bearing sands through improperly cased oil wells, or from improperly plugged oil wells. Several of the oldest oil fields in McMullen County, such as the Callahan Field discovered in 1918 and the Jacob Field in 1936, are among those in the Choke Canyon area.81 [81 BoR Study at 2-10.]

Response: In Section 4.2.1.4 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM already acknowledges this risk: “Individual cases of contamination are commonly attributed to faulty casing installations or poor management of materials and chemicals at the surface. NGWA (2016) and the BLM and Forest Service (2007) provide concise summaries of BMPs that can reduce the potential pathways for water resource impacts from water management, proper sealing of unused and abandoned wells, and spill prevention and waste management.”

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource
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- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and Section 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (34): Risk factor 4: Injection of hydraulic fracturing fluids directly into groundwater resources. While Texas and Oklahoma require the disclosure of chemicals used in fracking fluids, exceptions are allowed if the disclosure would reveal confidential business information. Injection of wastewater into protected aquifers is also highly problematic in Texas. The Texas Railroad Commission does not have any handle on which aquifers in Texas are a protected drinking water sources under the Safe Drinking Water Act, and has never issued a single aquifer exemption for oil and gas wastewater injection into a protected aquifer. This has likely resulted in injection of wastewaters into protected drinking water sources and contamination of those aquifers. This is illegal activity that is likely to result from the proposed lease auction, and per se significant under NEPA.82 [82 Clean Water Action, Texas Aquifer Exemptions: Ignoring Federal Law to Fast Track Oil & Gas Drilling (2016), available at https://www.cleanwateraction.org/sites/default/files/docs/publications/Texas%20Aquifer%20Exemptions%20-%20Clean%20Water%20Action%20August%202016.pdf.]

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific
concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

The Draft Joint EIS/BLM RMP and BIA Integrated RMP addresses impacts on drinking water in Section 4.2.1.4, beginning on page 4-55, and in Section 5.4.1.4, beginning on page 5-39. Alternatives B, C, and D include NSO-3 and NSO-4 to protect drinking water and public municipal water wells.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP
addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- **BLM Impacts Analysis:** Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts: Chapter 5, Section 5.4.
- **Water Resources:** Chapter 4, Sections 4.2.1.6 and 4.3.4 and Cumulative Impacts for Water Resources: Chapter 5, Section 5.4.1.4.
- **Public Health and Safety:** Chapter 4, Sections 4.2.4.2 and Section 4.3.22 and Cumulative Impacts for Public Health and Safety: Chapter 5, Section 5.4.4.2.

### Substantive Comment (35):


**Response:** As stated on page 4-56 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, “Surface-disturbing actions related to fluid mineral development will comply with onshore orders and the BLM Gold Book surface operating standards and subsequent updates (BLM and Forest Service 2007).”

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the
planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.
- Water Resources: Chapter 4, Sections 4.2.1.6 and 4.3.4 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4
- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and Section 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (36): Risk factor 6: Disposal or storage of hydraulic fracturing wastewater in unlined pits resulting in contamination of groundwater resources. It is unclear the extent to which liners would be required for pits used in oil and gas operations. BLM Onshore Order No. 7 allows unlined produced water pits under certain circumstances, and it is unclear whether unlined pits would be allowed even if naturally occurring radioactive materials were present in the produced waters to be disposed.85 [85 See BLM, Onshore Order No. 7, § III.D.2.a, available at https://www.blm.gov/wy/st/en/programs/energy/Oil_and_Gas/docs/onshore_order_7.html.] If surface activities occurred on private surface rather than federal surface, it is unclear the extent to which liners for pits would be required. In Texas, unlined pits are allowed.86 [86 Texas RRC, Eagle Ford FAQs, available at http://www.rrc.state.tx.us/about-us/resource-center/faqs/oil-gas-faqs/faq-eagle-ford/.]

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

The Draft Joint EIS/BLM RMP and BIA Integrated RMP addresses impacts on groundwater in Section 4.2.1.4, beginning on page 4-55 (see subsection beginning on page 4-61), and Section 5.4.1.4, beginning on page 5-39 (see subsection beginning on page 5-42). In addition, the Joint EIS/BLM RMP and BIA Integrated
RMP alternatives include management to conserve groundwater (see pages 2-21 to 2-22, 2-57 to 2-59, and NSO-6 in Appendix D, page D-8 to D-9).

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.
- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and Section 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (37): The DEIS does not specifically state the potential types of harms to the water resources in the planning area that could result from fracking and drilling activities. For example, the preparers fail to quantify the potential amount of water depletions from fracking in a localized area where oil and gas leasing is likely to occur (like Choke Canyon Reservoir), and analyze their potential overall impact on local streams or groundwater and their potential severity and significance. 87 [87 BLM Oklahoma Field Office Draft EIS/RMP 2018 at 72.] The DEIS states, “under all alternatives, urban and agricultural developments and energy infrastructure and development (especially for coal, oil, and gas) will continue to

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affect the quantity and quality of water in the planning area.’’88 [88 Id. at 76.] Moreover, ‘‘under all
alternatives, the availability of freshwater resources would be depleted. The highest water usage is correlated
with shale gas areas where hydraulically fractured horizontal wells are typically completed.’’89 [89 BLM
Oklahoma Field Office Draft EIS/RMP 2018 at 78.] General statements like these divorced of the local
context do not explain the potential severity of effect. Numerical data on water use from fracking and
existing water availability should inform the EIS’s analysis.

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that
include site-specific project and implementation-level actions. The two agencies will address site-specific
concerns and more detailed environmental descriptions. This will happen when the two agencies tier
project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20,
1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the
NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO
begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes
the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are
consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given),
then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration
is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be
undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the
agency to explicitly disapprove APDs).

Water depletions in the planning area are described in several places in the Draft Joint EIS/BLM RMP and
BIA Integrated RMP, including Sections 4.2.1.4 and 5.4.1.4; also, NSO-3 and NSO-4 address public water
supplies.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal
land use management laws, regulations, policies, and executive level direction. As required by policy guidance,
the BLM met its environmental impacts analysis and NEPA hard look requirements through development of
the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed
BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of
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alternative provides a broad management framework, the exact location, timing, and level of development
or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the
estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The
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planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in **Chapter 3**, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

**Chapter 4**, Environmental Consequences, and **Chapter 5**, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in **Chapter 2**. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: **Chapter 4**, Section 4.2, BIA Impacts Analysis: **Chapter 4**, Section 4.3 and Cumulative Impacts **Chapter 5**, Section 5.4.
- Water Resources: **Chapter 4**, Sections 4.2.1.6 and 4.3.4 and Cumulative Impacts for Water Resources **Chapter 5**, Section 5.4.1.4

**Substantive Comment (38):** In addition, BLM must discuss how severely and significantly water impacts from fracking could affect stream and river functions. The DEIS mentions, “agricultural and energy development and urbanization contribute to the degradation and fragmentation of streams and rivers,” but the DEIS alternatives do not thoroughly analyze the impacts in any detail or identify potential streams at risk in the planning area.90 [90 Id. at 76.]

**Response:** The Draft Joint EIS/BLM RMP and BIA Integrated RMP adequately analyzes the impacts on streams, rivers, and other water bodies in **Section 4.2.1.4**, including impaired streams (see Table 4-14). The locations of streams and 303(d) impaired waters in the decision area are shown in Figures 3-14, 3-15, 3-100, and 3-101. Potential stream or river impacts are mitigated through site-specific surveys in wetlands and riparian areas and the NSO stipulations for wetlands, riparian areas, and floodplains.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. **Chapter 4** of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in **Chapter 2**. The land use allocations and resource management goals, objectives and actions described in **Chapter 2** are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Water Resources: Chapter 4, Sections 4.2.1.6 and 4.3.4 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4

Substantive Comment (39): BLM must also explain in depth in the DEIS how BLM will manage the water quality of surface water and groundwater to avoid spills, runoff, and sedimentation from oil and gas activities in the planning area. For example, BLM must propose and describe lease stipulations to minimize the potential for impacts to water quality on floodplains, wetlands, and riparian areas and reservoirs, and must describe their effectiveness. The DEIS states that impacts to surface water and groundwater can be prevented through the application of best practices during drilling, completion, and well production.91 [91 Id. at 80.] Simply pointing to best practices without describing the potential range and severity of effects from oil and gas development, and without analyzing how effective these best practices are in mitigating impacts does not pass muster under NEPA. BLM should not move forward until it has fully analyzed potential impacts to water resources from increased oil and gas development and fracking, as required by NEPA.

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentified until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

A detailed analysis of stipulations and BMPs would depend on the location of proposed developments, which would happen at the site-specific implementation level. BLM mineral stipulations are described in Appendix D of the Draft Joint EIS/BLM RMP and BIA Integrated RMP. Those stipulations that are specifically intended
to protect floodplains, wetlands, riparian areas, and reservoirs are NSO-1, NSO-2, NSO-3, NSO-4, NSO-5 and NSO-6.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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- Water Resources: Chapter 4, Section 4.2.1.6 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4
- Vegetation: Chapter 4, Section 4.2.1.7 and Cumulative Impacts for Vegetation Chapter 5, Section 5.4.1.5
- Energy and Minerals: Chapter 4, Section 4.2.2.1, and Cumulative Impacts for Energy and Minerals Chapter 5, Section 5.4.2.1
- Public Health and Safety: Chapter 4, Section 4.2.4.2, and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (40): The DEIS Must Analyze the Air Quality and Public Health Impacts of Fracking The DEIS fails to analyze the full range of potential impacts to air quality and public health posed by
increased fracking and other fossil fuel extraction in the planning area. The DEIS must fully disclose the various pollutants that may be emitted during oil and gas activities; describe the health hazards of these pollutants; fully quantify emissions from all potential sources in the planning area for each alternative, including oil and gas and coal development activities; and disclose the potential cumulative impact resulting from these levels of emissions on air quality and public health. These emissions must be analyzed not just at the region-wide planning level, but also for the local areas in which oil and gas development is expected throughout in the planning area (e.g., Choke Canyon Reservoir and Somerville Lake).

**Response:** The BLM analyzed air emissions extensively in Sections 4.2.1.1 and 5.4.1.1 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, in Appendices J1, J2, and K, and in technical supporting documentation listed on page 4-8. It is beyond the scope of this EIS to perform a localized analysis such as the one requested by the commenter due to the size of the planning area, the small amount of federal mineral estate, and the scattered nature of future potential development over such a large planning area. This approach was discussed with and agreed to by the interagency air working group convened for this Joint EIS/BLM RMP and BIA Integrated RMP. Localized impacts on air quality and public health will be evaluated at the implementation level once a site-specific action has been proposed for authorization. Indirect impacts of mineral development are acknowledged in the air resources and public health and safety impact analyses in the Draft EIS.

As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs). Hydraulic fracturing is an implementation-level action. The BLM would evaluate impacts on public health on the site-specific level. As stated in Section 4.2.4.2, Impacts Common to All Alternatives (page 4-316): “Compliance with applicable regulations is expected to reduce smoke and other emissions to ensure clean air and reduced public health risks.”

Indirect impacts of mineral development are acknowledged in the air resources and public health and safety impact analyses in the Draft EIS.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use
allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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- Air Resources: Chapter 4, Sections 4.2.1.1 and 4.3.1 and Cumulative Impacts on Air Resources: Chapter 5, Section 5.4.1
- Air Quality: Chapter 4, Section 4.2.1.2
- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

**Substantive Comment (41):** In addition, the DEIS does not appear to include a conformity analysis required under the Clean Air Act showing that implementation of the RMP alternatives considered in the DEIS would conform to the state implementation plans for nonattainment areas in the planning area. BLM must show through quantitative analysis and modeling that the proposed RMP conforms to the relevant state implementation plans, including those for ozone non-attainment areas in the San Antonio, Dallas, and Houston areas.

**Response:** Clean Air Act conformity analysis is not applicable at the Joint EIS/BLM RMP and BIA Integrated RMP stage. This is because it does not authorize any direct emissions, nor does it authorize reasonably foreseeable indirect emissions, as defined by the EPA for conformity determinations. The EPA defines reasonably foreseeable emissions as “projected future . . . indirect emissions that are identified at the time the conformity determination is made; the location of such emissions is known and the emissions are quantifiable . . . " (40 CFR 93.152). The Joint EIS/BLM RMP and BIA Integrated RMP would not result in any emissions that are quantifiable or are from a known location; as such, Clean Air Act conformity determinations would be made at the implementation level, once specific development proposals have been
made for actions occurring in nonattainment areas. Characterization of existing air quality in the planning area was made using best available data at the time of document preparation. This included an assessment of attainment status and a description of background air pollutant concentrations, based on the most recent 3 years of monitoring data. As described on page 3-9 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, “In nonattainment or maintenance areas, Clean Air Act conformity would be assessed during project-specific analyses.”

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

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- Air Resources: Chapter 4, Sections 4.2.1.1 and 4.3.1 Cumulative Impacts on Air Resources: Chapter 5, Section 5.4.1

Substantive Comment (42): Types of Air Pollution Emissions Numerous impacts of fracking and other oil and gas extraction techniques are directly associated with the hundreds chemical additives employed and the resultant air pollution. These chemicals fall into a number of categories: breakers to lower fracking fluid
viscosity before fracking fluid flows back, proponents to keep newly-formed fractures open, gelling agents to pry open fractures, biocides to prevent bacteria from degrading gelling agents, carriers for aiding in transport of other fluids, and crosslinkers to increase viscosity of fluids to increase fracking effectiveness.93 [93 Stringfellow, William et al., Identifying chemicals of concern in hydraulic fracturing fluids used for oil production, 220 Environmental Pollution 413 (2017).] Many chemicals amongst these categories are designated as Hazardous Air Pollutants (HAPs), which can enter the air during the venting of gases during fracking or the evaporation of chemicals from fracking and produced fluids, leading to dangerous human exposures.94 [94 Sierra Club et al. comments on New Source Performance Standards: Oil and Natural Gas Sector; Review and Proposed Rule for Subpart OOOO (Nov. 30, 2011) (“Sierra Club Comments”) at 13.] For instance, ethylbenzene, formaldehyde, 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.95 [95 Agency for Toxic Substances and Disease Registry (ATSDR), ATSDR A-Z Index, https://www.atsdr.cdc.gov/az/a.html (last visited on July 12, 2018) (“ASTDR A-Z Index”); Californians Against Fracking, Fracking and Dangerous Drilling in California, Briefing Book, Center for Biological Diversity (Accessed July 13, 2018), https://www.biologicaldiversity.org/campaigns/california_fracking/pdfs/fracking-and-drilling-in-california.pdf.] Therefore, being in close proximity to fracking operations can lead to serious health effects. Some of the same chemicals are used in both fracking and conventional oil and gas operations, so some risks posed by fracking are also found with conventional methods.96 [96 Stringfellow, William et al., Comparison of chemical use between hydraulic fracturing, acidizing, and routine oil and gas development, 12 PLoS One 4 (2017).]

Response: Air emissions, including those from HAPs, were analyzed extensively in Sections 4.2.1.1 and 5.4.1.1 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP. The BLM believes it used the best available information to develop the analysis; additional information on the method and results of the analysis is in Appendices J1, J2, K, and G and in the technical supporting documentation listed on page 4-8 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP. Effects from project-level actions would be evaluated at the permitting stage of development, in accordance with applicable federal, state, and local regulations in the proposed project area.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (43): There are also emissions from other aspects of the oil and gas extraction process, including the emission of natural gas itself, in forms such as methane (predominantly) and ethane. For instance, hydrogen sulfide is contained in natural gas, with long-term exposure to hydrogen sulfide linked to respiratory infections, eye, nose, and throat irritation, breathlessness, nausea, dizziness, confusion, and headaches.97 [97 U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Report to Congress on Hydrogen Sulfide Air Emissions Associated with the Extraction of Oil and Natural Gas (EPA-453/R-93-045) at i (Oct. 1993) (“USEPA 1993”).]

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

The location of developments that would emit natural gas is an implementation-level action. The BLM would evaluate impacts on public health at the site-specific level. Specific impacts on public health would be evaluated on the site-specific level, however indirect impacts of mineral development are acknowledged in
the public health and safety impact analyses of the Draft EIS. As stated in Section 4.2.4.2, Impacts Common to All Alternatives (page 4-316), “Compliance with applicable regulations is expected to reduce smoke and other emissions to ensure clean air and reduced public health risks.”

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- Air Quality: Chapter 4, Section 4.2.1.2
- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (44): Also, the diesel equipment used to pump the fracking fluids into the well produces nitrogen oxide ("NOx") and particulate matter ("PM") emissions. Additionally, some volatile organic compounds ("VOCs"), such as the BTEX compounds (benzene, toluene, ethylbenzene, and xylene),
when exposed to light can transform into PM. When gases are flared instead of vented, the combustion
during flaring may cause emissions of PM and NOx.98 [98 California Council on Science and Technology,
Advanced Well Stimulation Technologies in California (2016) (“CCST 2016”),
Assessment of Air Emissions From Development of Unconventional Natural Gas Resources, 424 Science of
the Total Environment 79 (2012) (“McKenzie 2012); Shonkoff, Seth B.C. et al., Environmental Public Health
Dimensions of Shale and Tight Gas Development, 122 Environmental Health Perspectives 787 (2014)
(“Shonkoff 2014”).] NOx and PM are both criteria pollutants which must be regulated under the National
Ambient Air Quality Standards (NAAQS) due to their potential to cause primary and secondary health
effects. They both contribute to the formation of ozone, another criteria pollutant.99 [99 United States
Environmental Protection Agency (U.S. EPA), Criteria Air Pollutants, https://www.epa.gov/criteria¬air-
pollutants (last visited on July 10, 2018.)] Concentrations of these criteria pollutants along with two others,
carbon monoxide and sulfur dioxide, have been shown to increase in regions where unconventional oil and
gas recovery techniques are permitted.

Response: Air pollutant emissions from potential future oil and gas development of the federal mineral
estate in the decision area were estimated in the future year emissions inventory prepared for this Joint
EIS/BLM RMP and BIA Integrated RMP. Pollutants analyzed were nitrogen oxide (NOx), particulate matter,
volatile organic compounds (VOCs), and hazardous air pollutants (HAPs). Appendix J1 detailed all of the
pollutants evaluated and the source categories of emissions that were included in the inventory. The BLM
used these criteria pollutant emissions to model future year concentrations, as described in Appendix K
and summarized in Section 5.4.1.1 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP.

As discussed in Section 3.2.1, most of the planning area is in attainment with the NAAQS; thus, Clean Air
Conformity would not apply to federal actions in these areas. In nonattainment or maintenance areas, Clean
Air Act conformity would be assessed during project-specific analyses.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal
land use management laws, regulations, policies, and executive level direction. As required by policy guidance,
the BLM met its environmental impacts analysis and NEPA hard look requirements through development of
the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed
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use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use
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level decisions.

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- Air Quality: Chapter 4, Section 4.2.1.2
- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (45): Criteria pollutants are associated with an array of health impacts:100 [100 United States Environmental Protection Agency (U.S. EPA), Criteria Air Pollutants, https://www.epa.gov/criteria-air-pollutants (last visited on July 10, 2018.)] Nitrogen oxides (NOx) react with ammonia, moisture, and other compounds to form small particles. These small particles penetrate deeply into sensitive parts of the lungs and can cause or worsen respiratory diseases, such as emphysema and bronchitis, and can aggravate existing heart disease, leading to increased hospital admissions and premature death. NOx and volatile organic compounds react in the presence of heat and sunlight to form ozone. Particulate matter (PM) - especially fine particles - contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Numerous scientific studies have linked particle pollution exposure to a variety of problems, including: premature death in people with heart or lung disease, increased mortality, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing.101 [101 U.S. Environmental Protection Agency, Particulate Matter, (PM) https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm (Accessed July 13, 2018); Ostro, Bart et al., Long-term Exposure to Constituents of Fine Particulate Air Pollution and Mortality: Results from the California Teachers Study, 118 Environmental Health Perspectives 3 (2010)] Sulfur Dioxide (SO2) - has been shown to cause an array of adverse respiratory effects including bronchoconstriction and increased asthma symptoms.102 [102 U.S. Environmental Protection Agency, Sulfur Dioxide https://www.epa.gov/so2-pollution/sulfur-dioxide-basics#effects, available at (accessed July 13, 2018). ] Studies also show a connection between short-term exposure and increased visits to emergency departments and hospital admissions for respiratory illnesses, particularly in at-risk populations including children, the elderly, and asthmatics.103 [103 Id.] Carbon Monoxide (CO) can cause harmful health effects by reducing oxygen delivery to the body’s organs (like the heart and brain) and tissues. At extremely high levels, CO can cause death.104 [104 U.S. Environmental Protection Agency, Carbon Monoxide, available at https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution#Effects (accessed July 13, 2018). ] Exposure to CO can reduce the oxygen-carrying capacity of the blood. People with several types of heart disease already have a reduced capacity for pumping oxygenated blood to the heart, which can cause them to experience myocardial ischemia (reduced oxygen to the heart), often accompanied by chest pain (angina), when exercising or under increased stress.105 [105 Id. ] For these people, short-term CO exposure further affects their body’s already compromised ability to respond to the
increased oxygen demands of exercise or exertion. Ozone (O3) can trigger or worsen asthma and other respiratory ailments. Ozone may also lead to losses of species diversity and changes to habitat quality, water cycles, and nutrient cycles. Likewise, the BTEX compounds, which contribute to the formation of criteria pollutants, pose great potential harms. Benzene, for instance, is a known human carcinogen that has been linked to blood disorders such as leukemia, immune system damage and chromosomal mutations. The other BTEX compounds (toluene, ethylbenzene, xylene) have varying effects, including damage to the brain and nervous system, kidneys, and liver, with symptoms of exposure including fatigue, drowsiness, headaches, dizziness, confusion, eye and respiratory tract irritation, and loss of muscle coordination. Due to their prevalence, research continues to mount on the health risks of fracking, well stimulation, and other oil and gas activities.

Response: The BLM analyzed impacts on public health and safety in Sections 4.2.4.2, 4.3.22, and 5.4.4.2 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP and impacts on air quality in Sections 4.2.1.1, 4.3.1, and 5.4.1.1. The agency also analyzed these impacts in Appendices J1, J2, and K and in technical supporting documentation listed on page 4-8 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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Substantive Comment (46): Sources of Air Emissions Harmful air pollutants are emitted during every stage of unconventional oil and gas development, including drilling, completion, well stimulation, production, and disposal, as well as from transportation of water, sand, and chemicals to and from the well pad.114 McCawley, Michael, Air Contaminants Associated with Potential Respiratory Effects from Unconventional Resource Development Activities, 36 Seminars in Respiratory and Critical Care Medicine 379 (2015); Shonkoff 2014. The well stimulation stage can emit diesel exhaust, VOCs, particulate matter, ozone precursors, silica, and acid mists.115 Id. VOCs, NOX, methane, and ethane are potent ground-level (tropospheric) ozone precursors that are emitted by oil and gas drilling and fracking operations.116 U.S. Environmental Protection Agency, Integrated Science Assessment (ISA) for Ozone (O3) and Related Photochemical Oxidants (2013.) VOCs can form ground-level (tropospheric) ozone when combined with nitrogen oxides (“NOX”) from compressor engines, turbines, other engines used in drilling, and flaring.117 See, e.g., U.S. Environmental Protection Agency, Oil and Gas Sector: Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution: Background Technical Support Document for Proposed Standards at 3-6 (July 2011); Armendariz, A., Emissions for Natural Gas Production in the Barnett Shale Area and Opportunities for Cost-Effective Improvements (2009) (“Armendariz 2009”) at 24.] in the presence of sunlight. This reaction can diminish visibility and air quality and harm vegetation. Many regions around the country with substantial oil and gas operations are now suffering from extreme ozone levels due to heavy emissions of these pollutants.118 Armendariz 2009 at 1, 3, 25-26; Koch, Wendy, Wyoming’s Smog Exceeds Los Angeles’ Due to Gas Drilling, USA Today (May 9, 2011); Craft, Elena, Environmental Defense Fund, Do Shale Gas Activities Play a Role in Rising Ozone Levels? (2012); Colorado Dept. of Public Health and Environment, Conservation Commission, Colorado Weekly and Monthly Oil and
Gas Statistics (July 6, 2012) at 12.] A recent study of ozone pollution in the Uintah Basin of northeastern Utah, a rural area that experiences hazardous tropospheric ozone concentrations, found that oil and gas operations were responsible for 98 to 99 percent of VOCs and 57 to 61 percent of NOx emitted from sources within the Basin considered in the study’s inventory.119 [119 Lyman, Seth & Howard Shorthill, Final Report: 2012 Uintah Basin Winter Ozone & Air Quality Study, Utah Department of Environmental Quality (2013) (“Lyman 2013”).]

Response: The BLM analyzed air emissions from different oil and gas-related source categories in Sections 4.2.1.1 and 5.4.1.1 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP. The BLM believes it used the best available information to develop the analysis; additional information regarding the method used in and results of the analysis is in Appendices J1, J2, and K and in technical supporting documentation listed on page 4-8 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP.

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Public Health and Safety: Chapter 4, Sections 4.2.4.2 and 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (47): Drilling and casing the wellbore require substantial power from large equipment. The engines used typically run on diesel fuel, which emits particularly harmful types of air pollutants when burned. Similarly, high-powered pump engines are used in the fracturing and completion phase. This too can amount in large volumes of air pollution. In total, VOCs emitted by car and truck engines, as well as the drilling and completion stages of oil and gas production, make up about 3.5 percent of the gases emitted by oil or gas operations.120 [120 Brown, Heather, Memorandum to Bruce Moore, U.S.EPA/OAQPS/SPPD re Composition of Natural Gas for use in the Oil and Natural Gas Sector Rulemaking, July 28, 2011 (“Brown Memo”) at 3.] Vehicles and equipment are also responsible for generating harmful particulate matter.121 [121 Earthworks, Sources of Oil and Gas Pollution (2011); Bay Area Air Quality Management District, Particulate Matter Overview, Particulate Matter and Human Health (2012).]

Response: Air pollutant emissions from drilling and casing were included in the base and future year emissions inventory prepared for this Final Joint EIS/BLM RMP and BIA Integrated RMP. The method used to develop the emissions inventory was described in detail in Appendix J1 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP. As described in this appendix, equipment emissions from drilling and casing were included in the inventory.

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The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.
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- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (48): Flaring and venting of gas are also potential sources of air emissions. Gas flaring and venting can occur in both oil and gas recovery processes when underground gas rises to the surface and is not captured as part of production. Emissions from flaring typically include carbon monoxide, nitrogen oxides, benzene, formaldehyde and xylene, but levels of these smog-forming compounds are seldom measured directly.122 [122 Physicians for Social Responsibility and Concerned Health Professionals of NY, Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking, Fourth Edition, November 17, 2016 (“PSR 2016”).]

Response: As described in Appendix J1, venting was included in the emissions inventories presented in the analysis.

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Response: The BLM acknowledges the potential for fugitive emissions on page 4-26 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use
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Substantive Comment (50): Ethane, also a greenhouse gas, breaks down and reacts with sunlight to create smog. Ethane emissions have risen steeply in recent years due to U.S. oil and gas production. A recent study documented that ethane emissions in the Northern Hemisphere increased by about 400,000 tons annually between 2009 and 2014, with the majority coming from North American oil and gas activity, reversing a decades-long decline in ethane emissions.127 [127 Helmig, Detlev et al., Reversal of Global Atmospheric Ethane and Propane Trends Largely Due to US Oil and Natural Gas Production, 9 Nature Geoscience 490 (2016). ] About 60 percent of the drop in ethane levels that occurred over the past 40 years has already been made up in the past five years. At this rate, U.S. ethane levels are expected to hit 1970s levels in about three years. About two percent of global ethane emissions originate from the Bakken Shale oil and gas field alone, which emits 250,000 tons of ethane per year.128 [128 Kort, Eric A. et al., Fugitive Emissions From the Bakken Shale Illustrate Role of Shale Production in Global Ethane Shift. 43 Geophysical Research Letters 4617 (2016). ] Because global ethane levels were decreasing until 2009, the U.S. shale gas boom is thought to be responsible for the global increase in levels since 2010.

Response: Comment noted. In accordance with the EPA, ethane is one of hundreds of non-methane volatile organic compounds that are not direct GHGs but that indirectly affect terrestrial radiation absorption. They
do this by influencing the formation and destruction of tropospheric and stratospheric ozone (EPA 2019). As ethane is not a regulated criteria or toxic air pollutant, it is not considered in the air quality section of the Draft Joint EIS/BLM RMP and BIA Integrated RMP. Further, it is not a primary GHG required to be reported under the GHG reporting rule; as such, it is not considered in the climate change/GHG section of the Draft Joint EIS/BLM RMP and BIA Integrated RMP.

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- Climate Change: Chapter 4, Section 4.2.1.3
- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2
Substantive Comment (51): Fracking can 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 increasing natural gas production in the upwind, neighboring states of Pennsylvania and West Virginia.129 [129 Vinciguerra, Timothy et al, Regional Air Quality Impacts of Hydraulic Fracturing and Shale Natural Gas Activities: Evidence From Ambient VOC Observations. 110 Atmospheric Environment 144 (2015).]

Response: The BLM evaluated the far-field effects of oil and gas development in the air modeling study prepared for this action (see Appendix K in the Draft Joint EIS/BLM RMP and BIA Integrated RMP and Section 5.4.1.1). The method that the BLM used for the air analysis was developed in coordination with an interagency air quality working group convened for this Joint EIS/BLM RMP and BIA Integrated RMP. This was done in accordance with the Memorandum of Understanding Among the US Department of Agriculture, DOI, and US Environmental Protection Agency, Regarding Air Quality Analyses and Mitigation for Federal Oil And Gas Decisions through the National Environmental Policy Act Process (USDA 2011).

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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Substantive Comment (52): Evaporation from pits can also contribute to air pollution. Pits that store drilling waste, produced water, and other waste fluid may be exposed to the open air. Chemicals mixed with the wastewater—including the additives used to make fracking fluids, as well as volatile hydrocarbons, such as benzene and toluene, brought to the surface with the waste—can escape into the air through evaporation. Some pits are equipped with pumps that spray effluents into the air to hasten the evaporation process. For example, evaporation from fracking waste pits in western Colorado was found to have added tons of toxic chemicals to the air, increasing air pollution in Utah.130 [130 Maffy, Brian, Utah grapples with toxic water from oil and gas industry, The Salt Lake Tribune, August 28, 2014, available at http://archive.sltrib.com/story.php?ref=/sltrib/news/58298470-78/danish-flats-ponds-company.html.csp; The company responsible for the waste pits was found to have operated without a permit, underreported emissions and provided erroneous data to regulators.] In Texas, toxic air emissions from fracking waste pits are unmonitored and unregulated.131 [131 Center for Public Integrity. Open Pits Offer Cheap Disposal for Fracking Sludge But Health Worries Mount, October 2, 2014.] In California, unlined disposal pits for drilling and fracking waste are documented sources of contamination.132 [132 Stringfellow, William T. et al., Impacts of Well Stimulation on Water Resources, In California Council on Science and Technology, An Independent Assessment of Well Stimulation in California, Volume 2, Chapter 2 (2015) (“CCST 2015”) at 110-113.] Even where waste fluid is stored in so-called “closed loop” storage tanks, fugitive emissions can escape from tanks.

Response: A discussion of wastewater evaporation is beyond the scope of this Joint EIS/BLM RMP and BIA Integrated RMP. Emissions from project-level actions would be evaluated at the permitting stage of development, in accordance with applicable federal, state, and local regulations in the proposed project area.
impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

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- Air Quality: Chapter 4, Section 4.2.1.2
- Climate Change: Chapter 4, Section 4.2.1.3
- Water Resources: Chapter 4, Sections 4.2.16 and 4.3.4 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4
- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (53): Truck traffic related to oil and gas extraction contributes to air emissions. Trucks capable of transporting large volumes of chemicals and waste fluid typically use large engines that run on diesel fuel, also increasing threats of NOx and PM emissions.

Response: On page 4-14 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges that vehicle traffic is a source of emissions during construction and that the primary air pollutants emitted during construction are NOx, PM10, and PM2.5.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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Substantive Comment (54): Health Impacts of Increased Air Pollution The potential harms resulting from increased exposure to the dangerous air pollutants from unconventional oil and gas development are serious and wide-ranging. A growing body of scientific research has documented adverse public health impacts from unconventional oil and gas development, including studies showing air pollutants at levels associated with reproductive and developmental harms and the increased risk of morbidity and mortality.133

[133 Hays, Jake & Seth B.C. Shonkoff, Towards an Understanding of the Environmental and Public Health Impacts of Unconventional Natural Gas Development: A Categorical Assessment of the Peer-Reviewed Scientific Literature, 11 PLoS ONE e0154164 (2016); Shonkoff 2014; Webb, Ellen et al., Developmental and reproductive effects of chemicals associated with unconventional oil and natural gas operations, 29 Rev Environ Health 307 (2014); McKenzie 2012; Clean Air Task Force, Fossil Fumes: A Public Health Analysis of Toxic Air Pollution From the Oil and Gas Industry, June 2016, available at http://www.catf.us/resources/publications/files/FossilFumes.pdf.] A comprehensive review of the risks and harms of fracking to public health came to several key findings related to air pollution: (1) “drilling and fracking emissions contribute to toxic air pollution and smog (ground-level ozone) at levels known to have health impacts,” (2) “public health problems associated with drilling and fracking, including reproductive impacts and occupational health and safety problems, are increasingly well documented”; and (3) “fracking infrastructure poses serious potential exposure risks to those living near it.” 134 [134 Physicians for Social Responsibility and Concerned Health Professionals of NY, Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking, Fourth Edition, November 17, 2016 (“PSR 2016”).]

Response: The BLM and BIA used the most recent and best information available that was relevant to a land use planning-level analysis. The agencies consulted with other agencies and sources and collected, and incorporated data from them; some of these are the US Fish and Wildlife Service (USFWS), state agencies, local governments, and Native American tribes. As a result of these actions, the BLM and BIA gathered the
data necessary to make a reasoned choice among the alternatives analyzed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP (see Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts). As a result, the BLM and BIA have taken a hard look, as required by the NEPA (40 CFR 1502.16), at the environmental consequences of the alternatives in the Draft Joint EIS/BLM RMP and BIA Integrated RMP. This was to enable informed decision-making.

The CEQ regulations require an EIS to “succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. The description shall be no longer than is necessary to understand the effects of the alternatives. Data and analyses in a statement shall be commensurate with the importance of the impact, with less important material summarized, consolidated, or simply referenced. Agencies shall avoid useless bulk in statements and shall concentrate effort and attention on important issues” (40 CFR 1502.15).

The BLM and BIA complied with these regulations in describing the affected environment. The requisite level of information necessary to make a reasoned choice among the alternatives in an EIS is based on the scope and nature of the proposed action. The analysis provided in Chapter 3, Affected Environment, and various appendices in the Draft Joint EIS/BLM RMP and BIA Integrated RMP is sufficient to support, at the general land use planning-level of analysis, the environmental impact analysis of management actions in the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP.

On page 4-14 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges that emissions from oil and gas development have the potential to affect air quality. It developed emissions inventories to evaluate the potential for air pollutants to increase or decrease over the life of the plan.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Air Quality: Chapter 4, Section 4.2.1.2
- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (55): The range of illnesses that can result from the wide array of air pollutants from fracking were summarized in a study by Dr. Theo Colburn, which charts which chemicals have been shown to be linked to certain illnesses.135 [135 Colborn 2011; Colborn 2012; see note 120 & accompanying text below.] This study analyzed air samples taken during drilling operations near natural gas wells and residential areas in Garfield County, Colorado and detected 57 chemicals between July 2010 and October 2011, including 44 with reported health effects.136 [136 Colborn 2012 at pp. 21-22 (pages refer to page numbers in attached manuscript and not journal pages).] For example: Thirty-five chemicals were found to affect the brain/nervous system, 33 the liver/metabolism, and 30 the endocrine system, which includes reproductive and developmental effects. The categories with the next highest numbers of effects were the immune system (28), cardiovascular/blood (27), and the sensory and respiratory systems (25 each). Eight chemicals had health effects in all 12 categories. There were also several chemicals for which no health effect data could be found.137 [137 Colborn 2012 at 11.] The study found extremely high levels of methylene chloride, which may be used as cleaning solvents to remove waxy paraffin that is commonly deposited by raw natural gas in the region. These deposits solidify at ambient temperatures and build up on equipment.138 [138 Id. at 10.] While none of the detected chemicals exceeded governmental safety thresholds of exposure, the study noted that such thresholds are typically based on “exposure of a grown man encountering relatively high concentrations of a chemical over a brief time period, for example, during occupational exposure.”139 [139 Id. at 11-12.] Consequently, such thresholds may not apply to individuals experiencing “chronic, sporadic, low-level exposure,” including sensitive populations such as children, the elderly, and pregnant women.140 [140 Id. at 12.] For example, the study detected polycyclic aromatic hydrocarbon (PAH) levels that could be of “clinical significance,” as recent studies have linked low levels of exposure to lower mental development in children who were prenatally exposed.141 [141 Id. at 10-11.] In addition, government safety standards do not take into account “the kinds of effects found from low-level exposure to endocrine-disrupting chemicals...,” which can be particularly harmful during prenatal development and childhood.142 [142 Id. at 12.]

Response: The BLM and BIA used the most recent and best information available that was relevant to a land use planning-level analysis. The agencies consulted with other agencies and sources and collected, and incorporated data from them; some of these are the US Fish and Wildlife Service (USFWS), state agencies, local governments, and Native American tribes. As a result of these actions, the BLM and BIA gathered the data necessary to make a reasoned choice among the alternatives analyzed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP (see Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts). As a result, the BLM and BIA have taken a hard look, as required by the NEPA (40 CFR 1502.16),
at the environmental consequences of the alternatives in the Draft Joint EIS/BLM RMP and BIA Integrated RMP. This was to enable informed decision-making.

The CEQ regulations require an EIS to “succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. The description shall be no longer than is necessary to understand the effects of the alternatives. Data and analyses in a statement shall be commensurate with the importance of the impact, with less important material summarized, consolidated, or simply referenced. Agencies shall avoid useless bulk in statements and shall concentrate effort and attention on important issues” (40 CFR 1502.15).

The BLM and BIA complied with these regulations in describing the affected environment. The requisite level of information necessary to make a reasoned choice among the alternatives in an EIS is based on the scope and nature of the proposed action. The analysis provided in Chapter 3, Affected Environment, and various appendices in the Draft Joint EIS/BLM RMP and BIA Integrated RMP is sufficient to support, at the general land use planning-level of analysis, the environmental impact analysis of management actions in the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP.

On page 4-14 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges that emissions from oil and gas development have the potential to affect air quality. It developed emissions inventories to evaluate the potential for air pollutants to increase or decrease over the life of the plan.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP
addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- **BLM Impacts Analysis:** Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.
- **Air Resources:** Chapter 4, Sections 4.2.1.1 and 4.3.1 Cumulative Impacts on Air Resources: Chapter 5, Section 5.4.1
- **Air Quality:** Chapter 4, Section 4.2.1.2
- **Climate Change:** Chapter 4, Section 4.2.1.3
- **Public Health and Safety:** Chapter 4, Sections 4.2.4.2 and 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

**Substantive Comment (56):** In a literature review of studies that measured compounds in air near or on sites of unconventional oil and gas extraction in the U.S., 21 chemicals were identified that have been shown to have endocrine activity including estrogenic and androgenic activity and the ability to alter steroidogenesis.143 [143 Bolden, A. et al., Exploring the Endocrine Activity of Air Pollutants Associated with Unconventional Oil and Gas Extraction, 17 Environmental Health (2018).] Endocrine disruptors can act at low exposure concentrations, and exposures can lead to suboptimal developmental, behavioral, reproductive, and metabolic conditions. Other chemicals identified in the study, many previously designated by the U.S. EPA as suspected or known carcinogens, are known to cause adverse developmental or reproductive effects and impairment to neurophysiological functions. These chemicals included aromatics such as benzene, toluene, ethylbenzene, and xylene, polycyclic aromatic hydrocarbons, and mercury.

**Response:** The BLM and BIA used the most recent and best information available that was relevant to a land use planning-level analysis. The agencies consulted with other agencies and sources and collected, and incorporated data from them; some of these are the US Fish and Wildlife Service (USFWS), state agencies, local governments, and Native American tribes. As a result of these actions, the BLM and BIA gathered the data necessary to make a reasoned choice among the alternatives analyzed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP (see Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts). As a result, the BLM and BIA have taken a hard look, as required by the NEPA (40 CFR 1502.16), at the environmental consequences of the alternatives in the Draft Joint EIS/BLM RMP and BIA Integrated RMP. This was to enable informed decision-making.

The CEQ regulations require an EIS to “succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. The description shall be no longer than is necessary to understand the effects of the alternatives. Data and analyses in a statement shall be commensurate with the importance of the impact, with less important material summarized, consolidated, or simply referenced. Agencies shall avoid useless bulk in statements and shall concentrate effort and attention on important issues” (40 CFR 1502.15).

The BLM and BIA complied with these regulations in describing the affected environment. The requisite level of information necessary to make a reasoned choice among the alternatives in an EIS is based on the scope and nature of the proposed action. The analysis provided in Chapter 3, Affected Environment, and various appendices in the Draft Joint EIS/BLM RMP and BIA Integrated RMP is sufficient to support, at the general land use planning-level of analysis, the environmental impact analysis of management actions in the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP.

On page 4-14 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges that emissions from oil and gas development have the potential to affect air quality. It developed emissions inventories to
evaluate the potential for air pollutants to increase or decrease over the life of the plan. Indirect impacts of mineral development are acknowledged in the public health and safety impact analysis.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.
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- Air Quality: Chapter 4, Section 4.2.1.2
- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (57): Adverse health impacts documented among residents living near drilling and fracking operations include reproductive harms, increased asthma attacks, increased rates of hospitalization, ambulance runs, emergency room visits, self-reported respiratory problems and rashes, motor vehicle fatalities, trauma, and drug abuse. A 2016 review concluded: By several measures, evidence for frackin-
related health problems is emerging across the United States. In Pennsylvania, as the number of gas wells increase in a community, so do rates of hospitalization. Drilling and fracking operations are correlated with elevated motor vehicle fatalities (Texas), asthma (Pennsylvania), self-reported skin and respiratory problems (southwestern Pennsylvania), ambulance runs and emergency room visits (North Dakota), infant deaths (Utah), birth defects (Colorado), high risk pregnancies (Pennsylvania), premature birth (Pennsylvania), and low birthweight (multiple states). Benzene levels in ambient air surrounding drilling and fracking operations are sufficient to elevate risks for future cancers in both workers and nearby residents, according to studies. Animal studies show that two dozen chemicals commonly used in fracking operations are endocrine disruptors that can variously disrupt organ systems, lower sperm counts, and cause reproductive harm at levels to which people can be realistically exposed.144 [144 PSR 2016 at 93.]

Response: The BLM and BIA used the most recent and best information available that was relevant to a land use planning-level analysis. The agencies consulted with other agencies and sources and collected, and incorporated data from them; some of these are the US Fish and Wildlife Service (USFWS), state agencies, local governments, and Native American tribes. As a result of these actions, the BLM and BIA gathered the data necessary to make a reasoned choice among the alternatives analyzed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP (see Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts). As a result, the BLM and BIA have taken a hard look, as required by the NEPA (40 CFR 1502.16), at the environmental consequences of the alternatives in the Draft Joint EIS/BLM RMP and BIA Integrated RMP. This was to enable informed decision-making.

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The BLM and BIA complied with these regulations in describing the affected environment. The requisite level of information necessary to make a reasoned choice among the alternatives in an EIS is based on the scope and nature of the proposed action. The analysis provided in Chapter 3, Affected Environment, and various appendices in the Draft Joint EIS/BLM RMP and BIA Integrated RMP is sufficient to support, at the general land use planning-level of analysis, the environmental impact analysis of management actions in the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP.

On page 4-14 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges that emissions from oil and gas development have the potential to affect air quality. It developed emissions inventories to evaluate the potential for air pollutants to increase or decrease over the life of the plan. On page 4-317 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges the potential public health safety hazards from chemicals used during hydraulic fracturing.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use
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- Air Resources: Chapter 4, Sections 4.2.1.1 and 4.3.1 Cumulative Impacts on Air Resources: Chapter 5, Section 5.4.1
- Air Quality: Chapter 4, Section 4.2.1.2
- Water Resources: Chapter 4, Sections 4.2.16 and 4.3.4 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4
- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (58): A rigorous study by Johns Hopkins University, which examined 35,000 medical records of people with asthma in Pennsylvania, found that people who live near a higher number of, or larger, active gas wells were 1.5 to 4 times more likely to suffer from asthma attacks than those living farther away, with the closest groups having the highest risk. Relatedly, in a 2018 study of pediatric asthma-related hospitalizations, it was found that children and adolescents exposed to newly spudded unconventional natural gas development wells within their zip code had 1.25 times the odds of experiencing an asthma-related hospitalization compared to children who did not live in these communities. Furthermore, children and adolescents living in a zip code with any current or previous drilling activity had 1.19 times the odds of experiencing an asthma-related hospitalization compared to children who did not live in these communities. Amongst children and adolescents (ages 2-18), children between 2 and 6 years of age had the greatest odds of hospitalization in both scenarios.
Response: The BLM and BIA used the most recent and best information available that was relevant to a land use planning-level analysis. The agencies consulted with other agencies and sources and collected, and incorporated data from them; some of these are the US Fish and Wildlife Service (USFWS), state agencies, local governments, and Native American tribes. As a result of these actions, the BLM and BIA gathered the data necessary to make a reasoned choice among the alternatives analyzed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP (see Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts). As a result, the BLM and BIA have taken a hard look, as required by the NEPA (40 CFR 1502.16), at the environmental consequences of the alternatives in the Draft Joint EIS/BLM RMP and BIA Integrated RMP. This was to enable informed decision-making.

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The BLM and BIA complied with these regulations in describing the affected environment. The requisite level of information necessary to make a reasoned choice among the alternatives in an EIS is based on the scope and nature of the proposed action. The analysis provided in Chapter 3, Affected Environment, and various appendices in the Draft Joint EIS/BLM RMP and BIA Integrated RMP is sufficient to support, at the general land use planning-level of analysis, the environmental impact analysis of management actions in the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP.

On page 4-14 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges that emissions from oil and gas development have the potential to affect air quality. It developed emissions inventories to evaluate the potential for air pollutants to increase or decrease over the life of the plan.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the
planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

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- Air Resources: Chapter 4, Sections 4.2.1.1 and 4.3.1 Cumulative Impacts on Air Resources: Chapter 5, Section 5.4.1
- Air Quality: Chapter 4, Section 4.2.1.2
- Public Health and Safety: Chapter 4, Sections 4.2.4.2 and 4.3.22 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (59): A recent Yale University study identified numerous fracking chemicals that are known, probable, or possible human carcinogens (20 air pollutants) and/or are linked to increased risk for leukemia and lymphoma (11 air pollutants), including benzene, 1,3-butadiene, cadmium, diesel exhaust, and polycyclic aromatic hydrocarbons.147 [147 Elliot, Elise G. et al., A Systematic Evaluation of Chemicals in Hydraulic-Fracturing Fluids and Wastewater for Reproductive and Developmental Toxicity, 27 Journal of Exposure Science and Environmental Epidemiology 90 (2016).]

Response: The BLM and BIA used the most recent and best information available that was relevant to a land use planning-level analysis. The agencies consulted with other agencies and sources and collected, and incorporated data from them; some of these are the US Fish and Wildlife Service (USFWS), state agencies, local governments, and Native American tribes. As a result of these actions, the BLM and BIA gathered the data necessary to make a reasoned choice among the alternatives analyzed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP (see Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts). As a result, the BLM and BIA have taken a hard look, as required by the NEPA (40 CFR 1502.16), at the environmental consequences of the alternatives in the Draft Joint EIS/BLM RMP and BIA Integrated RMP. This was to enable informed decision-making.

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On page 4-14 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges that emissions from oil and gas development have the potential to affect air quality. It developed emissions inventories to evaluate the potential for air pollutants to increase or decrease over the life of the plan. On page 4-317 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges the potential public health safety hazards from chemicals used during hydraulic fracturing.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- **Public Health and Safety**: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2
**Substantive Comment (60):** In a 2018 study by McKenzie et al. conducted in the Denver Julesberg Basin on the Colorado Northern Front Range (CNFR), it was found that the currently established setback distance of 152 m (500 ft) does little to protect people in that proximity. In analyses of nonmethane concentrations from 152 to >1600 m from oil and gas facilities, it was found that the EPA’s minimum cumulative lifetime excess cancer risk benchmark of 1 in a million was exceeded. Cumulative lifetime excess cancer risk increased with decreasing distance from the nearest oil and gas facility. Residents living within 610 m of and oil and gas facility had an overall cancer risk in excess of the EPA’s upper bound for remedial action of 1 in 10,000. Furthermore, residents within 152 m of an oil and gas facility had an overall excess cancer risk of 8.3 in 10,000, along with an increased likelihood of neurological, hematological, and developmental health effects. Over 95% of the total risk was due to benzene, with additional risk due to the presence of toluene, ethylbenzene, xylene, and alkanes.148 [148 McKenzie, Lisa et al., Ambient Nonmethane Hydrocarbon Levels Along Colorado’s Northern Front Range: Acute and Chronic Health Risks, 52 Environmental Science & Technology 4514 (2018).]

**Response:** The BLM and BIA used the most recent and best information available that was relevant to a land use planning-level analysis. The agencies consulted with other agencies and sources and collected, and incorporated data from them; some of these are the US Fish and Wildlife Service (USFWS), state agencies, local governments, and Native American tribes. As a result of these actions, the BLM and BIA gathered the data necessary to make a reasoned choice among the alternatives analyzed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP (see **Chapter 4**, Environmental Consequences, and **Chapter 5**, Cumulative Impacts). As a result, the BLM and BIA have taken a hard look, as required by the NEPA (40 CFR 1502.16), at the environmental consequences of the alternatives in the Draft Joint EIS/BLM RMP and BIA Integrated RMP. This was to enable informed decision-making.

The CEQ regulations require an EIS to “succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. The description shall be no longer than is necessary to understand the effects of the alternatives. Data and analyses in a statement shall be commensurate with the importance of the impact, with less important material summarized, consolidated, or simply referenced. Agencies shall avoid useless bulk in statements and shall concentrate effort and attention on important issues” (40 CFR 1502.15).

The BLM and BIA complied with these regulations in describing the affected environment. The requisite level of information necessary to make a reasoned choice among the alternatives in an EIS is based on the scope and nature of the proposed action. The analysis provided in **Chapter 3**, Affected Environment, and various appendices in the Draft Joint EIS/BLM RMP and BIA Integrated RMP is sufficient to support, at the general land use planning-level of analysis, the environmental impact analysis of management actions in the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP.

Well locations and setbacks would be determined at the site-specific level and would comply with applicable local, state, and federal laws; however, the potential impacts caused by decreased air quality are discussed in **Section 4.2.1.1**, Environmental Consequences (BLM Air Resources).

The BLM acknowledges the risks from oil and gas development to public health and safety in **Section 3.5.2** and **Table 4-16** (page 4-65). BMPs to reduce the likelihood of leaks and spills are included in **Appendix C**.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. **Chapter 4** of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in **Chapter 2**. The land use allocations and
resource management goals, objectives and actions described in **Chapter 2** are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in **Chapter 3**, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

**Chapter 4**, Environmental Consequences, and **Chapter 5**, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in **Chapter 2**. The Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- **BLM Impacts Analysis:** Chapter 4, Section 4.2, BIA Impacts Analysis: Chapter 4, Section 4.3 and Cumulative Impacts Chapter 5, Section 5.4.
- **Air Resources:** Chapter 4, Sections 4.2.1.1 and 4.3.1 and Cumulative Impacts on Air Resources: Chapter 5, Section 5.4.1
- **Air Quality:** Chapter 4, Section 4.2.1.2
- **Water Resources:** Chapter 4, Sections 4.2.4.2 and 4.3.4 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4
- **Public Health and Safety:** Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

**Substantive Comment (61):** Numerous studies also suggest that higher maternal exposure to fracking and drilling can increase the incidence of high-risk pregnancies, premature births, low-birthweight babies, and birth defects. A study of more than 1.1 million births in Pennsylvania found evidence of a greater incidence of low-birth-weight babies and significant declines in average birth weight among pregnant women living within 3 km of fracking sites.149 [149 Currie, Janet et al., Hydraulic fracturing and infant health: New evidence from Pennsylvania, 3 Science Advances e1603021 (2017).] The study estimated that about 29,000 U.S. births each year occur within 1 km of an active fracking sties and “that these births therefore may be at higher risk of poor birth outcomes.” A study of 9,384 pregnant women in Pennsylvania found that women who live near active drilling and fracking sites had a 40 percent increased risk for having premature birth and a 30 percent increased risk for having high-risk pregnancies.150 [150 Casey, Joan A., Unconventional Natural Gas Development and Birth Outcomes in Pennsylvania, USA, 27 Epidemiology 163 (2016).] Another
Pennsylvania study found that pregnant women who had greater exposure to gas wells -- measured in terms of proximity and density of wells -- had a much higher risk of having low-birthweight babies; the researchers identified air pollution as the likely route of exposure.151 [151 Stacy, Shaina L. et al., Perinatal Outcomes and Unconventional Natural Gas Operations in Southwest Pennsylvania. 10 PLoS ONE e0126425 (2015).]

In rural Colorado, mothers with greater exposure to natural gas wells were associated with a higher risk of having babies with congenital heart defects and possibly neural tube defects.152 [152 McKenzie, Lisa M., Birth Outcomes and Maternal Residential Proximity to Natural Gas Development in Rural Colorado, 122 Environmental Health Perspectives 412 (2014).] Based on a cohort study of live births in Oklahoma from January 1, 2017 to December 31, 2009, an increased prevalence of neural tube defects was found in children with natural gas wells within a 2-mile buffer of their birth residence compared to children with no wells.153 [153 Janitz, A. et al., The Association between Natural Gas Well Activity and Specific Congenital Anomalies in Oklahoma, 1997-2009, 122 Environment International 381 (2019).] Also, although not rising to the level of statistical significance, certain critical congenital heart defects, such as transposition of the great arteries and interrupted aortic arch, were increased among children living in areas with natural gas wells compared to those living in areas without wells.

Response: The BLM and BIA used the most recent and best information available that was relevant to a land use planning-level analysis. The agencies consulted with other agencies and sources and collected, and incorporated data from them; some of these are the US Fish and Wildlife Service (USFWS), state agencies, local governments, and Native American tribes. As a result of these actions, the BLM and BIA gathered the data necessary to make a reasoned choice among the alternatives analyzed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP (see Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts). As a result, the BLM and BIA have taken a hard look, as required by the NEPA (40 CFR 1502.16), at the environmental consequences of the alternatives in the Draft Joint EIS/BLM RMP and BIA Integrated RMP. This was to enable informed decision-making.

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The BLM and BIA complied with these regulations in describing the affected environment. The requisite level of information necessary to make a reasoned choice among the alternatives in an EIS is based on the scope and nature of the proposed action. The analysis provided in Chapter 3, Affected Environment, and various appendices in the Draft Joint EIS/BLM RMP and BIA Integrated RMP is sufficient to support, at the general land use planning-level of analysis, the environmental impact analysis of management actions in the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP.

On page 4-14 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges that emissions from oil and gas development have the potential to affect air quality. It developed emissions inventories to evaluate the potential for air pollutants to increase or decrease over the life of the plan. In section 4.2.4.2 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges the potential public health safety hazards from chemicals used during hydraulic fracturing.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of...
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The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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- Public Health and Safety: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (62): Other studies have found that residents living closer to drilling and fracking operations had higher hospitalization rates154 [154 Jemielita, Thomas et al., Unconventional Gas and Oil Drilling Is Associated with Increased Hospital Utilization Rates. 10 PLoS ONE e0131093 (2015).] and reported more health symptoms including upper respiratory problems and rashes.155 [155 Rabinowitz, Peter M. et al., Proximity to Natural Gas Wells and Reported Health Status: Results of a Household Survey in Washington County, Pennsylvania, 123 Environmental Health Perspectives 21 (2015).]

Response: The BLM and BIA used the most recent and best information available that was relevant to a land use planning-level analysis. The agencies consulted with other agencies and sources and collected, and incorporated data from them; some of these are the US Fish and Wildlife Service (USFWS), state agencies,
local governments, and Native American tribes. As a result of these actions, the BLM and BIA gathered the
data necessary to make a reasoned choice among the alternatives analyzed in the Draft Joint EIS/BLM RMP
and BIA Integrated RMP (see Chapter 4, Environmental Consequences, and Chapter 5, Cumulative
Impacts). As a result, the BLM and BIA have taken a hard look, as required by the NEPA (40 CFR 1502.16),
at the environmental consequences of the alternatives in the Draft Joint EIS/BLM RMP and BIA Integrated
RMP. This was to enable informed decision-making.

The CEQ regulations require an EIS to “succinctly describe the environment of the area(s) to be affected or
created by the alternatives under consideration. The description shall be no longer than is necessary to
understand the effects of the alternatives. Data and analyses in a statement shall be commensurate with the
importance of the impact, with less important material summarized, consolidated, or simply referenced.
Agencies shall avoid useless bulk in statements and shall concentrate effort and attention on important
issues” (40 CFR 1502.15).

The BLM and BIA complied with these regulations in describing the affected environment. The requisite level
of information necessary to make a reasoned choice among the alternatives in an EIS is based on the scope
and nature of the proposed action. The analysis provided in Chapter 3, Affected Environment, and various
appendices in the Draft Joint EIS/BLM RMP and BIA Integrated RMP is sufficient to support, at the general
land use planning-level of analysis, the environmental impact analysis of management actions in the Final Joint
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On page 4-14 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges that emissions
from oil and gas development have the potential to affect air quality. It developed emissions inventories to
evaluate the potential for air pollutants to increase or decrease over the life of the plan. In section 4.2.4.2 of
the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges the potential public health
safety hazards from chemicals used during hydraulic fracturing.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal
land use management laws, regulations, policies, and executive level direction. As required by policy guidance,
the BLM met its environmental impacts analysis and NEPA hard look requirements through development of
the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed
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use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use
allocations set the stage for future land management actions and subsequent site-specific or implementation
level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on
an average annual basis on BLM-administered lands. This approach to land use planning provides context for
the environmental analysis of each alternative, implementation of which would result in varying degrees of
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on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each
alternative provides a broad management framework, the exact location, timing, and level of development
or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the
estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The
impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the
planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent
literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

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- Air Quality: Chapter 4, Section 4.2.1.2
- Water Resources: Chapter 4, Sections 4.2.4.2 and 4.3.4 and Cumulative Impacts for Water Resources Chapter 5, Section 5.4.1.4
- Public Health and Safety: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (63): Workers suffer high risks from toxic exposure and accidents.156 [156 Esswein, Eric J. et al., Occupational Exposures to Respirable Crystalline Silica During Hydraulic Fracturing, 10 Journal of Occupational and Environmental Hygiene 347 (2013); Esswein, Eric et al., Evaluation of Some Potential Chemical Exposure Risks during Flowback Operations in Unconventional Oil and Gas Extraction: Preliminary Results, 11 Journal of Occupational and Environmental Hygiene D174 (2013), Harrison, Robert J. et al., Sudden Deaths Among Oil and Gas Extraction Workers Resulting from Oxygen Deficiency and Inhalation of Hydrocarbon Gases and Vapors - United States, January 2010-March 2015. 65 MMWR Morb Mortal Wkly Rep 6 (2016); PSR 2016.] One study of the occupational inhalation risks caused by emissions from chemical storage tanks associated with fracking wells found that chemicals used in 12.4 percent of wells posed acute non-cancer risks, chemicals used in 7.5 percent of wells posed acute cancer risks, and chemicals used in 5.8 percent of wells posed chronic cancer risks.157 [157 Chen, Huan & Kimberly E. Carter, Modeling potential occupational inhalation exposures and associated risks of toxic organics from chemical storage tanks used in hydraulic fracturing using AERMOD, 224 Environmental Pollution 300 (2017).] As summarized below: Drilling and fracking jobs are among the most dangerous jobs in the nation with a fatality rate that is five times the national average and shows no sign of abating. Occupational hazards include head injuries, traffic accidents, blunt trauma, burns, inhalation of hydrocarbon vapors, toxic chemical exposures, heat exhaustion, dehydration, and sleep deprivation. An investigation of occupational exposures found high levels of benzene in the urine of wellpad workers, especially those in close proximity to flowback fluid coming up from wells following fracturing activities. Exposure to silica dust, which is definitively linked to silicosis and lung cancer, was singled out by the National Institute for Occupational Safety and Health as a particular threat to workers in fracking operations where silica sand is used. At the same time, research shows that many gas field workers, despite these serious occupational hazards, are uninsured or underinsured and lack access to basic medical care.158 [158 PSR 2016 at 80]

Response: The BLM and BIA used the most recent and best information available that was relevant to a land use planning-level analysis. The agencies consulted with other agencies and sources and collected, and incorporated data from them; some of these are the US Fish and Wildlife Service (USFWS), state agencies, local governments, and Native American tribes. As a result of these actions, the BLM and BIA gathered the
data necessary to make a reasoned choice among the alternatives analyzed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP (see Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts). As a result, the BLM and BIA have taken a hard look, as required by the NEPA (40 CFR 1502.16), at the environmental consequences of the alternatives in the Draft Joint EIS/BLM RMP and BIA Integrated RMP. This was to enable informed decision-making.

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The BLM acknowledges the risks from oil and gas development to public health and safety in Section 3.5.2 and Table 4-16 (page 4-65). Additionally, in Section 5.4.4.2, the BLM adequately analyzed the cumulative impacts on the health and safety of workers from mineral exploration and oil and gas development.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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Substantive Comment (64): Methods of collecting and analyzing emissions data often underestimate health risks by failing to adequately measure the intensity, frequency, and duration of community exposure to toxic chemicals from fracking and drilling; failing to examine the effects of chemical mixtures; and failing to consider vulnerable populations.159 [159 Brown, David et al., Understanding Exposure From Natural Gas Drilling Puts Current Air Standards to the Test. 29 Reviews on Environmental Health 277 (2014).] Of high concern, numerous studies highlight that health assessments drilling and fracking emissions often fail to consider impact on vulnerable populations including environmental justice communities160 [160 NRDC [Natural Resources Defense Council], Drilling in California: Who’s At Risk?, October 2014 (“NRDC 2014”); Clough, Emily & Derek Bell, Just Fracking: A Distributive Environmental Justice Analysis of Unconventional Gas Development in Pennsylvania, USA, 11 Environmental Research Letters 025001 (2016); McKenzie, Lisa M. et al., Population Size, Growth, and Environmental Justice Near Oil and Gas Wells in Colorado, 50 Environmental Science & Technology 11471 (2016).] and children.161 [161 Webb, Ellen et al., Potential Hazards of Air Pollutant Emissions From Unconventional Oil and Natural Gas Operations on The Respiratory Health of Children And Infants. 31 Reviews on Environmental Health 225 (2016).] For example, a recent analysis of oil and gas development in California found that 14 percent of the state’s population totaling 5.4 million people live within a mile of at least one oil and gas well. More than a third of these residents, totaling 1.8 million people, also live in areas most burdened by environmental pollution.162 [162 NRDC 2014.]

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be...
undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

On page 4-14 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges that emissions from oil and gas development have the potential to affect air quality. It developed emissions inventories to evaluate the potential for air pollutants to increase or decrease over the life of the plan. In Section 4.2.1.1 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges the potential public health safety hazards from chemicals used during mineral exploration and development.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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- Public Health and Safety: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2
Substantive Comment (65): Regional Air Pollution Emitted By Drilling and Fracking Operations

Numerous studies show that throughout the U.S., oil and gas activities, including fracking, are significantly impacting local air quality where these activities are prevalent. The DEIS must disclose the potential for oil and gas activities to undermine attainment of air quality standards in the planning area.

Response: As described on page 4-8 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, BLM-administered mineral estate represents less than 2 percent of mineral estate in the planning area. As such, BLM-authorized uses are a small contributor of air pollutant emissions in the context of regional air quality conditions. For this reason, the BLM did not perform a near-field analysis of air quality impacts from potential BLM-authorized development. This decision was supported by the interagency air working group convened for the Joint EIS/BLM RMP and BIA Integrated RMP. The BLM evaluated the cumulative effect on air quality (see Appendix K in the Draft Joint EIS/BLM RMP and BIA Integrated RMP). It took into account changes in projected concentrations of criteria air pollutants between the base year and future year from BLM-authorized development, in combination with oil and gas development from non-federal mineral estate and other sources. This air modeling study is summarized in Section 5.4.1.1 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

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addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: **Chapter 4, Section 4.2**, BIA Impacts Analysis: **Chapter 4, Section 4.3** and Cumulative Impacts **Chapter 5, Section 5.4**.
- Air Resources: **Chapter 4, Sections 4.2.1.1** and **4.3.1** and Cumulative Impacts on Air Resources: **Chapter 5, Section 5.4.1**
- Air Quality: **Chapter 4, Section 4.2.1.2**

**Substantive Comment (66):** Texas and Oklahoma The Dallas-Fort Worth and Houston-Galveston-Brazoria regions of Texas have hazardous ozone levels exceeding federal safety standards.163 [163 U.S. Environmental Protection Agency, Current Nonattainment Areas For All Criteria Air Pollutants, as of September 22, 2016, available at https://www3.epa.gov/airquality/greenbook/ancl.html] Studies have documented high concentrations of air pollutants coming from unconventional oil and gas operations in Texas, which have been linked to increased ozone production. A study evaluating long-term trends in ozone concentrations in the Dallas-Fort Worth (DFW) area found that shale gas operations in the Barnett Shale contribute substantially to ground-level ozone pollution to the DFW area.164 [164 Ahmadi, Mahdi & John Kuruvilla, Statistical Evaluation of the Impact of Shale Gas Activities on Ozone Pollution in North Texas, 536 Science of the Total Environment 457 (2015).] Meteorologically adjusted ozone components were 8 percent higher on average in the shale gas region compared to the non-shale-gas region, with some stations in the shale gas region showing “very sharp upward trend in the mean and peak values” of VOCs. The study concluded that “directional analysis shows higher rate of ozone production in the shale gas region.” Another study that modeled emissions from a natural gas processing facility in the Barnett Shale in summer predicted that facility emissions would significantly increase ambient ozone levels, by more than 3 ppb from compressor engines and by up to 10 ppb at 16 km downwind from flaring.165 [165 Olgauer, Eduardo P., The Potential Near-Source Ozone Impacts of Upstream Oil and Gas Industry Emissions, 62 Journal of the Air & Waste Management Association 966 (2012).]

**Response:** The BLM and BIA used the most recent and best information available that was relevant to a land use planning-level analysis. The agencies consulted with other agencies and sources and collected, and incorporated data from them; some of these are the US Fish and Wildlife Service (USFWS), state agencies, local governments, and Native American tribes. As a result of these actions, the BLM and BIA gathered the data necessary to make a reasoned choice among the alternatives analyzed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP (see **Chapter 4**, Environmental Consequences, and **Chapter 5**, Cumulative Impacts). As a result, the BLM and BIA have taken a hard look, as required by the NEPA (40 CFR 1502.16), at the environmental consequences of the alternatives in the Draft Joint EIS/BLM RMP and BIA Integrated RMP. This was to enable informed decision-making.

The CEQ regulations require an EIS to “succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. The description shall be no longer than is necessary to understand the effects of the alternatives. Data and analyses in a statement shall be commensurate with the importance of the impact, with less important material summarized, consolidated, or simply referenced. Agencies shall avoid useless bulk in statements and shall concentrate effort and attention on important issues” (40 CFR 1502.15).

The BLM and BIA complied with these regulations in describing the affected environment. The requisite level of information necessary to make a reasoned choice among the alternatives in an EIS is based on the scope and nature of the proposed action. The analysis provided in **Chapter 3**, Affected Environment, and various appendices in the Draft Joint EIS/BLM RMP and BIA Integrated RMP is sufficient to support, at the general
land use planning-level of analysis, the environmental impact analysis of management actions in the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP.

In Table 5-1 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges that the planning area exceeds the NAAQS for ozone. A detailed analysis of ozone impacts and future projections is included in the Draft Joint EIS/BLM RMP and BIA Integrated RMP, on pages 5-23 to 5-25 (including Table 5-7 and Figure 5-3). The BLM modeled ozone impacts using the method explained in Appendix K and reviewed and accepted by the interagency working group convened for this Joint EIS/BLM RMP and BIA Integrated RMP. The BLM believes it used the best available information to develop the analysis; additional information on the method and results of the analysis is in Appendix K.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

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- Air Quality: Chapter 4, Section 4.2.1.2
- Climate Change: Chapter 4, Section 4.2.1.3
**Substantive Comment (67):** In the Eagle Ford region of southern Texas, measurements at a recently established air quality monitor in Floresville, TX, just north of the Eagle Ford shale, documented high concentrations of hydrocarbon air pollutants coming from unconventional oil and gas operations. Ethane mixing ratios, which are a marker for oil and gas-related emissions, were regularly above ten times the typical clean air background, with instances of ethane mixing ratios at more than 100 times the background downwind of the source. The study concluded that high concentrations of non-methane hydrocarbons “may significantly contribute to ozone formation on a regional to continental scale” and that “conditions are thus conducive to efficient ozone production given adequate NOx abundances.”

**Response:** Comment noted. The BLM characterized air quality, including ozone levels, in the planning area, using best available data at the time of document preparation. This included an assessment of attainment status (pages 3-11 and 3-12 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP). The information that the commenter provided, while relevant to potential air quality impacts from oil and gas development, does not provide substantial new information relevant to this planning-level analysis; therefore, no change related to this comment has been made in the Final Joint EIS/BLM RMP and BIA Integrated RMP. Direct, indirect, and cumulative impacts on air quality from site-specific development proposals will be assessed at the time of project proposal.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Air Quality: Chapter 4, Section 4.2.1.2
- Climate Change: Chapter 4, Section 4.2.1.3
- Public Health and Safety: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (68): A study of BTEX air pollutants in the Eagle Ford shale region found high benzene and toluene concentrations originating from unconventional oil and gas well pad sites, including from natural gas flaring units, condensate tanks, compressor units, and hydrogen sulfide scavengers, at levels that could be harmful to workers: “[c]ollectively, these data suggest that individuals working on UD extraction sites for an extended period of time (8 h) could be subjected to potentially harmful levels of ambient benzene if the detected concentrations persisted at or above the observed levels and if the proper safety precautions are not implemented.”167 [167 Hilldenbrand, Zachariah L. et al., Point Source Attribution of Ambient Contamination Events Near Unconventional Oil and Gas Development, 573 Science of the Total Environment 382 (2016).]

Response: Comment noted. The BLM characterized air quality in the planning area, using best available data at the time of document preparation. The agency estimated HAP emissions, including benzene, toluene, ethylbenzene, and xylene (BTEX), based on the reasonably foreseeable development scenario and oil and gas forecast projections (see Section 4.2.1.1, Tables 4-2 through 4-5). The commenter does not provide substantial new information relevant to this planning-level analysis; therefore, no change related to this comment has been made in the Final Joint EIS/BLM RMP and BIA Integrated RMP.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each
O. Comment Summary and Response Report (Comment Categories, Summaries, and Responses)

alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

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- Public Health and Safety: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (69): Finally, a modeling study of natural gas production in the Haynesville Shale in Northeast Texas and Northwest Louisiana projected that the shale gas operations would generate significant emissions of ozone precursors and increase 8-hour ozone values, with the potential to affect other regions due to ozone transport.168 [168 Kemball-Cook, Susan et al., Ozone Impacts of Natural Gas Development in the Haynesville Shale, 4 Environmental Science & Technology 9357 (2010).]

Response: A detailed analysis of ozone impacts and future projections is in the Draft Joint EIS/BLM RMP and BIA Integrated RMP, including impacts from ozone precursors, such as NOx and VOCs (see Section 4.2.1.1, Tables 4-2 through 4-5, and Section 5.4.1.1, pages 5-23 to 5-25, and Table 5-7 and Figure 5-3). Additional information on the method and results of the analysis is in Appendix K. The commenter does not provide substantial new information relevant to this planning-level analysis; therefore, no change related to this comment has been made in the Final Joint EIS/BLM RMP and BIA Integrated RMP.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use
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- Public Health and Safety: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (70): Studies have consistently found that oil and gas operations in the Barnett Shale and Eagle Ford Shale are emitting significantly higher methane emissions than reported in national inventories, which is concerning due to methane’s role as an ozone precursor and potent greenhouse gas. Using remote sensing methods, one recent study found that methane emissions have grown significantly in the Eagle Ford region and correspond to a leakage rate of 9.1 percent of regional natural gas production.169 [169 Schneising, Oliver et al., Remote Sensing of Fugitive Methane Emissions From Oil and Gas Production in North American Tight Geologic Formations, 2 Earth’s Future doi:10.1002/2014EF000265 (2014) (“Schneising 2014”).] A study using airborne atmospheric measurements in spring and fall in the Barnett Shale region estimated that nearly 80 percent of the region’s methane emissions come from gas and oil operations, including production, processing, and distribution in the urban areas of Dallas and Fort Worth. The study’s estimate of methane emissions was higher than reported by industry to EPA’s Greenhouse Gas Reporting Program and higher than the Emissions Database for Global Atmospheric Research inventory (EDGAR).170 [170 Karion, Anna et al., Aircraft-based Estimate of Total Methane Emissions from the Barnett Shale Region, 49 Environmental Science & Technology 8124 (2015).]
Response: The Greenhouse Gas and Climate Change Report (see Appendix G of the Draft Joint EIS/BLM RMP and BIA Integrated RMP) characterizes methane emissions associated with oil and gas development, including fugitive sources of emissions. In Appendix J1 is the emissions inventory prepared to support the Comprehensive Air Quality Model with Extensions modeling for the Joint EIS/BLM RMP and BIA Integrated RMP. The preparers estimated the contribution of methane as an ozone precursor emission, based on EPA oil and gas tool emission factor ratios by oil and gas basin (Appendix A of Appendix J1 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP). As such, the preparers of this analysis used the best available data for estimating the potential contribution of methane in the planning area; it is appropriate for this planning-level analysis. In addition, federal mineral estate for oil and gas in Texas represents less than 0.7 percent of the total mineral estate and thus is a minor contributor of these emissions.

During development of the Oklahoma, Kansas, and Texas Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Climate Change: Chapter 4, Section 4.2.1.3
Substantive Comment (71): Another study that inventoried methane emissions in the 25-county Barnett Shale region using multiple data sources estimated that 64 percent of the region’s methane emissions come from oil and gas operations. 171 [171 Lyon, David R. et al., Constructing a Spatially Resolved Methane Emission Inventory for the Barnett Shale Region, 49 Environmental Science & Technology 8147 (2015).] The study’s estimate of oil and gas emissions was higher than reported in EPA’s Greenhouse Gas Inventory, EPA’s Greenhouse Gas Reporting Program, and EDGAR by factors of 1.5, 2.7, and 4.3, respectively. Similarly, a coordinated top-down (atmospheric) and bottom-up (source-based) inventory of methane estimates in the Barnett Shale region found that oil and gas methane emissions are 90 percent larger than estimates from the EPA’s Greenhouse Gas Inventory and correspond to 1.5 percent of natural gas production.172 [172 Zavala-Araiza, Daniel et al., Reconciling Divergent Estimates of Oil and Gas Methane Emissions, 112 PNAS 15597 (2015).] A larger scale study found that methane emissions from Texas, Oklahoma, and Kansas alone account for 24 percent of US methane emissions, and that drilling, processing, and refining activities over the south-central United States have emissions as much as 5 times larger than reported in EDGAR.173 [173 Miller, Scot M. et al., Anthropogenic Emissions of Methane in the United States, 110 PNAS 20018 (2013).]

Response: The Greenhouse Gas and Climate Change Report (see Appendix G of the Draft Joint EIS/BLM RMP and BIA Integrated RMP) characterizes baseline and projected methane emissions associated with oil and gas development for federal and tribal mineral estate in the three states. The report preparers used the best data available at the time of document production, which is appropriate to this planning-level detail of analysis.

Studies on methane from oil and gas operations continue to produce varying information on methane levels. For example, the preparers of a recent study suggested that the method of estimating methane levels using ethane as a proxy resulted in a major overestimation of oil and gas methane emission trends presented in some previous studies (Lan et al. 2019). Long-term measurements show little evidence for large increases in total US methane emissions over the past decade (Lan, et al. 2019). Federal mineral estate for oil and gas represents 2.1 percent of total mineral estate in Kansas, 1 percent in Oklahoma, and 0.7 percent in Texas; because of this, the information contained in the Draft Joint EIS/BLM RMP and BIA Integrated RMP is sufficient to allow a reasoned choice among alternatives in terms of the impact of BLM-authorized oil and gas development on air quality and climate change.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Climate Change: Chapter 4, Section 4.2.1.3
- Public Health and Safety: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (72): Wastewater evaporation is a significant source of air pollution in the Permian Basin. Using samples of hydraulic fracturing flowback wastewater form the Wolfcamp shale formation in the Permian Basin, laboratory studies revealed that the estimated formation of PM2.5 from evaporated flowback wastewater in Texas is in the range of estimated PM2.5 emissions from diesel engines used in oil rigs.174 [174 Bean, J., et al., Formation of Particulate Matter from the Oxidation of Evaporate Hydraulic Fracturing Wastewater, 52 Environ. Sci. Technol. 4960 (2018).] These emissions are linked to volatile organic compounds found in wastewater that, when they evaporate into the atmosphere, can be oxidized and yield PM. Such a mechanism can also result in significant formation of ozone. Evaporation of flowback wastewater could therefore significantly contribute to ambient PM concentrations.

Response: A discussion of wastewater evaporation is beyond the scope of this Joint EIS/BLM RMP and BIA Integrated RMP. Emissions from project-level actions would be evaluated at the permitting stage of development, in accordance with applicable federal, state, and local regulations in the proposed project area.

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management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

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- Air Quality: Chapter 4, Section 4.2.1.2
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- Public Health and Safety: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (73): Oklahoma is also experiencing increasing air pollution from oil and gas activities. Based on three ground-based field studies conducted during February and March of 2015 2016, and 2017 at the Phillips 66 Research Center in Bartlesville, Oklahoma, it was found that significant amounts of volatile organic compounds were emitted from oil and gas production and processing in the region.175 [175 Ghosh, B., Impact of Changes in Oil and Gas Production Activities on Air Quality in Northeastern Oklahoma: Ambient Air Studies in 2015-2017, 52 Environ. Sci. Technol. 3285 (2018). ] The site of the study was located at the eastern edge of a large area with a high concentration of oil and gas wells in northeastern Oklahoma. Alkanes (a category of VOC) that were emitted during the study had a high OH reactivity which, when combined with their relatively long atmospheric lifetime, makes the formation of ozone highly likely.

Response: The BLM characterized air quality in the planning area, using best available data at the time of document preparation. A detailed analysis of impacts from VOCs and future projections is in the Draft Joint
During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Public Health and Safety: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (74): Impacts of Conventional vs. Unconventional Oil and Gas Extraction on Public Health The EIS must fully disclose the impact of both conventional and unconventional oil and gas activities (including fracking) on public health and safety.
**Response:** The BLM and BIA used the most recent and best information available that was relevant to a land use planning-level analysis. The agencies consulted with other agencies and sources and collected, and incorporated data from them; some of these are the US Fish and Wildlife Service (USFWS), state agencies, local governments, and Native American tribes. As a result of these actions, the BLM and BIA gathered the data necessary to make a reasoned choice among the alternatives analyzed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP (see Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts). As a result, the BLM and BIA have taken a hard look, as required by the NEPA (40 CFR 1502.16), at the environmental consequences of the alternatives in the Draft Joint EIS/BLM RMP and BIA Integrated RMP. This was to enable informed decision-making.

The CEQ regulations require an EIS to “succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. The description shall be no longer than is necessary to understand the effects of the alternatives. Data and analyses in a statement shall be commensurate with the importance of the impact, with less important material summarized, consolidated, or simply referenced. Agencies shall avoid useless bulk in statements and shall concentrate effort and attention on important issues” (40 CFR 1502.15).

The BLM and BIA complied with these regulations in describing the affected environment. The requisite level of information necessary to make a reasoned choice among the alternatives in an EIS is based on the scope and nature of the proposed action. The analysis provided in Chapter 3, Affected Environment, and various appendices in the Draft Joint EIS/BLM RMP and BIA Integrated RMP is sufficient to support, at the general land use planning-level of analysis, the environmental impact analysis of management actions in the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP.

On page 4-14 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges that emissions from oil and gas development could affect air quality. The agency developed emissions inventories to evaluate the potential for air pollutants to increase or decrease over the life of the plan. In Section 4.2.4.2 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM acknowledges the potential public health safety hazards from hydraulic fracturing.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

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- Public Health and Safety: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (75): Fracking is accurately portrayed as posing significant threats to public health, but such a portrayal sometimes overshadows the also significant threats to public health posed by conventional oil and gas extraction. While there are obvious differences between unconventional and conventional oil and gas extraction, there are commonalities amongst the threats posed by the two. One of the greatest threats posed by fracking is due to the toxic chemicals used during the process and their human health impacts. As previously discussed, the suite of chemicals used during fracking pose threats to virtually all systems of the body including the sensory, gastrointestinal, immune, reproductive, cardiovascular, endocrine, and nervous systems.217 [217 Yost, Erin et al., Estimating the Potential Toxicity of Chemicals Associated with Hydraulic Fracturing Operations Using Quantitative Structure-Activity Relationship Modeling, 50 Environmental Science and Technology 14 (2016).] However, in a California-based study, it was found that many of the chemicals used in fracking are used in conventional oil and gas extraction as well. Specifically, based on South Coast Air Quality Management District (SCAQMD) data, Stringfellow et al. (2017) found that of 249 chemicals used for routine oil and gas development, 124 were used for fracking as well. Hence, there is great overlap between the chemicals used in conventional vs. unconventional oil and gas extraction in this dataset. The study also compared chemical usage data from SCAQMD to that from other oil fields worldwide, showing that there were chemicals in common and indicating that the overlap between fracking chemicals and chemical extraction chemicals is very likely present globally. With such chemical use in common between extraction techniques, the health risks associated with those chemicals are shared between techniques as well.218 [218 Stringfellow, William et al., Comparison of chemical use between hydraulic fracturing, acidizing, and routine oil and gas development, 12 PLoS One 4 (2017).] It is important to note, however, that there were 23 chemicals in the SCAQMD dataset that were used exclusively for fracking. Also, ten biocides were identified in the fracking dataset, but only six were used in conventional activities. Biocides were used in 63% of conventional activities compared to 93% of fracking treatments. Meanwhile, corrosion inhibitors were used more extensively in conventional activities than in fracking. Corrosion inhibitors were used in 75% of conventional activities, whereas they were used in only 6% of fracking activities.219 [219 Id.] Therefore, the risks posed by either fracking or conventional oil and gas extraction depend in part on the exact chemicals used during a given operation, the quantities, and the duration. A given fracking job might pose unique risks depending on the uniqueness of its chemical assemblage.
Response: The BLM and BIA used the most recent and best information available that was relevant to a land use planning-level analysis. The agencies consulted with other agencies and sources and collected, and incorporated data from them; some of these are the US Fish and Wildlife Service (USFWS), state agencies, local governments, and Native American tribes. As a result of these actions, the BLM and BIA gathered the data necessary to make a reasoned choice among the alternatives analyzed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP (see Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts). As a result, the BLM and BIA have taken a hard look, as required by the NEPA (40 CFR 1502.16), at the environmental consequences of the alternatives in the Draft Joint EIS/BLM RMP and BIA Integrated RMP. This was to enable informed decision-making.

The CEQ regulations require an EIS to “succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. The description shall be no longer than is necessary to understand the effects of the alternatives. Data and analyses in a statement shall be commensurate with the importance of the impact, with less important material summarized, consolidated, or simply referenced. Agencies shall avoid useless bulk in statements and shall concentrate effort and attention on important issues” (40 CFR 1502.15).

The BLM and BIA complied with these regulations in describing the affected environment. The requisite level of information necessary to make a reasoned choice among the alternatives in an EIS is based on the scope and nature of the proposed action. The analysis provided in Chapter 3, Affected Environment, and various appendices in the Draft Joint EIS/BLM RMP and BIA Integrated RMP is sufficient to support, at the general land use planning-level of analysis, the environmental impact analysis of management actions in the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP.

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Substantive Comment (76): The risks associated with water usage likely vary between conventional and unconventional drilling considering that the two methods use water in varying amounts. The process of fracking a well required a median of 1.5 million gallons of water per well between 2011 and 2013.220 [220 EPA 2016 HF Study, p. ES-12.] However, the water use for fracking a shale gas well has been reported as more than 6 million gallons per well.221 [221 Kondash, A. and Vengosh, A., Water Footprint of Hydraulic Fracturing, 2 Environmental Science & Technology Letters 276 (2015).] Meanwhile, the amount of water to drill a conventional well can be as much as an order of magnitude less.222 [222 Harto et al. (Argonne National Laboratory), Water Consumption for Fossil Fuel Exploration and Production, Groundwater Protection Council Annual Forum (September 2013), http://www.gwpc.org/sites/default/files/event-sessions/Harto_ChrisFinal2.pdf. EPA 2016 HF Study, p. ES-3.] Thus, the initial drilling and fracking of a well requires more water than the initial drilling of a conventional well. It follows that in the event of a spill, much more fluid could be involved in the unconventional case. Also, the process of fracking a well has greater potential of exhausting local water resources, especially in times or areas of low water availability, or in areas with limited or declining groundwater resources.223 Although there is some disagreement over whether or not water use is greater for a fracked well than a conventional well over a well’s lifetime,224 [224 See e.g., Scanlon, B.R. et al., Comparison of Water Use for Hydraulic Fracturing for Unconventional Oil and Gas versus Conventional Oil, 48 Environmental Science and Technology 12386 (2014); Kondash, A. and Vengosh, A., Water Footprint of Hydraulic Fracturing, 2 Environmental Science & Technology Letters 276 (2015).] the argument the fracking uses more water is well-supported.225 [225 See e.g., Lampert D.J., Comment on “Comparison of Water Use for Hydraulic Fracturing for Unconventional Oil and Gas versus Conventional Oil,” 49 Environmental Science and Technology 6358 (2015); Harto et al. (Argonne National Laboratory), Water Consumption for Fossil Fuel Exploration and Production, Groundwater Protection Council Annual Forum (September 2013), http://www.gwpc.org/sites/default/files/event-sessions/Harto_ChrisFinal2.pdf.] Therefore, water use, and the associated risks, is a distinguishing feature between fracking and conventional extraction.
Response: The RFDS on pages 52-55 and 285-290 (Draft Joint EIS/BLM RMP and BIA Integrated RMP, Volume IV, Appendix I) provides data on water use for hydraulic fracturing. States have the authority to regulate water use for hydraulic fracturing.

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- Public Health and Safety: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (77): Related to water use is water disposal. Although fracking uses more water than conventional extraction during the well drilling process, water disposal is necessary for both fracking and conventional extraction. Water for disposal includes that used during drilling, produced water that comes associated with oil and gas, and water used in enhanced oil recovery techniques such as waterflood
and cyclic steam. Disposal is often in the form of underground injection, which has been linked to induced seismicity.226 [226 See, e.g., EPA 2016 HF Study, p. ES-45; Bao, X. and Eaton, D.W., Fault activation by hydraulic fracturing in western Canada, Science 10.1125/science.aag2583 (2016).] However, since both conventional and unconventional methods require water disposal, they share the risk of induced seismicity.

**Response:** As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

Wastewater disposal is an implementation-level action; however, the potential for induced seismicity as a result of wastewater injection is discussed in the Draft Joint EIS/BLM RMP and BIA Integrated RMP in Section 4.2.1.2, Environmental Consequences (BLM Geology). Future wastewater injection associated with oil and gas development may continue to cause seismic events in the planning area; however, it is extremely difficult to predict specific rates and locations of induced seismic events (Petersen et al. 2015). Risks of induced seismicity will be evaluated at the leasing and permitting stage, should a parcel be leased and a development proposal submitted. The state agency is the permitting authority on this issue. Risks will be evaluated using USGS-identified areas of higher seismic risk and, in Oklahoma, the Corporation Commission decisions and guidance (see Appendix I, Reasonably Foreseeable Development Scenario, of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, for additional discussion).

State agencies develop and institute hydraulic fracturing processes and monitoring protocols. The BLM added to Section 4.2.1.2 references to the Kansas Corporation Commission and Oklahoma Corporation Commission on regulatory devices for injection wells and monitoring involved with hydraulic fracturing.

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- Public Health and Safety: Chapter 4, Section 4.2.2.1 and 4.3.13 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (78): During fracking, fracking fluid is injected down an oil or gas production well and into a targeted rock formation under great enough pressures to fracture the oil- and gas-containing rock.227 [227 EPA 2016 HF Study, p. ES-5.] This high-energy violent process can lead to unintended flow pathways in the subsurface. One of these pathways is wells with poor mechanical integrity allowing fracking fluids to leak. Another is the fracture network formed during fracking intersecting sources of groundwater or surface water. Another can result from the fracking of one well impacting a nearby well, hence causing spills from that nearby well.228 [228 EPA 2016 HF Study.] Such mechanisms likely explain many of the fracking water contamination complaints nationwide, including the 1000+ complaints in Pennsylvania.229 [229 Peltier, Laurel, Pennsylvania Fracking Water Contamination Much Higher Than Reported. EcoWatch, February 4, 2016. https://www.ecowatch.com/pennsylvania-fracking-water-contamination-much-higher-than-reported-1882166816.html. (Accessed July 12, 2018.)] Given the comparatively lower energy less-violent process of conventional drilling, these risks would not similarly present themselves with a conventional well, although potential leakage due to poor mechanical well integrity cannot be ruled out.

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO
begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

Geology would be analyzed at the site-specific APD stage for potential hydrologic connectivity.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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Chapter 4, Environmental Consequences, and Chapter 5, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in Chapter 2. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

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• Public Health and Safety: Chapter 4, Section 4.2.2.1 and 4.3.13 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (79): Health and Safety Buffers around Oil and Gas Sites BLM must consider in the EIS lease stipulations to protect public health, which would impose minimum safety buffers away from residential areas, drinking water sources, and other sensitive areas such as schools and hospitals. Due to the prevalence of oil and gas extraction, an area of growing interest in public health is the relationship between the proximity of modern oil and gas extraction, nearby communities, and health impacts. Published studies examining this relationship have considered health outcomes, exposure to toxic health risks, and setback requirements that would be adequate to ensure the health and safety of people living in close proximity to oil and gas infrastructure.230 [230 Wong, N.J, Existing scientific literature on setback distances from oil and gas development sites (2017). http://www.stand.la/uploads/5/3/9/0/53904099/2500_literature_review_report-final_jul13.pdf] The overarching conclusion is that the closer people live to oil and gas wells, the more likely it is that they will be exposed to toxic air contaminants, and the more likely the risk of adverse health effects. For instance, Rabinowitz et al. (2015) found an increased number of upper respiratory symptoms and skin conditions among residents who lived less than 1 km (3,280 feet) from an active well, compared with residents who lived more than 2 km (6,561 feet) from an active well.231 [231 Rabinowitz, P.M. et al., Proximity to natural gas wells and reported health status: results of a household survey in Washington County, Pennsylvania. 123 Environmental Health Perspectives 21 (2015).] Kassotis et al. (2014) found elevated levels of endocrine disrupting chemicals in water sources 1 mile (5,280 feet) away from oil and gas operations. This study noted that near one of the investigated facilities, some of the animals in the area were no longer producing live offspring.232 [232 Kassotis, C.D. et al., Estrogen and androgen receptor activities of hydraulic fracturing chemicals and surface and ground water in a drilling-dense region. 155 Endocrinology 897 (2014).] Macey et al. (2014), in investigating several areas with setback regulations for oil and gas operations, found high concentrations of carcinogenic VOCs at distances greater than setback regulations, including formaldehyde up to 2,591 feet and benzene up to 885 feet away from wells in Wyoming and Pennsylvania. This study also found that in Colorado’s Boulder and Weld Counties, hydrogen sulfide concentrations exceeded the minimum risk level.233 [233 Macey, G.P. et al., Air concentrations of volatile compounds near oil and gas production: a community-based exploratory study. 13 Environmental Health 82 (2014).] Thus, the safe setback distance implied by this study is 2,591 feet, as opposed to the 350 ft setback requirement in Wyoming, or the 500 ft setback requirements in Colorado and Pennsylvania. In considering the results the Rabinowitz et al. (2015) study, focused in Pennsylvania, an even higher setback of 6,561 feet is suggested.

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be
undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

Well locations and potential setbacks would be determined at the site-specific level and would comply with applicable local, state, and federal laws. Appendix D has fluid mineral stipulations, which include NSO-3 and NSO-4 to protect public drinking water supplies.

The potential impacts caused by decreased air quality are discussed in Section 4.2.1.1, Environmental Consequences (BLM Air Resources). In Section 3.5.2 and Table 4-16 (page 4-65), the BLM further acknowledges the risks from oil and gas development on public health and safety. BMPs to reduce the likelihood for leaks and spills are included in Appendix C.

Oklahoma, Kansas, and Texas mandate oil and gas development and production setbacks through legislation.

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• Public Health and Safety: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (80): It is important to note that the risks to public health from oil and gas extraction are not limited to toxic exposures. A study by Boyle et al. (2017) found that homes up to 600 m (1,968 feet) away from a natural gas compressor station experienced outdoor noise levels in excess of the US EPA’s recommended limit of 55 dBA 100% of the time.234 [234 Boyle, M.D. et al., A pilot study to assess residential noise exposure near natural gas compressor stations. 12 PloS One 30174310 (2017).] Other studies have found non-auditory impacts of noise on health such as annoyance, sleep disturbance, daytime sleepiness, hypertension, cardiovascular disease, and diminished cognitive performance in school children.235 [235 See e.g., Basner, M. et al., Auditory and non-auditory effects of noise on health, 383 The Lancet 1325 (2014).]

Response: As stated in Section 4.2.1, page 4-10, of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, “Site-specific NEPA analyses will be undertaken for energy development proposals; this analysis will include an evaluation of noise impacts on the human and natural environment.”

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Public Health and Safety: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Public Health and Safety Chapter 5, Section 5.4.4.2

Substantive Comment (81): There are also added risks from explosions similar hazards. Haley et al. (2016) considered the minimum setback distance that would be safe in the event of a blow-out or explosion event at an oil or gas facility. They found that the average evacuation zone for such an event is 0.8 miles, or 4,224 feet, based on historical evacuation data. Setbacks to guard against such hazards are important to consider since accidents have resulted from inadequate setback distances. For instance, On April 17, 2017, a one-inch abandoned pipeline exploded under a home in Firestone, Colorado, killing two people and badly burning a third. The gas well head was located just 178 feet from the home.236 [236 Kelly, D., Deadly House explosion in Colorado traced to uncapped pipe from gas well. Los Angeles Times, May 2, 2017. http://www.latimes.com/nation/nationnow/la-na-colorado-explosion-20170502-story.html. (Accessed July 12, 2018).] A proper setback in place could have prevented this catastrophe from happening.

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

Well locations and potential setbacks would be determined at the site-specific level and would comply with applicable local, state, and federal laws.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance,
the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. **Chapter 4** of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in **Chapter 2**. The land use allocations and resource management goals, objectives and actions described in **Chapter 2** are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- **Public Health and Safety**: **Chapter 4**, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts for Public Health and Safety **Chapter 5**, Section 5.4.4.2

**Substantive Comment (82)**: Existing setback laws range from 150 to 1,500 feet. In some cases, setbacks are statewide, while in others, they are at the local level. In Colorado, for example, regulations require a 500 ft setback from residences and a 1000 ft setback from high occupancy buildings. Meanwhile, in Utah setbacks are at the county level, with Duchesne County having a setback of 300 ft, and Uintah County having a setback of 1000 ft from residences.237 [237 Utah Division of Oil, Gas, and Mining, Oil and Gas Residential Setbacks: Overview of Other State Regulations (August 2013), https://fs.ogm.utah.gov/bbooks/2013/08_Aug/Briefing/1_Oil&GasResidentialSetbacks_OverviewOfOtherStateRegulations.pdf.] However, the growing consensus is that these setbacks are inadequate to protect public health. In analyzing the risks associated with drilling in the Marcellus Shale, the University Of Maryland School Of Public Health recommended a minimum setback distance of 2,000 ft from well pads in the state. In a recent report from the Los Angeles County Department of Public Health, it was found that even a 1,500 ft setback would be inadequate to protect from all of the public health and safety hazards associated with proximity to oil and gas infrastructure.238 [238 Los
Angeles County Dept. of Public Health, Public Health and Safety Risks of Oil and Gas Facilities in Los Angeles County, February 2018, http://publichealth.lacounty.gov/eh/docs/PH_OilGasFacilitiesPHSafetyRisks.pdf.] In 2016, the Southwest Pennsylvania Environmental Health Project (EHP) convened a consortium of 18 professionals with expertise in public health, medicine, environmental sciences, policy, and risk analysis to determine an acceptable setback distance based on consensus. The result was 89% agreement on a 6,600 ft setback. There was also consensus on greater setback distances in areas where there are vulnerable subpopulations, such as schools, preschools, and hospitals.239 [239 Health and Unconventional Oil & Gas Development: Delphi Study Results. South West Pennsylvania Environmental Health Project Technical Reports, Issue 4. (Accessed July 12, 2018) http://www.marsparentgroup.com/uploads/3/0/3/4/30347031/issue_4__health_and_unconventional_oil__gas_development__delphi_study_results.pdf.] Thus, there is building agreement that oil and gas activities in close proximity to people yield an undue health burden. Setbacks that ensure the safety of communities should be implemented in the interim between now and an ultimate phase out of oil and gas extraction.

Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the two agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

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Well locations and potential setbacks would be determined at the site-specific level and would comply with applicable local, state, and federal laws.

Oklahoma, Kansas, and Texas mandate oil and gas development and production setbacks through legislation.

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Substantive Comment (83): The DEIS Fails to Take a Hard Look at the Impacts of Climate Change As described in our 2017 Lease Sale Scoping Comments on pp. 6-22, and in Exhibit K to our 2018 Lease Sale Scoping Comments on pp. 27-83, continued oil and gas leasing on BLM lands, including the planning area, is dangerously out of step with avoiding climate catastrophe. BLM must consider the information presented in these materials, including the fact that the potential carbon emissions from the oil, gas, and coal in the world’s currently operating fields and mines would take us beyond 2°C of warming. 240 [240 Oil Change International, The Sky’s Limit: Why the Paris Climate Goals Require a Managed Decline of Fossil Fuel Production (2016) at 5, available at http://priceofoil.org/content/uploads/2016/09/OCI_the_skys_limit_2016_FINAL_2.pdf.] Further, the reserves in currently operating oil and gas fields alone, even with no coal, would take the world beyond 1.5°C.241 [241 Id.] In light of these facts

Response: In the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA take a hard look at the impacts of climate change (see Section 4.2.1.1, beginning on page 4-22, Section 5.4.1.1, beginning on page 5-33, and Appendix G). Impacts on climate change include a quantification of GHG emissions from oil and gas and coal mining production (beginning on page 4-22) and an estimation of downstream emissions from combustion of fossil fuels produced (beginning on page 5-33).

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by BLM policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final
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Substantive Comment (84):

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The chart above is the direct oil and gas related GHGs, base and future years. The direct annual GHGs are estimated to remain relatively constant over the life of the RMP.244 [244 Id. at 39-40.] BLM’s estimation of GHGs would not be actual emissions because actual emissions would depend on market conditions, technology, regulatory considerations, and other factors over the life of the RMP.245 [245 Id. at 43.] BLM must clarify its assumptions and methodology in the DEIS, and provide an accurate analysis of the total
lifecycle GHG emissions from production and combustion of the end-product. The DEIS’s greenhouse gas analyses omit emissions from transportation of extracted product to market or to refineries, refining and other processing, and combustion of the extracted end-use product, failing to disclose the full scope of greenhouse gas emissions that could result from new leasing.

**Response:** The method used in determining base and future year emissions was described in detail in Appendix J1, Memorandum on Oil and Gas Mining Sector Emissions, of the Draft Joint EIS/BLM RMP and BIA Integrated RMP. Table 2-4 of the memorandum details all source categories evaluated, including transportation of crude oil and natural car condensate by rail and tanker. Downstream combustion emissions were estimated in Section 5.4.1.1 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP. As described in the footnotes to Tables 5-8 and 5-9, Appendix G, of the Draft Joint EIS/BLM RMP and BIA Integrated RMP details how downstream emissions were calculated. Production and downstream combustion emissions can be reasonably estimated. Full life cycle emissions that include refining or other processing cannot be reasonably estimated, nor is this required in a BLM planning or leasing NEPA document.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas. Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

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**Chapter 4**, Environmental Consequences, and **Chapter 5**, Cumulative Impacts, address potential impacts associated with land use allocations and resource management decisions articulated in each proposed alternative presented in **Chapter 2**. The Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP addresses potential impacts on the following resource values and uses identified directly or indirectly in your comment submission in the following chapters and sections:

- BLM Impacts Analysis: **Chapter 4, Section 4.2**, BIA Impacts Analysis: **Chapter 4, Section 4.3** and Cumulative Impacts **Chapter 5, Section 5.4**.
Substantive Comment (85): Meaningful consideration of greenhouse gas emissions (GHGs) is clearly within the scope of required NEPA review. Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin., 538 F.3d 1172, 1217 (9th Cir. 2008). As the Ninth Circuit has held, in the context of fuel economy standard rules: The impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct. Any given rule setting a CAFE standard might have an “individually minor” effect on the environment, but these rules are “collectively significant actions taking place over a period of time” Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin., 538 F.3d 1172, 1216 (9th Cir. 2008)(quoting 40 C.F.R. § 1508.7). The courts have ruled that federal agencies consider indirect GHG emissions resulting from agency policy, regulatory, and leasing decisions. For example, agencies cannot ignore the indirect air quality and climate change impact of decisions that would open up access to coal reserves. See Mid States Coal. For Progress v. Surface Transp. Bd., 345 F.3d 520, 532, 550 (8th Cir. 2003); High Country Conservation Advocates v. U.S. Forest Serv., 52 F.Supp. 3d 1174, 1197-98 (D.Colo. 2014).

Response: The Draft Joint EIS/BLM RMP and BIA Integrated RMP provides a meaningful consideration of the impacts of climate change, including a discussion of the direct effects from fossil fuel development (Section 4.2.1.1, beginning on page 4-22). It also discusses indirect or cumulative effects from downstream combustion of oil and gas and coal extracted from federal mineral estate in the decision area (see Section 5.4.1.1, beginning on page 5-33).

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by BLM policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment resulting from implementation of a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct, on-the-ground changes. Plan-level decisions establish land use allocations identifying resources uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Air Resources: Chapter 4, Sections 4.2.1.1 and 4.3.1 and Cumulative Impacts on Air Resources: Chapter 5, Section 5.4.1
- Air Quality: Chapter 4, Section 4.2.1.2
- Climate Change: Chapter 4, Section 4.2.1.3

Substantive Comment (86): NEPA requires “reasonable forecasting,” which includes the consideration of “reasonably foreseeable future actions…even if they are not specific proposals” N. Plains Res. Council, Inc. v. Surface Transp. Bd., 668 F.3d 1067, 1079 (9th Cir. 2011) (citation omitted). That BLM cannot “accurately” calculate the total emissions expected from full development is not a rational basis for cutting off its analysis. “Because speculation is . . . implicit in NEPA,” agencies may not “shirk their responsibilities under NEPA by labeling any and all discussion of future environmental effects as crystal ball inquiry.” Id. See also High Country Conservation Advocates v. United States Forest Serv., 52 F. Supp. 3d 1174, 1196 (D. Colo. 2014) (decision to forgo calculating mine’s reasonably foreseeable GHG emissions was arbitrary “in light of the agencies’ apparent ability to perform such calculations”). The final CEQ Guidance on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA review is dispositive on the issue of federal agency review of greenhouse gas emissions as foreseeable direct and indirect effects of the proposed action. 81 Fed. Reg. 51,866 (Aug. 5, 2016). The CEQ guidance provides clear direction for BLM to conduct a lifecycle greenhouse gas analysis because the modeling and tools to conduct this type of analysis are readily available to the agency: If the direct and indirect GHG emissions can be quantified based on available information, including reasonable projections and assumptions, agencies should consider and disclose the reasonably foreseeable direct and indirect emissions when analyzing the direct and indirect effects of the proposed action. Agencies should disclose the information and any assumptions used in the analysis and explain any uncertainties. To compare a project’s estimated direct and indirect emissions with GHG emissions from the no-action alternative, agencies should draw on existing, timely, objective, and authoritative analyses, such as those by the Energy Information Administration, the Federal Energy Management Program, or Office of Fossil Energy of the Department of Energy. In the absence of such analyses, agencies should use other available information. 81 Fed. Reg. 51,866 at 16 (Aug. 5, 2016)(citations omitted). CEQ’s guidance even provides an example of where a lifecycle analysis is appropriate in a leasing context at footnote 42: The indirect effects of such an action that are reasonably foreseeable at the time would vary with the circumstances of the proposed action. For actions such as a Federal lease sale of coal for energy production, the impacts associated with the end-use of the fossil fuel being extracted would be the reasonably foreseeable combustion of that coal. Id. Although the 2016 CEQ guidance has been “withdrawn for further consideration,” 82 Fed. Reg. 16,576 (April 5, 2017), the underlying requirement to consider climate change impacts under NEPA, including indirect and cumulative combustion impacts foreseeably resulting from fossil fuels leasing decisions, has not changed. See S. Fork Band, 588 F.3d at 725; Ctr. for Biological Diversity, 538 F.3d at 1214-15; Mid States Coalition for Progress, 345 F.3d at 550;
Response: As specific actions come under consideration, the BLM and BIA will conduct NEPA analyses that include site-specific project and implementation-level actions. The two agencies will address site-specific concerns and more detailed environmental descriptions. This will happen when the agencies tier project-level reviews to the analysis in this Final Joint EIS/BLM RMP and BIA Integrated RMP (40 CFR 1502.20, 1508.28).

In addition, as required by NEPA, the BLM and BIA will offer the public the opportunity to participate in the NEPA process for any site-specific actions. For example, the multi-step oil and gas process in the BLM OFO begins with the programmatic analysis of oil and gas development in their RMPs. Then, the OFO analyzes the potential direct and indirect impacts of proposed leases, ensuring that any impacts of leasing are consistent with the RMPs in an EA or EIS. If the lessee chooses to pursue development (which is not a given), then additional site-specific NEPA analysis would be conducted when APDs are submitted.

Where the context and intensity of environmental impacts remain unidentifiable until oil and gas exploration is proposed, the APD is the first useful point at which a site-specific environmental appraisal can be undertaken. Approval of an APD is not a foregone conclusion (see 43 CFR 3162.3-1(h), authorizing the agency to explicitly disapprove APDs).

The RFDS (see Appendix I of the Draft Joint EIS/BLM RMP and BIA Integrated RMP) was based on a reasonable, technical, and scientific estimate of anticipated oil and gas activity and on the best information and data available at the time of the study. The BLM developed the RFDS to support the planning level analysis in the Joint EIS/BLM RMP and BIA Integrated RMP. Projections for future oil and gas production out to 2040 are provide in charts 44-49 of the RFD (Appendix I).

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by BLM policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment resulting from implementation of a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct, on-the-ground changes. Plan-level decisions establish land use allocations identifying resources uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Air Resources: **Chapter 4, Sections 4.2.1.1** and **4.3.1** and Cumulative Impacts on Air Resources: **Chapter 5, Section 5.4.1**
- Air Quality: **Chapter 4, Section 4.2.1.2**
- Climate Change: **Chapter 4, Section 4.2.1.3**

**Substantive Comment (87):** On June 14, 2018, Judge M. Christina Armijo of the U.S. District Court of New Mexico issued a “Memorandum Opinion and Order” on the validity of the BLM’s approval of thirteen oil and gas leases within the Santa Fe National Forest in northern New Mexico. San Juan Citizens All. v. U.S. Bureau of Land Mgmt., No. 16-CV-376-MCA-JHR, 2018 WL 2994406, at 1 (D.N.M. June 14, 2018). In the decision, the court ruled for plaintiff environmental groups on a number of claims under NEPA, 42 U.S.C. §§ 4321-4370h. The court first found that the BLM violated NEPA when it failed to estimate the downstream (indirect) greenhouse gas emissions from the combustion of oil and gas produced from the leases. See San Juan Citizens All., 2018 WL 2994406, at 11. Specifically, the court held that “BLM’s failure to estimate the amount of greenhouse gas emissions which will result from consumption of the oil and gas produced as a result of development of wells on the leased areas was arbitrary.” Id.(emphasis added). The court reasoned that the indirect effects of leasing were reasonably foreseeable and that BLM’s arguments otherwise were “contrary to the reasoning in several persuasive cases that combustion emissions are an indirect effect of an agency’s decision to extract those natural resources.” Id. at 10. The court concluded “[t]his error require[d] BLM to reanalyze the potential impacts of such greenhouse gases on climate change in light of the recalculated amount of emissions in order to comply with NEPA.” Id. at 11. See also Further, other courts considering challenges to BLM’s RMP EISs have also faulted BLM for its failure to quantify and analyze the significance of GHG emissions from the downstream combustion of oil and gas that BLM projected would be extracted in the planning area under proposed RMP alternatives. See Wilderness Workshop v. U.S. BLM, 342 F. Supp. 3d 1145, 1156 (“BLM acted in an arbitrary and capricious manner and violated NEPA by not taking a hard look at the indirect effects resulting from the combustion of oil and gas in the planning area under the RMP. BLM must quantify and reanalyze the indirect effects that emissions resulting from combustion of oil and gas in the plan area may have on GHG emissions.”); W. Org. of Res. Councils v. U.S. Bureau of Land Mgmt., No. CV 16-21-GF-BMM, 2018 U.S. Dist. LEXIS 49635, 2018 WL 1475470, at *13 (D. Mont. Mar. 26, 2018), appeal docketed, No. 18-35849 (9th Cir. Oct. 12, 2018) (“In light of the degree of foreseeability and specificity of information available to the agency while completing the EIS, NEPA requires BLM to consider in the EIS the environmental consequences of the downstream combustion of the coal, oil and gas resources potentially open to development under these RMPs.”). BLM has prepared a Reasonably Foreseeable Development Scenario projecting areas of low, medium, and high potential oil and gas development, the geological formations that will be targeted and the type of technology used in these areas; the potential rate of well development on federal and Indian trust lands; and historical and future projected oil, coal, and gas output in these areas. It has also conducted similar analysis with respect to coal resources.
It therefore has the ability to come up with a reasonable forecast of the downstream combustion emissions from extraction activities in the planning area.

**Response:** The Draft Joint EIS/BLM RMP and BIA Integrated RMP included an estimation of downstream combustion of oil and gas and coal extracted from federal mineral estate in the decision area (see Section 5.4.1.1, beginning on page 5-33, and Tables 5-8 and 5-9 for estimated emissions from downstream combustion of oil/gas and coal, respectively).

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by BLM policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment resulting from implementation of a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct, on-the-ground changes. Plan-level decisions establish land use allocations identifying resources uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Air Quality: **Chapter 4, Section 4.2.1.2**
- Climate Change: **Chapter 4, Section 4.2.1.3**
context=resources/project-library. (EPA submitted comments on the scope of impacts that should be evaluated in the coal terminal EIS that the Corps is preparing, in which it urged the Corps to conduct a lifecycle emissions analysis of GHG emissions from the coal that would be transported via the terminal.)

Courts have upheld the viability and usefulness of lifecycle analyses, and adoption of this trend is clearly reflected in the CEQ Guidance on Climate Change, 81 Fed. Reg. 866 at 11 (Aug. 5, 2016) (“This guidance recommends that agencies quantify a proposed agency action’s projected direct and indirect GHG emissions. Agencies should be guided by the principle that the extent of the analysis should be commensurate with the quantity of projected GHG emissions and take into account available data and GHG quantification tools that are suitable for and commensurate with the proposed agency action”).

Response: The level of analysis requested by the commenter is beyond the scope of this Joint EIS/BLM RMP and BIA Integrated RMP. In the Draft Joint EIS/BLM RMP and BIA Integrated RMP, beginning on page 4-22, the BLM estimated GHG emissions from oil and gas and coal mining production and estimated downstream emissions from combustion of fossil fuels produced (beginning on page 5-33). Full life cycle emissions are not required in a BLM planning document, nor have the courts required such an analysis.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by BLM policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment resulting from implementation of a reasonable range of alternatives presented in Chapter 2. The land use allocations and resource management goals, objectives and actions described in Chapter 2 are plan-level resource management decisions that do not result in direct, on-the-ground changes. Plan-level decisions establish land use allocations identifying resources uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Air Quality: Chapter 4, Section 4.2.1.2
- Climate Change: Chapter 4, Section 4.2.1.3

Substantive Comment (89): As courts have held in similar contexts, combustion emissions resulting from opening up a new area to development are “reasonably foreseeable,” and therefore a “proximate cause” of the leasing. See Mid States Coal. for Progress v. Surface Transp. Bd., 345 F.3d 520, 549 (8th Cir. 2003) (holding that agency violated NEPA when it failed to disclose and analyze the future coal combustion impacts associated with the agency’s approval of a railroad line that allowed access to coal deposits); High Country Conserv’n Advocates v. United States Forest Serv., 52 F. Supp. 3d 1174, 1197 (D. Colo. 2014) (same with respect to GHG emissions resulting from approval of coal mining exploration project). In both Mid States Coalition and High Country, the courts rejected the government’s rationale that increased emissions from combustion of coal was not reasonably foreseeable because the same amount of coal would be burned without opening up the areas at issue to new coal mining. Both courts found this argument “illogical at best” and noted that “increased availability of inexpensive coal will at the very least make coal a more attractive option to future entrants into the utilities market when compared with other potential fuel sources, such as nuclear power, solar power, or natural gas.” See High Country, 52 F. Supp. 3d at 1197 (quoting Mid States Coalition, 345 F.3d at 549). “On similar grounds, the development of new wells over the proposed areas for lease will increase the supply of [oil and gas]. At some point this additional supply will impact the demand for [oil and gas] relative to other fuel sources, and [these minerals] that otherwise would have been left in the ground will be burned. This reasonably foreseeable effect must be analyzed, even if the precise extent of the effect is less certain.” Id. See also WildEarth Guardians v. United States Office of Surface Mining, Reclamation & Enf’t, 104 F. Supp. 3d 1208, 1229-30 (D. Colo. 2015) (coal combustion was indirect effect of agency’s approval of mining plan modifications that “increased the area of federal land on which mining has occurred” and “led to an increase in the amount of federal coal available for combustion.”)251 [251 See also, 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, 81 Fed. Reg. 51,866 at 14 (Aug. 5, 2016).(For example, NEPA reviews for proposed resource extraction and development projects typically include the reasonably foreseeable effects of various phases in the process, such as clearing land for the project, building access roads, extraction, transport, refining, processing, using the resource, disassembly, disposal, and reclamation. Depending on the relationship between any of the phases, as well as the authority under which they may be carried out, agencies should use the analytical scope that best informs their decision making.)] Even if it were true that potential downstream emissions cannot reasonably be estimated, or estimated with a high degree of accuracy, it is possible for BLM to identify significant sources of greenhouse gas emissions, which
would enable the identification of specific measures to reduce emissions and an understanding of the extent to which certain emissions are avoidable. The extreme urgency of the climate crisis requires BLM to pursue all means available to limit the climate change effects of its actions. Any emissions source, no matter how small, is potentially significant, such that BLM should fully explore mitigation and avoidance options for all sources.

**Response:** In Section 5.4.1.1, beginning on page 5-33 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM estimated downstream combustion of oil and gas and coal extracted from federal mineral estate in the decision area. See Tables 5-8 and 5-9 for estimated emissions from downstream combustion of oil/gas and coal, respectively.

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- Air Quality: Chapter 4, Section 4.2.1.2
- Climate Change: Chapter 4, Section 4.2.1.3
Substantive Comment (90): Any NEPA analysis for this lease sale must provide the severity or significance of the reported greenhouse gas emissions. One widely used approach to evaluating the impact of GHG emissions is to estimate the costs of those emissions to society. The Federal Interagency Working Group on the Social Cost of Carbon has developed estimates of the present value of the future costs of carbon dioxide, methane, and nitrous oxide emissions as a proxy for the magnitude and severity of those impacts. 252 [252 See Interagency Working Group on the Social Cost of Carbon, United States Government, Technical Support Document: Technical Update on the Social Cost of Carbon for Regulatory Impact Analysis - Under Executive Order 12866 (May 2013) at 2 (hereinafter 2013 TSD); Interagency Working Group on Social Cost of Greenhouse Gas, United States Government, Addendum to Technical Support Document on Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866: Application of the Methodology to Estimate the Social Cost of Methane and the Social Cost of Nitrous Oxide (August 2016) (last visited October 30, 2016).] These tools are easy to use by agencies, easy to understand by the public, and supported by years of peer-reviewed scientific and economic research. The EPA and other federal agencies have used these social cost protocols to estimate the effects of rulemakings on climate, and certain BLM field offices have used these tools in project level NEPA analysis. These protocols estimate the global financial cost of each additional ton of GHG pollution emitted to the atmosphere, taking into account factors such as diminished agricultural productivity, droughts, wildfires, increased intensity and duration of storms, ocean acidification, and sea-level rise.253 [253 U.S. Environmental Protection Agency, The Social Cost of Carbon (accessed May 18, 2016).]

Response: The social cost of carbon is included as part of a cost-benefit analysis, but the BLM is not required to conduct such an analysis, in accordance with 40 CFR 1502.23: “For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations. In any event, an environmental impact statement should at least indicate those considerations, including factors not related to environmental quality, which are likely to be relevant and important to a decision.”

Monetizing only certain effects can lead to an unbalanced assessment. Furthermore, it is not presently possible to predict with certainty GHG emissions (refer to Appendix G, GHG Emissions, Vol. III, Draft Joint EIS/BLM RMP and BIA Integrated RMP).

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The BLM referenced the BLM 2016 RFDS or estimated the level of resource activity predicted to occur on an average annual basis on BLM-administered lands. This approach to land use planning provides context for the environmental analysis of each alternative, implementation of which would result in varying degrees of RFDS realization. Estimated resource use levels are identified in the alternatives descriptions and are estimated, based on past activity levels and anticipated demand for a particular resource, such as oil and gas.
Because each alternative provides a broad management framework, the exact location, timing, and level of development or resource use is not known and cannot be accurately predicted.

Actual activity levels could be more or less than the levels estimated for analysis purposes; however, the estimated levels allow the BLM to analyze and display the relative differences between the alternatives. The impact analyses and conclusions are based on interdisciplinary team knowledge of the resources and the planning area, on information provided by BLM experts, the public during scoping, monitoring data, pertinent literature, and professional judgment. The baseline for the impact analysis is the current condition or situation, as described in Chapter 3, Affected Environment. Impacts are quantified to the extent practical, using available data. The impact analysis includes both quantitative and qualitative assessments.

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- Air Resources: Chapter 4, Sections 4.2.1.1 and 4.3.1 and Cumulative Impacts on Air Resources: Chapter 5, Section 5.4.1
- Air Quality: Chapter 4, Section 4.2.1.2
- Climate Change: Chapter 4, Section 4.2.1.3

Substantive Comment (91): In addition, BLM should consider the significance of additional emissions in light of existing carbon budgets. (See Exhibit K to 2018 Lease Sale Scoping Comments at pp. 36-45.) In short, there is no room for opening up new areas of fossil fuel production given existing emissions rates, and the limited time in which the remaining carbon budget for staying below scientifically-advised temperature limits will be depleted.

Response: In Section 5.4.1.1, beginning on page 5-33, of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM estimated downstream combustion of oil and gas and coal extracted from federal mineral estate in the decision area. See Tables 5-8 and 5-9 for estimated emissions from downstream combustion of oil/gas and coal, respectively. A comparison of potential emissions to the existing carbon budget is beyond the scope of this Joint EIS/BLM RMP and BIA Integrated RMP.

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- Air Quality: Chapter 4, Section 4.2.1.2
- Climate Change: Chapter 4, Section 4.2.1.3

Substantive Comment (92): An agency must “consider every significant aspect of the environmental impact of a proposed action.” Baltimore Gas & Elec. Co. v. Natural Resources Defense Council, 462 U.S. 87, 107 (1983) (quotations and citation omitted). This includes the disclosure of direct, indirect, and cumulative impacts of its actions, including climate change impacts and emissions. 40 C.F.R. § 1508.25(c). The need to evaluate such impacts is bolstered by the fact that “[t]he harms associated with climate change are serious and well recognized,” and environmental changes caused by climate change “have already inflicted significant harms” to many resources around the globe. Massachusetts v. EPA, 549 U.S. 497, 521 (2007); see also id. at 525 (recognizing “the enormity of the potential consequences associated with manmade climate change.”). Failing to perform such analysis undermines the agency’s decision-making process and the assumptions made.

Response: The Draft Joint EIS/BLM RMP and BIA Integrated RMP takes a hard look at the impacts of climate change in Section 4.2.1.1, beginning on page 4-22, in Section 5.4.1.1, beginning on page 5-33, and in Appendix G.

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by BLM policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP. Chapter 4 of the Final Joint EIS/Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural
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- Air Quality: Chapter 4, Section 4.2.1.2
- Climate Change: Chapter 4, Section 4.2.1.3

Substantive Comment (93): The DEIS downplays the significance of GHG and the effect they have on the atmosphere. The DEIS states, “GHG emissions from BLM-authorized oil and gas development are projected to remain relatively constant over the life of the RMP.”254 [254 Id. at 43-44. 255 Id. at 44.] The DEIS also states, “These emissions would continue to represent less than 1 percent of total statewide oil and gas-related GHG emissions for each of the three states in the planning area.”255 However, as explained in our Scoping Comments, BLM has tools to evaluate the significance of GHG emissions. Indeed, any opening up of new fossil fuels for extraction and burning is significant, given the reality of rapidly diminishing carbon budgets, the fact that existing producing oil and gas fields will take us over the 1.5 degree temperature target, and that phasing out of already producing fields is necessary to avoid the worst effects of climate change.

Response: In Section 5.4.1.1, beginning on page 5-33, of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM estimated downstream combustion of oil and gas and coal extracted from federal mineral estate in the decision area. See Tables 5-8 and 5-9 for estimated emissions from downstream combustion
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of oil/gas and coal, respectively. A comparison of potential emissions to the existing carbon budget is beyond the scope of this Joint EIS/BLM RMP and BIA Integrated RMP.

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Substantive Comment (94): Finally, BLM’s analysis should also consider the existing vulnerabilities in the planning area to climate change that would be exacerbated by increased GHG emissions. This includes increased drought and water stress in arid areas from increased temperature rise; increased potential for severe storm weather, hurricanes, and flooding near coastal areas; and increased heat stress affecting an already arid and warm environment, and communities already vulnerable to heat waves.
**Response:** On page 3-23 and 3-24 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM refers to and summarizes the US Global Change Research Program National Climate Assessment (2014), which provides an overview of how climate variability is affecting the Great Plains. This information has been supplemented with information from the 2018 US Global Change Research Program National Climate Assessment (2018).

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- **Air Quality:** Chapter 4, Section 4.2.1.2
- **Climate Change:** Chapter 4, Section 4.2.1.3
- **Water Resources:** Chapter 4, Sections 4.2.1.6 and 4.3.4 Cumulative Impacts on Air Resources: Chapter 5, Section 5.4.1.4
Substantive Comment (97): BLM’s analysis for climate change is based on a quantitative approach that was “used for assessing GHG emissions from mineral development, using the methods of analysis described for air quality.” 242 [242 BLM Oklahoma Field Office Draft EIS/RMP 2018 at 38.] The following is the quantitative approach, BLM evaluated emission-generating activities authorized under this joint planning effort, determined that fluid leasable mineral and solid leasable mineral development had the potential for affecting air quality and prepared emissions inventories for these activities.” 243 [243 Id. at 24-25.] Given this quantitative approach, BLM’s analysis lacks a clear explanation of the methodology and the assumptions used in projecting total GHGs.

Response: The method used in determining base and future year emissions was described in detail in Appendix J1 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP. The memorandum details all source categories evaluated, including transportation of crude oil and natural gas condensate by rail and tanker. In Section 5.4.1.1 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM estimated downstream combustion emissions. Details on how downstream emissions were calculated were provided in Appendix G of the Draft Joint EIS/BLM RMP and BIA Integrated RMP.

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• Air Quality: **Chapter 4, Section 4.2.1.2**
• Climate Change: **Chapter 4, Section 4.2.1.3**

Substantive Comment (98): BLM must give serious consideration to no-leasing and no-fracking alternatives in the planning area. We recently learned that the Forest Service will consider a no-leasing alternative in its revised Leasing Analysis for the Texas National Forests. BLM should consider this alternative in its RMP revision process as well.

Response: In the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM considered a range of alternatives designed to meet its legal duties and the purpose of and need for action. According to the CEQ regulations and the DOI NEPA regulations, “[t]he range of alternatives includes those reasonable alternatives (paragraph 46.420(b)) that meet the purpose and need of the proposed action, and address one or more significant issues (40 CFR 1501.7(a)(2–3)) related to the proposed action. Since an alternative may be developed to address more than one significant issue, no specific number of alternatives is required or prescribed” (43 CFR 46.415(b)). **Section 1.4.1** (page 1-23) clearly states that “the purpose of this RMP is to ensure that BLM-administered lands in the planning area are managed in accordance with the multiple-use and sustained-yield principles mandated by the FLPMA (43 USC 1702).” A no-leasing or no-fracking alternative would not meet the purpose and need, so the BLM and BIA did not consider it (see **Section 2.5.2**).

During development of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM followed all Federal land use management laws, regulations, policies, and executive level direction. As required by policy guidance, the BLM met its environmental impacts analysis and NEPA hard look requirements through development of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP. **Chapter 4** of the Final Joint EIS/ Proposed BLM RMP and BIA Integrated RMP presents potential impacts on the human and natural environment of implementing a reasonable range of alternatives presented in **Chapter 2**. The land use allocations and resource management goals, objectives and actions described in **Chapter 2** are plan-level resource management decisions that do not result in direct on-the-ground changes. Plan-level decisions establish land use allocations identifying resource uses allowed, restricted, or prohibited on public lands. These land use allocations set the stage for future land management actions and subsequent site-specific or implementation level decisions.

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- Energy and Minerals: Chapter 4, Sections 4.2.2.1 and 4.3.13 and Cumulative Impacts on Energy and Minerals Chapter 5, Section 5.4.2.1

Submitter: Earthjustice Rocky Mountain Office (on behalf of the Pawnee Nation of Oklahoma)

Submission Number: 25

Substantive Comment (3): In addition, the DEIS must consider a range of reasonable alternatives. NEPA requires an EIS to discuss and analyze “alternatives to the proposed action.” 42 U.S.C. § 4332(2)(C). The range of alternatives is the “heart” of the NEPA analysis. 40 C.F.R. §§ 1502.14, 1508.9(b). Consideration of alternatives ensures that the decision maker “has before him and takes into proper account all possible approaches to a particular project,” Calvert Cliffs’ Coordinating Comm., Inc. v. U.S. Atomic Energy Comm’n, 449 F.2d 1109, 1114 (D.C. Cir. 1971), including those “that will avoid or minimize adverse effects to . . . the human environment.” 40 C.F.R. § 1500.2(e). By requiring consideration of alternatives, NEPA aims to ensure that the “most intelligent, optimally beneficial decision will ultimately be made.” N. Alaska Envtl. Ctr. v. Kempthorne, 457 F.3d 969, 978 (9th Cir. 2006). Agencies must “[r]igorously explore and objectively evaluate all reasonable alternatives,” and explain why any alternatives were eliminated. 40 C.F.R. § 1502.14(a). “The existence of a viable but unexamined alternative renders an [EIS] inadequate.” W. Watersheds Project v. Abbey, 719 F.3d 1035, 1050 (9th Cir. 2013) (quoting Westlands Water Dist. v. U.S. Dep’t of the Interior, 376 F.3d 853, 868 (9th Cir. 2004)).

Response: In the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA considered a range of alternatives designed to meet their legal duties and purpose of and need for action. According to the CEQ regulations and the DOI NEPA regulations, “[t]he range of alternatives includes those reasonable alternatives (paragraph 46.420(b)) that meet the purpose and need of the proposed action, and address one or more significant issues (40 CFR 1501.7(a)(2–3)) related to the proposed action. Since an alternative may be developed to address more than one significant issue, no specific number of alternatives is required or prescribed” (43 CFR 46.415(b)). The BLM and BIA’s range of alternatives in the Draft Joint EIS/BLM RMP and BIA Integrated RMP represented a full spectrum of options. Alternatives analyzed include a no action alternative and three action alternatives. The no action alternative is a continuation of current management as written and is less restrictive than Alternatives B, C, and D. An adequate discussion of alternatives considered but eliminated from detailed analysis is presented in Section 2.5.

Substantive Comment (4): BLM and BIA should analyze in detail an alternative that fully respects tribal laws and interests in the planning area, especially for oil and gas leasing and development. The broad programmatic nature of the IRMP and RMP effort directly implicates tribal policies and laws, and is well-suited for establishing a set of ground rules that fully implements those policies and laws in all oil and gas-
related authorizations. For example, BIA and BLM should consider an alternative that (through lease stipulations, lease notices, or other measures) expressly requires the agencies to ensure that all approvals of oil and gas leasing, development, and related operations on native American jurisdictional lands comply fully with all tribal laws and policies. We invite BIA and BLM to develop such alternatives collaboratively with the Pawnee through the government-to-government consultation process.

Response: In Section 2.4.1, page 2-6, and Section 2.4.2, page 2-11, of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA acknowledge their responsibilities to “comply with state and federal laws, regulations, policies, and standards . . . ” under all alternatives. Further, compliance with existing laws, regulations, and BLM and BIA policies, which include tribal laws, are stated as planning criteria in Section 1.8, page 1-33.

Before any lease sale, there will be government-to-government consultation to comply with stipulations associated with tribal laws. Section 6.3.1 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP describes the consultation process. The Pawnee Nation was invited to government-to-government consultation in September 2013. As requested, the BLM held a consultation meeting with the Pawnee Nation on April 16, 2019, initiating government-to-government consultation. In the Joint EIS/BLM RMP and BIA Integrated RMP process, the BLM and BIA took into consideration any of their concerns.

Substantive Comment (6): The Pawnee request formal government-to-government consultation regarding this planning effort.

Response: Section 6.3.1 of the Draft Joint EIS/BLM RMP and BIA Integrated RMP describes the consultation process. The Pawnee Nation was invited to government-to-government consultation in September 2013. As requested, the BLM held a consultation meeting with the Pawnee Nation on April 16, 2019, initiating government-to-government consultation. In the Joint EIS/BLM RMP and BIA Integrated RMP process, the BLM and BIA took into consideration any of their concerns.

Substantive Comment (7): We understand that the IRMP will provide “management direction for both allotted and tribal mineral interests” in Oklahoma, and for lands “administered by the BIA Eastern Oklahoma and Southern Plains Regional Offices in Oklahoma.” DEIS at ES-1. As such it will have potentially major impacts on the Pawnee Nation, its members, and their resources and health and safety.

Response: Impacts on public health and safety are analyzed in Section 4.2.4.2, Environmental Consequences (BLM Public Health and Safety), and Section 4.3.22, Environmental Consequences, under BIA Public Health and Safety.

Substantive Comment (8): The DEIS states that its four alternatives “[c]omply with all applicable federal, state, local, and tribal environmental laws and regulations, policies, and standards.” DEIS at 2-11. However, it appears that none of the alternatives expressly requires that future oil and gas and other authorizations will comply with tribal laws. See DEIS at 2-83 to 2-84. Our experience is that BLM and BIA have routinely disregarded Pawnee tribal laws when approving oil and gas operations on Pawnee jurisdictional lands. As a result, imposing such a requirement in the RMP and IRMP would have considerable benefit.

Response: In Section 2.4.1, page 2-6, and Section 2.4.2, page 2-11, of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA acknowledge their responsibilities to “comply with state and federal
laws, regulations, policies, and standards . . .” under all alternatives. Further, compliance with existing laws, regulations, and BLM and BIA policies, which includes tribal laws, are stated as planning criteria in Section 1.8, page 1-33. Before any lease sale, through government-to-government consultation, the BLM and BIA would comply with stipulations associated with tribal laws.

Submitter: Center For Biological Diversity
Submission Number: 26

Substantive Comment (2): As far as I can tell, BLM only put out a press release on its website on March 4, only several days before a March 8 public meeting in Corpus Christi. NEPA requires agencies to “[m]ake diligent efforts to involve the public in preparing and implementing their NEPA procedures,” and to [p]rovide public notice of NEPA-related hearings, public meetings, and the availability of environmental documents so as to inform those persons and agencies who may be interested or affected.” Id. 1506.6(b) (emphasis added). For those actions “with effects of national concern notice shall include publication in the Federal Register and notice by mail to national organizations reasonably expected to be interested in the matter.” Id. 1506.6(b)(2). The management of federal lands and minerals in Texas, Oklahoma, and Kansas is an issue of national concern, and the Center for Biological Diversity is a national organization that has been heavily involved in commenting on and protesting leasing decisions in Oklahoma and Texas since 2016, and has raised questions about the sufficiency of the governing RMPs and RMP-EISs to support proposed leasing. Accordingly, we should have received notice of the proposed RMP DEIS at the time of its release, but did not. Given the lack of proper notice, we request a 60-day extension on the comment period for the DEIS so as to allow us enough time to review and comment on the DEIS. Thank you.

Response: The Notice of Availability for the Draft Joint EIS/BLM RMP and BIA Integrated RMP was published in the Federal Register on November 19, 2018; a press release announcing the public comment period was published on November 9, 2018; a project postcard announcing the meetings was sent to those on the mailing list on December 19, 2018; newspaper advertisements were published in the following newspapers on either December 21 or December 23, 2018: Amarillo Globe-News, Austin American Statesmen, Corpus Christi Caller Times, Dallas Morning News, The Oklahoman, Tulsa World, and The Wichita Eagle.

When the public comment period was extended due to the government shutdown, on February 14, 2019, the BLM and BIA sent another postcard to those on the mailing list, notifying them of the new comment period and new public meetings. Additional press releases with this updated information were released on February 7 and March 4, 2019. Newspaper advertisements were published in the following newspapers on either February 10 or February 11, 2019: Amarillo Globe-News, Corpus Christi Caller Times, Dallas Morning News, The Oklahoman, Tulsa World, and The Wichita Eagle. With these actions, the BLM and BIA satisfied NEPA requirements for public notifications.

Submitter: Tommy Henderson
Submission Number: 32

Substantive Comment (1): 2. Property boundaries are not marked.

Response: The BLM is aware that much of the 116-mile stretch along the Red River has not been surveyed, boundaries are not marked, and, due to the riparian nature of the area, boundaries are subject to change. Determination of landownership and associated boundaries between public and private lands along the 116-
mile stretch of the Red River, between the North Fork of the Red River and the 98th Meridian, is subject to the Aderholt et al. v. BLM et al. Settlement Agreement, dated November 7, 2017 (Civ. No. 7:15-CV-000162-O). The agreement specifies the method to be used in certain future land surveys to identify boundaries between federal public lands and private lands in the covered area.

Any land surveys would be completed independently of this Final Joint EIS/BLM RMP and BIA Integrated RMP. They would be conducted according to Section 1120 of the Red River Gradient Boundary Survey Act (John D. Dingell, Jr., Conservation, Management, and Recreation Act, Pub. L. No. 116-9, Section 1120 [2019]). Public lands identified through future surveys in the Red River area would be subject to applicable management under this Final Joint EIS/BLM RMP and BIA Integrated RMP.

Submitter: Stephen Lee
Submission Number: 35

Substantive Comment (1): Survey along 116 mile Red River KCA southern boundary be complete by BLM to protect federal lands - minerals developed in this area are split between KCA + Oklahoma.

Response: The BLM is aware that much of the 116-mile stretch along the Red River has not been surveyed, boundaries are not marked, and, due to the riparian nature of the area, boundaries are subject to change. Determination of landownership and associated boundaries between public and private lands along the 116-mile stretch of the Red River, between the North Fork of the Red River and the 98th Meridian, is subject to the Aderholt et al. v. BLM et al. Settlement Agreement, dated November 7, 2017 (Civ. No. 7:15-CV-000162-O). The agreement specifies the method to be used in certain future land surveys to identify boundaries between federal public lands and private lands in the covered area.

Submitter: Stephen Lee
Submission Number: 36

Substantive Comment (1): The BLM has a trust responsibility to identify public lands. The Secretary of the Department of Interior must approve of these surveys. Without the southern boundary of the Red River clarified, the royalty payment is unclear and must be resolved before moving forward.

Response: The BLM is aware that much of the 116-mile stretch along the Red River has not been surveyed, boundaries are not marked, and due to the riparian nature of the area, boundaries are subject to change. Determination of landownership and associated boundaries between public and private lands along the 116-mile stretch of the Red River, between the North Fork of the Red River and the 98th Meridian, is subject to the Aderholt et al. v. BLM et al. Settlement Agreement, dated November 7, 2017 (Civ. No. 7:15-CV-000162-O). The agreement specifies the method to be used in certain future land surveys to identify boundaries between federal public lands and private lands in the covered area.
Any land surveys would be completed independently of this Final Joint EIS/BLM RMP and BIA Integrated RMP. They would be conducted according to Section 1120 of the Red River Gradient Boundary Survey Act (John D. Dingell, Jr., Conservation, Management, and Recreation Act, Pub. L. No. 116-9, Section 1120 [2019]). Public lands identified through future surveys in the Red River area would be subject to applicable management from this Final Joint EIS/BLM RMP and BIA Integrated RMP.

Substantive Comment (3): Tribes seek clarity of the ownership of lands along the un-surveyed portion of the Red River.

Response: The BLM is aware that much of the 116-mile stretch along the Red River has not been surveyed, boundaries are not marked, and, due to the riparian nature of the area, boundaries are subject to change. Determination of landownership and associated boundaries between public and private lands along the 116-mile stretch of the Red River, between the North Fork of the Red River and the 98th Meridian, is subject to the Aderholt et al. v. BLM et al. Settlement Agreement, dated November 7, 2017 (Civ. No. 7:15-CV-000162-O). The agreement specifies the method to be used in certain future land surveys to identify boundaries between federal public lands and private lands in the covered area.

Substantive Comment (4): The proposed disposal of the public lands in this area does not address if the minerals are retained by the United States. If they are not will lose the royalty revenue and potential severance tax on production as well as business licensing fees.

Response: In Appendix N of the Draft Joint EIS/BLM RMP and BIA Integrated RMP, the BLM and BIA identified public lands that meet disposal criteria, in accordance with FLPMA Section 203. No public lands are being proposed for disposal. Decision authority over potential disposal of either surface estate or subsurface mineral estate is retained by the office of the Secretary of the Interior.
O.4 REFERENCES


