UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT
New Mexico State Office

May 2023 Competitive Oil and Gas Lease Sale
Environmental Assessment, DOI-BLM-NM-P000-2022-0001-EA

FINDING OF NO SIGNIFICANT IMPACT

BACKGROUND

The Bureau of Land Management (BLM) prepared an Environmental Assessment (EA) (DOI-BLM-NM-P000-2022-0001-EA) analyzing the effects of leasing 19 nominated oil and gas lease parcels (3,279.49 acres) in Chaves, Eddy, and Lea Counties, New Mexico, for sale in the May 2023 Pecos District Office (PDO) Competitive Oil and Gas Lease Sale (hereafter referred to as the "lease sale"). The BLM PDO includes the Carlsbad Field Office (CFO) and Roswell Field Office (RFO).

Leasing the 19 nominated lease parcels, with stipulations and lease notices derived from the Carlsbad Resource Management Plan (RMP) (BLM 1988)[1] and the Roswell Approved RMP and Record of Decisions (BLM 1997b), as amended (BLM 1997a, 2008a), is analyzed in the EA under the Proposed Action. Under the Proposed Action, the BLM Authorized Officer has the authority to selectively lease, or to defer parcels, based on the analysis of potential impacts presented in the lease sale EA. A No Action Alternative was also analyzed in the EA, wherein no parcels would be offered for lease and current management would continue. Twenty-seven issues identified during the scoping process (see EA Section 1.5) are analyzed in a succinct fashion and presented as "Issues Analyzed in Brief" (AIB) in EA Section 3.5. Four issues concerning air quality pollutants and emissions, greenhouse gas (GHG) emissions, surface water and groundwater quantity, and dunes sagebrush lizard (*Sceloporus arenicolus*) (DSL) and lesser prairie-chicken (*Tympanuchus pallidicinctus*) (LPC) are carried forward as "Issues Analyzed in Detail" in EA Section 3.6. The subject EA analyzes emissions and the social cost thereof for informational purposes only, and the BLM has not determined to lease individual parcels (or not) based on GHG emissions.

This Finding of No Significant Impact (FONSI) has been prepared for the Proposed Action.

FINDING OF NO SIGNIFICANT IMPACT

Based on the EA (DOI-BLM-NM-P000-2022-0001-EA), which analyzes potential impacts from the lease sale, and considering the criteria for significance provided by the Council on Environmental Quality (CEQ) regulations at 40 Code of Federal Regulations (CFR) 1508.27, I have determined that leasing the 3,279.49 acres of nominated lease parcels, under the Proposed Action, does not constitute a major federal action that would have a significant effect on the quality of the human environment. Therefore, an environmental impact statement (EIS) is not required.

[1] Full citations for the literature cited in this FONSI are in EA Chapter 6.

The Proposed Action, to offer for lease parcels for oil and gas development, and its effects have been evaluated in a manner consistent with the CEQ regulations for determining "significance." Per the 2020 CEQ regulation, 40 CFR 1501.3(b), a determination of significance as used in the National Environmental Policy Act (NEPA) requires consideration of both "potentially affected environment" and "degree." The affected area refers to the setting in which the action would occur (national, regional, or local) and its resources. Significance varies with the setting of the Proposed Action. The degree of the effects refers to the severity of the impact. The degree of the effects relate to four criteria are outlined in 40 CFR 1501.3 (2) i-iv. This FONSI is based on the affected area and degree of the effects of the Proposed Action.

AFFECTED AREA

Under the Proposed Action, the BLM would offer and subsequently issue a lease for 19 nominated lease parcels involving 3,279.49 acres of BLM-administered federal minerals. The nominated lease parcels consist of BLM-administered surface land and private land (see EA Table 2.1).

The nominated lease parcels are within an area designated as open to oil and gas leasing under standard terms and conditions and special stipulations in the Carlsbad RMP (BLM 1988) and the Roswell RMP (BLM 1997b), as amended (BLM 1997a, 2008a). Lease stipulations and lease notices are attached to the nominated lease parcels, with the potential impacts of the Proposed Action analyzed accordingly. EA Table 2.1 provides a list of the nominated lease parcels and the applicable stipulations and notices.

Although the act of leasing the nominated lease parcels does not authorize development of the parcels, by leasing the parcels the BLM grants the lessee with the right to use as much of the leased land as is necessary to explore and potentially develop the parcels for oil and gas production, subject to applicable laws, terms, conditions, and stipulations attached to the lease. Therefore, under the Proposed Action, the potential impacts associated with the potential future development of the nominated lease parcels for oil and gas exploration and development are analyzed. Development of a parcel leased by the BLM is not permitted until the BLM approves a completed Application for Permit to Drill (APD) package (Form 3160-3) submitted by the lessee. APDs are subject to additional environmental review under NEPA and CEQ regulations (43 CFR 1500).

In the EA, the future potential development of the nominated lease parcels is projected to result in 19 horizontal wells, approximately 85.5 acres of surface disturbance, and total production of an estimated 3,192,000 barrels of oil and 18,612,400 thousand cubic feet of gas (refer to EA Section 3.2 for methodology for estimating well numbers, potential production volumes, and surface disturbance associated with the future potential development of the nominated lease parcels).

The nominated lease parcels are located in Chaves, Eddy, and Lea Counties, New Mexico. Within these counties, as well as the area immediately surrounding the nominated lease parcels, there already exists extensive oil and gas development and production. Oil and gas development and its attendant industry are identifying components of the economic and social fabric of the region.

DEGREE OF EFFECTS

The following discussion is organized around the four criteria described at 40 CFR 1501.3(2) i-iv. The following discussion focuses only on those issues for which additional analysis was determined necessary in the May 2023 EA.

1. *Both short- and long-term effects.*

Both short- and long-term effects related to the Proposed Action are disclosed and analyzed in EA Section 3.5 (for the issues analyzed in brief) and Section 3.6 (for issues analyzed in detail). Short-term effects are defined as those that cease after well construction and completion (30–60 days) or cease after interim reclamation (2–5 years). Long-term effects are those associated with operation (e.g., noise) or otherwise extend beyond the short-term time period (for example, surface disturbance subject to final reclamation). Table 1 summarizes short- and long-term effects associated with the issues analyzed in detail (see EA Section 3.6), and the incremental contribution of the Proposed Action to reasonably foreseeable environmental trends and planned actions.

Table 1. Summary of Duration of Effects and Associated Significance Conclusions

Issue (EA Section)	Short-term Effects and Significance Conclusions	Long-term Effects and Significance Conclusions
Issue 1: How would future potential development of the nominated lease parcels impact air quality (particularly National Ambient Air Quality Standards [NAAQS] and volatile organic compounds [VOCs]) in the analysis area? (EA Section 3.6.1)	Air quality effects are anticipated to be at their highest level during the 30- to 60-day well completion phase and are therefore short-term in nature. Emissions associated with development of 19 wells would range from a 0.03% increase in particulate matter 10 microns in diameter or smaller (PM_{10}) and sulfur dioxide (SO_2) to a 0.26% increase in nitrogen oxide(s) (NO_x) in the tri-county (Chaves, Eddy, and Lea Counties) analysis area. This represents the maximum increase in pollutant emissions characteristic of the first year of construction and start of operation. For context, reasonably foreseeable development of federal wells in the analysis area in a given year would be estimated to result in a 0.47% and 4.36% increase in PM_{10} and NO_x, respectively. Reasonably foreseeable development of all wells in the analysis area in a given year would be estimated to result in a 1.17% and 10.91% increase in PM_{10} and NO_X, respectively. Future potential development of the nominated lease parcels would also result in short-term, localized impacts to air quality at nearby residences due to criteria pollutants, VOC, and hazardous air pollutant (HAP) emissions. Construction activities would be one of the primary sources of particulate matter emissions; however, the use of best management practices can reduce off-site effects from fugitive dust.	Emissions are anticipated to decline during operations and maintenance as the need for earth-moving and heavy equipment decreases. Ongoing operations of well sites would be subject to state and federal permitting requirements, which ensure compliance with air quality emission standards.

Issue (EA Section)	Short-term Effects and Significance Conclusions	Long-term Effects and Significance Conclusions
Issue 2: How would future potential development of the nominated lease parcels contribute to GHG emissions and climate change? (EA Section 3.6.2)	All GHG emissions are considered long-term effects due to the long lifespan in the atmosphere and their contribution to long-term climate trends such as desertification, loss of biodiversity, and changes to freshwater availability.	The EA identifies potential adverse effects to climate change through several methods, such as quantifying, as far as practicable, the reasonably foreseeable GHG emissions and social cost of GHG emissions (SC-GHG) as a proxy for assessing climate impacts. Compared with emissions from other existing and estimated foreseeable federal oil and gas development, the estimated emissions for the life of the leases in the Proposed Action is between 0.051% and 0.151% of federal fossil fuel authorization emissions in the state and between 0.022% and 0.063% of federal fossil fuel authorization emissions in the nation. In summary, potential GHG emissions from the Proposed Action could result in GHG emissions of 2.926 megatonnes CO_2e over the life of the leases. As detailed in the Annual GHG Report (BLM 2020d), which the BLM has incorporated by reference, the BLM also examined other tools to inform its analysis, including the MAGICC model (see Section 7.0 of the Annual GHG Report). This model run suggests that "30-plus years of projected federal emissions would raise average global surface temperatures by approximately 0.0158 °C., or 1% of the lower carbon budget temperature target." Using these figures, the SC-GHG from the Proposed Action is estimated to range from $38.6 to $421.3 million. There are no established thresholds for NEPA analysis to contextualize the quantifiable GHG emissions or social cost of an action in terms of the action's effect on the climate, incrementally or otherwise. The BLM acknowledges that all GHGs contribute incrementally to climate change and has displayed the GHG emissions and SC-GHG in the EA in comparison with a variety of emissions sources and metrics. As of the publication of this FONSI, there is no scientific data in the record, including scientific data submitted during the comment period for the lease sale, that would allow the BLM, in the absence of an agency carbon budget or similar standard, to evaluate the significance of the GHG emissions from this proposed lease sale.
Issue 3: How would future potential development of the nominated lease parcels impact surface and groundwater quantity? (EA Section 3.6.3)	While most of the water use associated with oil and gas development is expected to occur within a 30- to 60-day well construction and completion period, the effect of this use on groundwater aquifers and surface waters is expected to last until recharge occurs. Due to uncertainty about water sources and recharge rates, it is assumed that all water use associated with oil and gas development is likely to be a long-term effect. Additionally, the ability for aquifer recharge may be affected by drought conditions associated with climate change.	Water uses associated with development of the nominated lease parcels would occur during the 30- to 60-day well construction and completion period (e.g., hydraulic fracturing), during the 20-year operation period (e.g., water use associated with dust control, recompletion, workover, etc.) and during interim and final reclamation. The majority of water use occurs during the well construction and completion period, and water uses during operation and reclamation phases are negligible in comparison.

Issue (EA Section)	Short-term Effects and Significance Conclusions	Long-term Effects and Significance Conclusions
		Due to uncertainty about water sources and recharge rates, it is assumed that all water use associated with oil and gas development is likely to be a long-term effect. Drilling and completion of 19 horizontal wells on the nominated lease parcels are estimated to use approximately 592.8 acre-feet (AF) of groundwater. Water use associated with drilling and completion of each well is expected to occur within a 30- to 60-day period. Assuming that all wells are developed in the same year, groundwater use associated with future potential development of the leases would result in increases of 0.10% to the 2015 tri-county analysis area total water use (619,375 AF), 0.11% to the tri-county analysis area total groundwater use (545,154 AF), and 0.63% over 2015 water use in the mining category for the tri-county analysis area (94,758 AF). The total estimated water use for drilling and completion of the 19 horizontal wells in the nominated lease parcels in a single year (29.64 AF) represents approximately 0.06% of the 2021 oil and gas water use reported to FracFocus (48,678 AF) (BLM 2022b). Assuming a 20-year development scenario for the Proposed Action (consistent with the reasonably foreseeable development [RFD] time frame [Engler et al. 2012; Engler and Cather 2014]), the water use associated with development of the lease parcels would be approximately 29.64 AF for any given year. Projected future potential development of the lease parcels would result in a 0.005% increase to the tri-county analysis area total water use (619,375 AF), 0.005% to the tri-county analysis area total groundwater use (545,154 AF), and a 0.03% increase over 2015 water use in the mining category for the tri-county analysis area (94,758 AF). The total estimated water use of 29.64 AF in a single year represents approximately 0.06% of the 2021 oil and gas water use reported to FracFocus (48,678 AF) (BLM 2022b). The demand from future potential development of the nominated lease parcels (592.8 AF) is negligible when contrasted with the estimated water demand of the RFD (499,200 AF over 20 years, or 24,960 AF in any given year), the tri-county analysis area 2015 water use (619,375 AF), and the demands of other sectors in the tri-county analysis area such as irrigation (466,784 AF in 2015) and mining (94,758 AF in 2015).

Issue (EA Section)	Short-term Effects and Significance Conclusions	Long-term Effects and Significance Conclusions
		Long-term water requirements during operation under either scenario would depend on the project details but could include coolant for internal combustion engines and dust suppression on roads or well pads. Produced water associated with development of the lease parcels is estimated at approximately 11,046,600 barrels of water. Produced water would be either recycled, reused, or disposed of in accordance with all applicable federal and state laws and regulations.
Issue 4: How would future potential development of the nominated lease parcels affect DSL and LPC? (EA Section 3.6.4)	Nominated lease parcels 6751, 6790, 6803, and 6804 are within the DSL habitat distribution area (analysis area). Nominated lease parcels 420, 6751, 6790, 6803, 6804, and 6805 are within the 794,487-acre LPC Isolated Population Area (IPA) (analysis area). None of the remaining nominated lease parcels are located within DSL or LPC habitat management areas, or the LPC estimated occupied range. Short-term effects during well construction, completion activities, and interim reclamation would include increased noise disturbance and increased human presence potentially leading to temporary avoidance of proximal habitat. Well construction and completion activities (30–60 days) associated with these parcels would likely result in a decrease of DSL and LPC habitat quality due to increased human presence, noise disturbance, and vegetation removal. Construction-related traffic would have the potential for direct mortalities. An appropriate development distance from suitable and/or occupied habitat would be determined by the BLM at the lease development stage, following a review of data including but not limited to habitat suitability models, occupied dune survey data, general biological surveys, aerial imagery, and species-specific survey habitat occupancy data (BLM 2008a, n.d.-c; Laurencio and Fitzgerald 2010). The BLM would apply conditions of approval to minimize potential impacts from construction.	Future potential development of nominated lease parcels 420, 6751, 6790, 6803, and 6804 could be reasonably expected to directly impact approximately 22.5 acres (0.004% of mapped DSL habitat distribution) of surface disturbance within the mapped DSL habitat distribution area. None of the remaining nominated lease parcels are located within DSL habitat and are therefore not anticipated to result in adverse impacts to the species or its' habitat. Future potential development of nominated lease parcels 420, 6751, 6790, 6803, 6804, and 6805 could be reasonably expected to directly impact 27 acres of surface disturbance within the 794,487-acre LPC IPA, which represents approximately 0.0005% of this area. None of the remaining nominated lease parcels are located within an LPC management area and are therefore not anticipated to result in adverse impacts to the species or its habitat. Effects related to surface disturbance would be long-term, continuing until well operations cease and habitat is successfully reclaimed. Surface disturbance from future potential development of the nominated lease parcels would likely result in a decrease of habitat quality from human presence, habitat fragmentation, and loss of suitable DSL and LPC habitat. Following reclamation, these effects are expected to decrease over time; however, the degree and speed of recovery is anticipated to vary depending on site-specific ecological conditions, environmental factors, and the amount and success of interim reclamation. Operations and maintenance–related traffic, while minimal, would also have the potential for direct mortalities. Conditions of approval such as speed limits may be applied to minimize this risk.

Issue (EA Section)	Short-term Effects and Significance Conclusions	Long-term Effects and Significance Conclusions
		In conjunction with the stipulations, lease notices, and standard terms and conditions applied to nominated lease parcels 420, 6751, 6790, 6803, 6804, and 6805, site-specific review and pre-disturbance biological surveys at the lease development stage, surface disturbance from future potential development of the nominated lease parcels is not likely to result in a decrease in available suitable or occupied habitat for DSL and LPC. Where implemented, restoration projects outlined in EA Section 3.3 would have countervailing impacts to habitat fragmentation and long-term disturbance to DSL and LPC habitat. Given the listing of the LPC under the ESA effective January 2023, the BLM NMSO is planning to initiate programmatic ESA consultation with USFWS to addresses potential effects to LPC associated with BLM oil and gas leasing actions which fall outside of occupied LPC habitat (i.e., 5 miles or greater from occupied habitat), including but not limited to the PDO May 2023 nominated lease parcels.

2. ***Both beneficial and adverse effects.***

Potentially beneficial and adverse impacts related to the Proposed Action are disclosed and analyzed in EA Section 3.5 (for the issues analyzed in brief) and Section 3.6 (for issues analyzed in detail). The potential for adverse impacts to the resources examined in the section headers labeled AIB-1 through AIB-27 will be minimized with the application of stipulations, consideration of parcel proximity to sensitive resources, and the likelihood for sensitive resources to occur.

Table 2 summarizes the issues analyzed in detail (see EA Section 3.6), including the beneficial and adverse effects associated with each issue, and the incremental contribution of the Proposed Action to reasonably foreseeable environmental trends and planned actions.

Table 2. Summary of Beneficial and Adverse Impacts of Issues Analyzed in Detail

Issue Analyzed in Detail (EA Section)	Impact Summary (both Beneficial and Adverse) and Significance Conclusions
Issue 1: How would future potential development of the nominated lease parcels impact air quality (particularly NAAQS and VOCs) in the analysis area? (EA Section 3.6.1)	Additional NO_x and VOCs from 19 wells (a 0.26% and 0.05% increase over existing annual emissions, respectively) would incrementally add to ozone (O_3) levels within the analysis area, which recently exceeded NAAQS in Eddy County. Given the size of the project relative to other activities in the area, it is not expected that the Proposed Action would lead directly to additional NAAQS exceedances of O_3 in Eddy County. Future potential development of the nominated lease parcels would also result in localized impacts to air quality at nearby residences due to criteria pollutant, VOC, and HAP emissions. The nominated lease parcels do not contain residences. The nearest residence to any of the nominated lease parcels is approximately 0.06 mile southeast of parcel 6800 and 0.16 mile west of parcel 6795. Future potential development of the nominated lease parcels would result in short-term local area increases of pollutant emissions, including particulate matter (particulate matter 2.5 microns in diameter or smaller [$PM_{2.5}$] and PM_{10}), NO_x, VOCs, and O_3 (as a secondary pollutant), lasting an average of 30 to 60 days. Air

Issue Analyzed in Detail (EA Section)	Impact Summary (both Beneficial and Adverse) and Significance Conclusions
	quality is dependent on not only the quantity of air pollutants but also environmental conditions (humidity, wind direction and speed, temperature) that influence concentration and dispersion of pollutants. Future potential development of the nominated lease parcels is estimated to result in between 0.31 and 0.06 ton per year of HAP emissions for an oil well and a gas well, respectively, which could result in 5.89 and 1.14 tons per year of HAP emissions from combined construction and operation of the wells during the first year, which would be the maximum annual rate of HAP emissions. The Clean Air Act defines a major source for HAP emissions to be one emitting 10 tons per year of any single HAP or 25 tons per year of any combination of HAPs (BLM 2022a). Because this is prior to implementation of any applicable federally enforceable controls, this represents a conservatively high estimate of potential HAP emissions. Therefore, it is not expected that the Proposed Action would be a major source of HAP emissions. Additionally, total HAP emissions from the Proposed Action would be distributed over time and space. The future potential development of the nominated lease parcels comprises 0.12% of the RFD scenario (16,000 wells) and, assuming concurrent development, would be 2.38% of annual RFD (800 wells). Reasonably foreseeable trends and planned actions would incrementally contribute to increases in criteria pollutants between 1.17% and 10.91% of existing annual emissions of all well development, federal and non-federal (see EA Table 3.22). Localized and short-term effects on air quality for nearby residences from emissions of particulate matter, NO_x, VOCs, and HAPs are expected; however, because well development varies (i.e., permit approval, well pad construction, spudding, and completion), the phases of development may not occur in succession but may be spread out in development over time. As such, the incremental addition of criteria pollutants and VOCs over a period of 20 years would not be expected to result in any direct exceedances of the NAAQS or New Mexico Ambient Air Quality Standards for any criteria pollutants in the analysis area. These areas have not been formally declared non-attainment by the U.S. Environmental Protection Agency through the State's recommendation. The BLM will continue to monitor these areas and participate in any O_3 initiative meetings and strategies that the State recommends.
Issue 2: How would future potential development of the nominated lease parcels contribute to GHG emissions and climate change? (EA Section 3.6.2)	The EA identified potential adverse effects to climate change through several methods, such as quantifying, as far as practicable, the reasonably foreseeable GHG emissions and SC-GHG as a proxy for assessing climate impacts. Compared with emissions from other existing and estimated foreseeable federal oil and gas development, the estimated emissions for the life of the leases in the Proposed Action is between 0.051% and 0.151% of federal fossil fuel authorization emissions in the state and between 0.022% and 0.063% of federal fossil fuel authorization emissions in the nation. In summary, potential GHG emissions from the Proposed Action could result in GHG emissions of 2.926 megatonnes CO_2e over the life of the leases. Using these figures, the SC-GHG from the Proposed Action is estimated to range from $38.6 to $421.3 million. There are no established thresholds for NEPA analysis to contextualize the quantifiable GHG emissions or social cost of an action in terms of the action's effect on the climate, incrementally or otherwise. The BLM acknowledges that all GHGs contribute incrementally to climate change and has displayed the GHG emissions and social cost of GHG in the EA in comparison with a variety of emissions sources and metrics. As of the publication of this FONSI, there are no scientific data in the record, including scientific data submitted during the comment period for the lease sale, that would allow the BLM, in the absence of an agency carbon budget or similar standard, to evaluate the significance of the GHG emissions from this proposed lease sale.

Issue Analyzed in Detail (EA Section)	Impact Summary (both Beneficial and Adverse) and Significance Conclusions
Issue 3: How would future potential development of the nominated lease parcels impact surface and groundwater quantity? (EA Section 3.6.3)	Future potential development of the 19 horizontal wells in the nominated lease parcels is estimated to use approximately 592.8 AF of groundwater. Assuming a 20-year development scenario (consistent with the RFD time frame), the water use associated with development of the lease parcels would be approximately 29.64 AF for any given year, which represents approximately 0.005% of the tri-county analysis area total water use (619,375 AF), 0.005% of the tri-county analysis area total groundwater use (545,154 AF), and 0.03% of the 2015 water use in the mining category for the tri-county analysis area (94,758 AF). The largest water use category within the analysis area is irrigation, comprising 75% of all water use within the tri-county analysis area. Assuming a 20-year development scenario, development of the RFD, which comprises all reasonably foreseeable future actions, would require 499,200 AF of water, or 24,960 AF of water in any given year if all wells were drilled horizontally. This is about 4% of the tri-county analysis area 2015 total water withdrawals (619,375 AF, which already includes past and present water use). Water use associated with future potential development of the proposed lease parcels (592.8 AF) would comprise 2.4% of annual RFD water use and 0.12% of total water use associated with the RFD. The demand from future potential development of the nominated lease parcels (592.8 AF) is negligible when contrasted with the estimated water demand of the RFD (499,200 AF over 20 years, or 24,960 AF in any given year), the tri-county analysis area 2015 water use (619,375 AF), and the demands of other sectors in the tri-county analysis area such as irrigation (466,784 AF in 2015) and mining (94,758 AF in 2015). If more water-intensive stimulation methods (e.g., slickwater fracturing) are implemented, if laterals become longer, or if more wells than estimated are drilled. aggregate water use could increase from estimates provided in the *2022 Water Support Document for Oil and Gas Development in New Mexico* (BLM 2022b). Alternatively, water use estimates could be lower if produced water is reused or recycled for use in hydraulic fracturing or if methods such as nitrogen completions (less common than slickwater completions in the PDO) are implemented.
Issue 4: How would future potential development of the nominated lease parcels affect DSL and LPC? (EA Section 3.6.4)	While development of the RFD would result in increased habitat fragmentation beyond existing habitat fragmentation levels, surface disturbance associated with future potential development of the nominated lease parcels (19 wells) would represent about 0.12% of the RFD (16,000 wells). Approximately 100% of nominated lease parcels 6751 (40 acres) and 6803 (40 acres), 6804 (40 acres), and 99% of nominated lease parcel 6790 (238.75 acres) are located within the mapped DSL habitat distribution area (EA Table 3.36). None of the remaining nominated lease parcels are located within DSL habitat and are therefore not anticipated to result in adverse impacts to the species or its habitat. Lease Notice SENM-LN-S, which notifies the lessee that a pre-disturbance presence/absence biological survey may be required within these nominated lease parcels, and Stipulation SENM-S-23-CSU, which would not allow development in documented occupied habitat areas or within up to 200 m of suitable habitat associated with occupied habitat areas, are applied to nominated lease parcels 420, 6751, 6803, 6804, and 6790, and may provide protections to DSL. Approximately 100% of nominated lease parcels 420 (80.15 acres), 6751 (40 acres), 6790 (240 acres), 6803 (40 acres), 6804 (40 acres), and 6805 (321.92 acres) are located within the 794,487-acre LPC IPA. There is one lek within nominated lease parcel 6790 and two leks within 200 m of parcel 6790 (BLM 2020b). None of the remaining nominated lease parcels are located within an LPC management area and are therefore not anticipated to result in adverse impacts to the species or its habitat. Stipulation SNEM-S-22-CSU is applied to nominated lease parcels 420, 6751, 6790, 6803, 6804, and 6805, which prohibits drilling for oil and gas and 3-D geophysical exploration operations during the period of March 1 through July 15 of each year, and may provide protections to LPC. Due to application of lease stipulations and standard terms and conditions, surface disturbance from future potential development of the nominated lease parcels is not likely to result in a decrease in available suitable or occupied habitat for DSL and LPC.

Issue Analyzed in Detail (EA Section)	Impact Summary (both Beneficial and Adverse) and Significance Conclusions
	Depending on the selected location of surface disturbance, development of the nominated lease parcels could result in up to 22.5 acres of surface disturbance within the mapped DSL habitat distribution area, and up to 27 acres of surface disturbance within the LPC IPA, and therefore a potential decrease in DSL and LPC habitat quality from human presence and loss of vegetation (Tables 3.36 and 3.37 of the EA). Both effects would be considered long-term because they would result in a loss of habitat and increased fragmentation until operations cease and habitat is successfully reclaimed. Colocation of development with existing disturbance during site selection has the opportunity to decrease direct and indirect effects on these species. For LPC, habitat fragmentation and increased density of development identified in the RFD scenario, could reduce habitat viability beyond species-specific thresholds. Increased fragmentation from development of the RFD is expected within the LPC IPA. Future potential development associated with the Proposed Action (an estimated 19 wells, or one well per parcel) is approximately 0.12% of the RFD (16,000 wells) and would occur within mapped DSL habitat distribution area and LPC IPA. Where implemented, restoration projects would have countervailing impacts to habitat fragmentation and long-term disturbance to DSL and LPC habitat. Given the listing of the LPC under the ESA effective January 2023, the BLM NMSO is planning to initiate programmatic ESA consultation with USFWS to addresses potential effects to LPC associated with BLM oil and gas leasing actions which fall outside of occupied LPC habitat (i.e., 5 miles or greater from occupied habitat), including but not limited to the PDO May 2023 nominated lease parcels.

EA Section 3.5 also discloses the potential for beneficial impacts, including employment opportunities and revenue streams for federal, state, and local governments (see AIB-24, economic activity) and fluid mineral availability (see AIB-11).

3. ***Effects on public health and safety.***

In the EA, public health and safety–related effects are described and analyzed in AIB-1 (groundwater quality), AIB-2 (surface water quality), AIB-3 (induced seismicity), AIB-23 (human health and safety), AIB-24 (economic activity), AIB-25 (quality of life), Issue 1 (air quality), and Issue 2 (GHGs and climate change). Development and construction may contribute to public health and safety–related risks including occasional fire starts; spills of hazardous materials, hydrocarbons, produced water, or hydraulic fracturing fluid and corresponding potential contamination of air, soil, or water; exposure to naturally occurring radioactive material (NORM) in drill cuttings or produced water; traffic congestion and collisions from commercial vehicles and heavy use, especially south and east of Carlsbad along NM State Road 128 and U.S. Route 285; infrequent industrial accidents; presence of hydrogen sulfide; or increased levels of fugitive dust (PM_{10}). EA Section 3.6.1 (Issue 1) explains that the Proposed Action would not result in an exceedance of any air quality–related standard that may impact public health and safety. Additionally, Section 3.5 discloses that the Proposed Action would not result in significant impacts on other resources, including water quality (see AIB-1 and AIB-2) and induced seismicity (see AIB-3).

Leasing of the nominated lease parcels would not result in significant public health and safety–related effects when comparing the aforementioned issues. Leasing for oil and gas, and subsequent exploration and development, is a regular and ongoing activity in the region. Estimated future potential development of the nominated lease parcels (19 wells) is 0.12% of the total past, present, and reasonably foreseeable future oil and gas development in the New Mexico portion of the Permian Basin (57,006 wells). In addition, the regulatory program associated with these issues successfully addresses the adverse effects of primary concern, and the BLM's authority under standard lease terms and conditions allows the BLM to attach

conditions of approval (which typically reduce or eliminate adverse effects on resources) to activities authorized at the time of lease development.

4. ***Effects that would violate Federal, State, Tribal, or local law protecting the environment.***

None of the effects associated with the Proposed Action would violate any federal, state, tribal, or local law protecting the environment. This lease sale is consistent with applicable laws, land management plans, and policies. The public was given the opportunity to participate in the environmental analysis process during:

- an external public scoping period from October 6 to November 7, 2022;
- a Draft EA public review and comment period from January 4 to February 2, 2023; and
- a Lease Sale Notice will be made available for a 30-day protect period.

In compliance with NEPA and the National Historic Preservation Act (NHPA), the BLM PDO is consulting with and conducting ongoing government-to-government consultation with tribes (see also EA Section 3.5 AIB-20 and Section 4.2).

NHPA

The Proposed Action would be in compliance with Section 106 of the NHPA (for details, see EA Section 3.5, AIB-19). The BLM CFO and RFO conducted a records review and analysis of the area of potential effects for the 19 nominated lease parcels. The review found that approximately 726.84 acres (22.16%) of the 3,279.50 acres of the nominated lease parcels, within the PDO have been previously surveyed for cultural resources. The review found 17 cultural resources are located within the physical and audio/visual area of potential effects of the nominated parcels within the PDO. Due to low archaeological survey coverage and minimal overall ground disturbance from development within the nominated lease parcels, there is potential for identifying previously unrecorded sites. The historic road still exists today and is currently still in use for mineral extraction and ranching activity. The probability of discovering previously unrecorded historic properties in this area is high. At this time, the BLM CFO and RFO determined that there would be *no effect* to historic properties as a result of the undertaking (see EA Section 4.3). The nominated lease parcels have been assigned lease stipulation WO-NHPA and lease notice NM-11-LN, which require State Historic Preservation Office (SHPO) and tribal consultation and compliance with Section 106 of the NHPA prior to approval of lease development.

The New Mexico BLM has a two-party agreement with the New Mexico SHPO that implements an authorized alternative to 36 CFR 800 for most undertakings (herein referred to as the State Protocol; see also Section 4.3 of the EA). The State Protocol outlines when case-by-case SHPO consultation is or is not required for specific undertakings, the procedures for evaluating the effects of common types of undertakings, and details regarding how to resolve adverse effects on cultural and historic properties. Because the actions evaluated for future potential development of the nominated lease parcels are considered common undertakings (by the State Protocol), the Proposed Action does not require additional consultation with the New Mexico SHPO in accordance with Appendix C.I.a of the State Protocol. The BLM New Mexico State Office, SHPO, and the Advisory Council on Historic Preservation also entered into the Permian Basin Programmatic Agreement (PBPA) as an option for compliance with Section 106 of

the NHPA for energy-related projects in the PBPA project area. The nominated lease parcels are not within the PBPA area; therefore, development on these parcels would not be eligible for enrollment to the PBPA. The Proposed Action is not anticipated to create a high degree of impacts on sites/objects listed in the NRHP or to cause significant adverse loss or destruction of significant scientific, cultural, or historical resources because any adverse effects identified at the proposed lease development stage would be mitigated, minimized, or avoided.

Impacts to Native American concerns have been addressed in the EA (see Section 3.5, AIB-20) and through tribal consultation (see EA Section 4.2). The nominated lease parcels have been assigned lease stipulation HQ-CR-1 and lease notice NM-11-LN, which require SHPO and tribal consultation and compliance with Section 106 of the NHPA prior to approval of lease development.

Endangered Species Act

The Proposed Action would be in compliance with the Endangered Species Act (ESA) (see EA Section 3.5 AIB-7 and EA Section 4.1). The analysis in the EA indicates that potential habitat is present within the nominated lease parcels for four federally listed endangered species. Future potential development of the nominated lease parcels is not anticipated to create adverse impacts for the following reasons: 1) stipulations and lease notices facilitate the reduction or avoidance of effects (see Table 2.1 and Appendix B of the EA), 2) site-specific analysis at the lease development stage provides an additional opportunity to evaluate effects and develop measures to reduce or avoid effects, and 3) the standard lease terms and conditions that apply to all nominated lease parcels provide the BLM with the authority to require reasonable measures that reduce or avoid effects.

BLM PDO biologists have reviewed the proposed leasing and determined the Proposed Action would comply with threatened and endangered species management guidelines outlined in the 1988 CFO RMP as amended in 1997 (Consultation #2-22-96-F-128), and in the Roswell RMP (BLM 1997b), Biological Assessments (BAs) and in accordance with the requirements of the FLPMA and NEPA. In April 2008, the BLM PDO Special Status Species RMPA and associated September 2006 Biological Assessment (Consultation #22420-2007-TA-0033) amended both of these land use plans in portions of Chaves, Roosevelt, Eddy, and Lea Counties to ensure continued habitat protection of two BLM special status species: LPC and DSL. The BLM would initiate ESA Section 7 consultation with the U.S. Fish and Wildlife Service for species not previously analyzed in the 1997 and 2006 BAs if during site selection federally listed species are found to have a potential to be present or impacted during lease development.

Given the listing of the LPC under the ESA effective January 2023 (Federal Register 87:72674–72755), the BLM NMSO is planning to initiate programmatic ESA consultation with USFWS to addresses potential effects to LPC associated with BLM oil and gas leasing actions which fall outside of occupied LPC habitat (i.e., 5 miles or greater from occupied habitat), including but not limited to the PDO May 2023 nominated lease parcels. For future leasing actions that occur within 5 miles or less of occupied LPC habitat, BLM would initiate Section 7 consultation for potential effects to LPC on a case-by-case basis.

Conclusion

Therefore, on the basis of the information contained in the EA (DOI-BLM-NM-P000-2022-0001-EA) and all other information available to me at this time, it is my determination that:

- The degree of the effects of the Proposed Action do not rise to the level of significance requiring preparation of an EIS (see criteria 1–4 explained in detail).
- The Proposed Action is in conformance with the Carlsbad RMP (BLM 1988), as amended (BLM 1997a, 2008a), and the Roswell Approved RMP and Record of Decision (BLM 1997b), as amended (BLM 2008a).

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Sheila Mallory **Date**
Deputy State Director-Minerals