

# Record of Decision Osage County Oil and Gas Environmental Impact Statement



United States Department of the Interior  
Bureau of Indian Affairs  
Eastern Oklahoma Regional Office  
Osage Agency

December 2020

### **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.

**UNITED STATES DEPARTMENT OF THE INTERIOR**

**BUREAU OF INDIAN AFFAIRS**

**RECORD OF DECISION**

**OSAGE COUNTY OIL AND GAS  
ENVIRONMENTAL IMPACT STATEMENT**

Lead Agency:

U.S. Department of the Interior  
Bureau of Indian Affairs  
Eastern Oklahoma Regional Office  
3100 W. Peak Boulevard  
Muskogee, OK 74402

Cooperating Agencies:

The Osage Nation  
Osage Minerals Council  
U.S. Environmental Protection Agency  
U.S. Geological Survey

December 2020



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**Eddie R. Streater**  
**Regional Director**

**DEC 15 2020**

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**Date Signed**

## **US Department of the Interior**

**Agency:** Bureau of Indian Affairs, Eastern Oklahoma Regional Office

**Action:** Record of Decision for the Osage County Oil and Gas Environmental Impact Statement, Osage County, Oklahoma

**Summary:** The United States (US) Department of the Interior, Bureau of Indian Affairs (BIA), Eastern Oklahoma Regional Office, prepared the Osage County Oil and Gas Environmental Impact Statement (EIS), in accordance with the National Environmental Policy Act of 1969 (NEPA). This programmatic EIS analyzes the potential impacts of future oil and gas development on the surface estate and subsurface mineral estate in Osage County, Oklahoma. Osage County, the planning area for this EIS, is located in northeast Oklahoma and encompasses approximately 1,474,500 acres. In accordance with the Osage Allotment Act of 1906, as amended, the subsurface mineral estate underlying Osage County (Osage Mineral Estate) is held in trust by the United States for the benefit of the Osage Nation and is administered by the BIA.

This record of decision (ROD) documents the BIA's selection of a modified version of Alternative 2 for implementation. The decision is supported by the analysis set forth in the Final EIS published on October 16, 2020. The BIA's decision was based on careful consideration of the analysis in the Draft EIS and Final EIS, purpose of and need for the federal actions at issue (e.g., the approval of oil and gas leases, drilling permits, and workover permits), alternatives, and comments received from the Osage Nation, general public, and Federal, state, and local government agencies. This decision best fulfills the BIA's mission and statutory responsibilities.

### **For Further Information Contact:**

Mr. Mosby Halterman  
Regional Environmental Scientist  
Bureau of Indian Affairs  
Eastern Oklahoma Regional Office  
3100 W. Peak Boulevard  
Muskogee, OK 74402-8002  
Phone: (918) 781-4600  
Fax: (918) 781-4667

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## ACRONYMS AND ABBREVIATIONS

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Full Phrase

ABB	American burying beetle
APD	application for permit to drill
BA	biological assessment
BIA	United States Department of the Interior, Bureau of Indian Affairs
BLM	United States Department of the Interior, Bureau of Land Management
BMP	best management practice
BO	biological opinion
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
COA	condition of approval
DNA	determination of NEPA adequacy
EA	environmental assessment
EIS	environmental impact statement
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
GHG	greenhouse gas
H <sub>2</sub> S	hydrogen sulfide
IBIA	Interior Board of Indian Appeals
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRCS	US Department of Agriculture Natural Resources Conservation Service
OKT	Oklahoma, Kansas, and Texas
OWRB	Oklahoma Water Resources Board
PLSS	Public Land Survey System
RFD	reasonably foreseeable development scenario
RMP	resource management plan
ROD	record of decision
ROW	right-of-way
SHPO	State Historic Preservation Officer
SPCC	Spill prevention, control, and countermeasure
THPO	Tribal Historic Preservation Officer
USC	United States Code
USFWS	United States Fish and Wildlife Service
WMA	wildlife management area



# Section 1. Introduction

In 1872, Congress established a reservation for the Osage Nation in what is now Oklahoma. Upon statehood, Oklahoma was divided into 56 districts and the Osage Indian Reservation became Osage County, Oklahoma. In 1906, Congress enacted the Osage Allotment Act (1906 Act), providing for the disposition of the Osage Nation's lands to its members. The 1906 Act, as amended, severed the minerals underlying Osage County (the Osage Mineral Estate) from the surface estate, reserving all mineral rights to the Osage Nation in perpetuity. Accordingly, the United States holds the Osage Mineral Estate in trust for the benefit of the Osage Nation.

The 1906 Act authorizes the Osage Nation to lease the Osage Mineral Estate for oil and gas exploration and development subject to the approval of the Secretary of the Interior and under such rules and regulations as he may prescribe. The Secretary delegated the authority for management of the Osage Mineral Estate to the Superintendent of the BIA Osage Agency. All oil and gas leases and permit applications in Osage County are approved under the authority of the 1906 Act and the regulations in 25 CFR part 226 – Leasing of Osage Reservation Lands for Oil and Gas Mining.

The BIA Eastern Oklahoma Regional Office prepared the Osage County Oil and Gas Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. § 4321, *et seq.*, to guide the management of oil and gas resources within the planning area. The EIS is a programmatic document that allows the BIA to streamline the NEPA review process for the approval of oil and gas leases, drilling permits, and workover permits by replacing the existing Programmatic Environmental Assessments for Leasing Activities (2014) and Workover Operations (2015) with a single document that serves as the BIA's NEPA review for all oil and gas development activities that do not require new ground disturbance. The EIS also streamlines the NEPA process by providing comprehensive impacts analysis the BIA and lessees can tier from in site-specific EAs for drilling and workover operations involving new ground disturbance.<sup>1</sup>

The BIA published the Final EIS on October 16, 2020. This record of decision (ROD) contains the BIA's decision, the rationale for the decision, a summary of the alternatives considered, an overview of environmental impacts, and other pertinent information.

## Section 2. Alternatives

The range of alternatives available to the BIA was limited given the statutory requirements of the 1906 Act and the more than 100-year history of oil and gas development in Osage County that has given rise to thousands of previously approved leases that remain valid existing rights. The BIA considered four alternatives in detail in the Final EIS: (1) the No Action Alternative; (2) Emphasize Oil and Gas Development; (3) Hybrid Development; and (4) Enhanced Resource Protection.

The alternatives were designed to promote development of the Osage Mineral Estate in a manner that is economical and efficient while minimizing or avoiding adverse impacts on the environment, historic

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<sup>1</sup> A site-specific environmental assessment (EA) may be required for any lease or workover operations if the BIA determines, in its discretion, that additional analysis is warranted.

properties, and cultural resources significant to federally recognized Tribes. Each of the alternatives included Conditions of Approval (COAs) for oil and gas development activities designed to mitigate impacts on resource values. The COAs applied varied by alternative, except for several COAs that apply under all alternatives (see **Table 2-3**, Summary Comparison of Conditions of Approval, in **Chapter 2**, Alternatives, of the Final EIS).<sup>2</sup>

The following subsections highlight the major components of the four alternatives that the BIA analyzed. For a complete description of the Alternatives, please refer to **Section 2.3**, Alternatives Considered for Detailed Analysis, in **Chapter 2** of the Final EIS. The BIA considered the potential environmental impacts under each of these alternatives. For a summary of the environmental impacts, please refer to **Table 2-4**, Summary Comparison of Environmental Consequences of the Alternatives, in **Appendix D** of the Final EIS. For a detailed analysis of the potential environmental impacts under each alternative, please refer to **Chapter 4**, Environmental Consequences, in the Final EIS.

## **2.1 ALTERNATIVE 1 – NO ACTION**

Under Alternative 1, No Action, the BIA would continue the current Osage oil and gas program without modifying management direction or practices. Accordingly, the BIA would approve ground-disturbing activities throughout all of Osage County, allowing for the permitting of up to 4,671 new wells by 2037.<sup>3</sup> The EIS would serve as the NEPA review for the approval of oil and gas leases and workover permits that do not require new ground disturbance. A determination of NEPA adequacy (DNA), or another appropriate process, would continue being used to document NEPA review for those actions. Site-specific EAs would still be required for drilling permits and workover permits requiring new ground disturbance but would be tiered to the analysis in the EIS.<sup>4</sup> COAs would be applied to drilling and workover permits as appropriate. Compliance with the National Historic Preservation Act (NHPA) and the Endangered Species Act (ESA) would continue under the existing consultation procedures and, with respect to the ESA, pursuant to the approved USFWS Biological Opinion (BO) for the ABB and concurrence letter for all other special status species.

## **2.2 ALTERNATIVE 2 – EMPHASIZE OIL AND GAS DEVELOPMENT**

Under Alternative 2, management direction would emphasize oil and gas development. The BIA would continue to approve ground-disturbing activities throughout all of Osage County, allowing for the potential permitting of up to 4,671 new wells by 2037. The BIA would also publish a list of best management practices (BMPs) for oil and gas lease operations in Osage County. The EIS would serve as the NEPA review for the approval of oil and gas leases and workover permits that do not require new ground disturbance. A DNA, or another appropriate process, would be used to document NEPA review for those actions. Site-specific EAs would still be required for drilling permits and workover permits requiring new ground disturbance but would be tiered to the analysis in the EIS. The BIA would minimize the number of COAs applied to drilling and workover permits and would not prescribe the specific methods operators must use to comply with

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<sup>2</sup> The COAs identified in **Table 2-3** are not a fixed set of conditions that will apply to every permit issued under an alternative. The BIA may waive COAs or apply additional COAs based on site-specific considerations.

<sup>3</sup> The total number of wells drilled under each alternative would depend largely on outside factors such as production success, reservoir characteristics, economic factors, commodity prices, rig availability, and recovery technology.

<sup>4</sup> The EIS does not impose restrictions on how large an area a site-specific EA may cover. Lessees may prepare site-specific EAs for an individual well, a “batched” group of wells that will be located in the same area, an entire lease, a quarter-section, a section, or any larger area as they so choose.



the COAs or other applicable laws and regulations. Compliance with the NHPA would continue under existing consultation procedures.

The minimization of COAs under Alternative 2 would likely require the BIA to prepare a new BA and obtain a new BO and concurrence letter from the USFWS. Until such time as the USFWS issued a new BO and concurrence letter, lessees would be responsible for documenting compliance with American Burying Beetle (ABB) guidance in accordance with Section 10 of the ESA. In addition, the 45-day waiting period required by the ESA would be reinstated. The BIA would also likely need to revise the portions of the BA addressing the mitigation and minimization measures adopted for other threatened and endangered species and reinitiate formal consultation regarding the ability to issue “no effect” or “may affect/not likely to affect” determinations for those species.

### **2.3 ALTERNATIVE 3 – HYBRID DEVELOPMENT (PREFERRED ALTERNATIVE)**

Alternative 3, Hybrid Development, identified in the Final EIS as the BIA’s preferred alternative, blends the management concepts from Alternatives 2 and 4, allowing for the potential permitting of up to 4,011 new wells by 2037. The EIS would serve as the NEPA review for the approval of oil and gas leases and workover permits that do not require new ground disturbance. A DNA, or another appropriate process, would be used to document NEPA review for those actions. Site-specific EAs would still be required for drilling permits and workover permits requiring new ground disturbance but would be tiered to the analysis in the EIS.

Under Alternative 3, the BIA would not approve new ground-disturbing activities in the following sensitive areas (see **Figure 2-2**, Sensitive Areas, in **Appendix E** of the Final EIS for a map identifying the location of sensitive areas):

- Municipalities
- Sensitive water supplies (designated in Appendix A of the federally approved Oklahoma Water Quality Standards [Oklahoma Administrative Code 785:45])
- Public water supply wells and wellhead protection areas (defined by the Oklahoma Department of Environmental Quality)
- Areas of Class I Special Source Groundwater or areas designated as high vulnerability by the Oklahoma Water Resources Board

In order to extract oil and gas from sensitive areas, lessees would be required to use directional drilling. The BIA Osage Agency Superintendent may approve variances from these restrictions where all, or some portion, of a lease approved prior to publication of the Final EIS is in a sensitive area and directional drilling is not feasible.

The Act of March 2, 1929 (Section 1, 45 Stat. 1478 [“1929 Act”]) directs the Secretary of the Interior and Osage Nation to offer for lease “any unleased portion of [the Osage Mineral Estate] in such quantities and at such times as may be deemed in the best interest of the Osage [Nation], Provided, That not less than twenty-five thousand acres shall be offered for lease for oil and gas mining purposes during any one year.” Alternative 3 is consistent with this statutory mandate.

Outside of sensitive areas, the BIA would apply COAs based on the well density in the Public Land Survey System (PLSS) section where the proposed well(s) would be located. Each section in Osage County would be designated as either “high density” or “low density” based on the number of wells that had been drilled

at the time the EIS was developed. High-density sections would be those in which 17 or more wells have been drilled and low-density sections would be those in which less than 17 wells have been drilled (see **Figure 2-1**, Alternative 3 – Well Density, in **Appendix E** of the Final EIS for Osage County density designations).

In high-density sections, where there has been substantial historical development, the BIA would apply the same minimal COAs as Alternative 2. In low-density sections where there has been little historical development, the BIA would apply the more protective COAs and well spacing requirements from Alternative 4. Low-density sections will not be converted to high-density sections due to development. If a section is identified as low-density in the EIS, it will continue being managed as a low-density section regardless of the number of wells drilled. The BIA may apply additional COAs in both high- and low-density sections where development will occur on lands enrolled in federal conservation programs and where necessary to protect resources based on site-specific considerations. Lessees would also be required to comply with any site-specific COAs the BIA determines to be necessary for the protection of sensitive areas.

Under Alternative 3, in addition to standard NHPA consultation procedures, the BIA would apply cultural resource buffers around identified cultural sites in low-density sections. In high-density sections, the BIA would not apply cultural resource buffers unless they are warranted based on site-specific conditions. Due to the waiver of COAs in low-density sections, the BIA would be required to prepare a new BA and obtain a new BO and concurrence letter from USFWS. Until such time as the USFWS issued a new BO and concurrence letter, lessees would be responsible for documenting compliance with American Burying Beetle (ABB) guidance in accordance with Section 10 of the ESA. In addition, the 45-day waiting period required by the ESA would be reinstated. The BIA would also likely need to revise the portions of the BA addressing the mitigating and minimization measures adopted for other threatened and endangered species and reinitiate formal consultation regarding the ability to issue “no effect” or “may affect/not likely to affect” determinations for those species.

## 2.4 ALTERNATIVE 4 – ENHANCED RESOURCE PROTECTION

Under Alternative 4, management direction would focus on enhanced resource protection, allowing for the potential permitting of up to 3,095 new wells by 2037. The EIS would serve as the NEPA review for the approval of oil and gas leases and workover permits that do not require new ground disturbance. A DNA, or another appropriate process, would be used to document NEPA review for those actions. Site-specific EAs would still be required for drilling permits and workover permits requiring new ground disturbance but would be tiered to the analysis in the EIS.

Under Alternative 4, the BIA would not approve new ground-disturbing activities in the following sensitive areas (see **Figure 2-2**, Sensitive Areas, in **Appendix E** of the Final EIS for a map identifying the location of sensitive areas):

- Tallgrass Prairie Preserve
- State parks
- State WMAs
- US Army Corps of Engineers lakes
- Municipalities

- Sensitive water supplies (designated in Appendix A of the federally approved Oklahoma Water Quality Standards [Oklahoma Administrative Code 785:45])
- Public water supply wells and wellhead protection areas (defined by the Oklahoma Department of Environmental Quality)
- Areas of Class I Special Source Groundwater or areas designated as high vulnerability by the Oklahoma Water Resources Board
- BLM Wild Horse and Burro program rangelands

In order to extract oil and gas from sensitive areas, lessees would be required to use directional drilling. The BIA Osage Agency Superintendent may approve variances from these restrictions where all, or some portion, of a lease approved prior to publication of the Final EIS is in a sensitive area and directional drilling is not feasible. The BIA would also implement well spacing requirements countywide to limit well density.

The Act of March 2, 1929 (Section 1, 45 Stat. 1478 [“1929 Act”]) directs the Secretary of the Interior and Osage Nation to offer for lease “any unleased portion of [the Osage Mineral Estate] in such quantities and at such times as may be deemed in the best interest of the Osage [Nation], Provided, That not less than twenty-five thousand acres shall be offered for lease for oil and gas mining purposes during any one year.” Alternative 4 is consistent with this statutory mandate.

Outside of sensitive areas, the BIA would apply the same COAs as Alternative 1 plus additional protective COAs for sensitive cultural and environmental resources. The BIA may also apply additional COAs where development will occur on lands enrolled in federal conservation programs and where necessary to protect resources based on site-specific considerations. Lessees would also be required to comply with any site-specific COAs the BIA determines to be necessary for the protection of sensitive areas.

Under Alternative 4, in addition to standard NHPA consultation procedures, the BIA would apply the same cultural resource buffers applied in low-density sections under Alternative 3. ESA consultation and compliance would be the same as under Alternative 1, No Action.

## **2.5 ENVIRONMENTALLY PREFERABLE ALTERNATIVE**

The Council on Environmental Quality (CEQ) requires that one or more environmentally preferable alternatives be identified in the ROD (40 CFR 1505.2(b)). The BIA considers Alternative 4 to be environmentally preferable, taking into consideration the human (social and economic) and natural environments. Alternative 4 best meets the policy goals set forth in Section 101 of NEPA, as it balances human use and influence with resource protection and provides long-term resource conservation. While Alternative 4 best meets the goals of Section 101, it does not best meet the BIA’s trust obligations and decision-making authorities relating to the management of Indian trust and restricted lands pursuant to Federal law and agency policy. Accordingly, the BIA did not select Alternative 4 for implementation.

# **Section 3. Decision**

The BIA selected Alternative 3, Hybrid Development, as the preferred alternative in the Final EIS. After thorough consideration of the analysis in the EIS, comments received on the Draft and Final EISs, government-to-government consultation, cooperating agency input, the BIA’s mission, and the United States’ trust obligations, the decision is hereby made to implement a modified version of Alternative 2, Emphasize

Oil and Gas Development (hereinafter Alternative 2 – Modified), that incorporates certain management concepts from Alternative 3. **Table R-1**, Alternative Summary, provides a brief overview of the components of Alternative 2 – Modified.

**Table R-1**  
**Alternative Summary**

Alternative Component	Alternative 2 - Modified
<b>Leases</b>	New Programmatic EIS.
<b>Workover Permits (no new ground disturbance)</b>	New Programmatic EIS.  COAs attached to approved permits. The lessee is required to comply with COAs during oil and gas operations.
<b>Drilling and Workover Permits (new ground disturbance)</b>	New programmatic EIS. Tiered site-specific EAs. COAs attached to approved permits. The lessee is required to comply with COAs during oil and gas operations.
<b>COAs</b>	COAs from <b>Table R-2</b> , Conditions of Approval, applied to all drilling and workover permits countywide. The BIA may waive COAs where appropriate or apply additional COAs based on site-specific review.
<b>ESA</b>	Existing USFWS BO for the ABB. If ABB survey is negative or site is not suitable ABB habitat, operations may proceed without 45-day USFWS waiting period contingent upon application of required COAs.  Existing USFWS concurrence letter for other threatened and endangered species. The BIA may issue “no effect” or “may affect/not likely to affect” determinations without additional USFWS consultation contingent upon application of required COAs.
<b>NHPA</b>	Standard NHPA procedures. Cultural site buffers from <b>Table R-3</b> , Cultural Site Buffers, applied to all drilling and workover permits countywide. The BIA may modify buffers or apply additional buffers where necessary to protect cultural resources.

Under Alternative 2 – Modified, the EIS will replace the Programmatic Environmental Assessments for Leasing Activities and Workover Operations and serve as the NEPA review for the approval of oil and gas leases as well as workover permits that do not require new ground disturbance. A DNA, or another appropriate process, will be used to document NEPA review of those actions. Site-specific EAs will be required for drilling permits and workover permits involving new ground disturbance. Site-specific EAs will be tiered to the analysis in the EIS.

Alternative 2 – Modified, does not prohibit ground-disturbing activities in sensitive areas, require the use of directional or horizontal drilling to extract minerals located in sensitive areas, or impose well spacing requirements. Under Alternative 2 – Modified, all land in Osage County remains available for oil and gas leasing and development, allowing for the potential permitting of up to 4,671 new wells by 2037.

While Alternative 2 – Modified allows for oil and gas development countywide, it is important to balance the promotion of new oil and gas development with resource conservation. Accordingly, under Alternative 2 – Modified, the BIA will implement the COAs that apply to Alternative 3, low density sections, to drilling and workover permits countywide. Alternative 2 – Modified does not include well density designations, so COAs will not be applied to permits based on the well density in the applicable Osage County PLSS section. **Table R-2**, Conditions of Approval, identifies the COAs that will apply to drilling and workover permits in Osage County under this decision. The BIA may waive COAs where appropriate or apply additional COAs to protect resources, including sensitive areas and lands enrolled in federal conservation programs (such as the NRCS Wetlands Reserve program), based on site-specific determinations at the project level. In addition, the BIA may issue countywide or site-specific BMPs to help lessees ensure that oil and gas development activities are conducted in an environmentally responsible manner.

**Table R-2**  
**Conditions of Approval**

No.	Condition of Approval
1.	Avoid impacts on National Register-eligible or unevaluated cultural resources. If cultural resources or human remains are discovered during construction or operations, stop work immediately, secure the affected site, and notify the BIA, Osage Nation THPO, and, in case of the discovery of human remains, law enforcement. In the event of a discovery, halt work in the approved project area until the BIA has issued a written authorization to proceed.
2.	Keep all surface disturbance within the proposed ground-disturbance area described in the approved site-specific EA for the project. Well pads and access roads may not be expanded or relocated, and activities outside the scope of the approved EA may not be conducted, without the submission and approval of a cultural resource survey and the issuance of any necessary permits. The BIA Osage Agency will review and approve any such cultural resource surveys in consultation with the Osage Nation THPO, SHPO, and other appropriate parties.
3.	Avoid or minimize soil and vegetation disturbance. Do not remove or damage trees, shrubs, and groundcover, to the extent possible.
4.	Avoid or minimize alteration of the natural topography and limit activities on steep slopes.
5.	Implement erosion control measures during the construction, drilling, and completion phases of the project. Such measures must effectively minimize the movement of soil, debris, and/or contaminants from the well site to adjacent lands and waterways.
6.	Confine all vehicles and equipment to new and preexisting roads described in the approved site-specific EA unless off-road travel is required to respond to a blowout, fire, spill, personal injury, or fatality. All other off-road travel requires the BIA Osage Agency Superintendent's prior written approval. Maintain and upgrade roads as directed by the BIA Osage Agency or in accordance with any agreements between the lessee and surface owner(s).
7.	Do not vent or flare gas without the BIA Osage Agency Superintendent's prior approval.
8.	Store and label chemicals properly, including secondary containment. Do not store equipment or chemicals on-site if they are not being used. Do not leave open containers of chemicals or wastes on-site.
9.	Keep sites clean and free of any litter, trash, old equipment, contaminated soil, or unused containers. Promptly dispose of any waste at an appropriate recycling facility, approved landfill, or other approved location, based on the type of waste. Remove any unused equipment not necessary to the operation of the lease after drilling has been completed.
10.	Properly enclose all production equipment, facilities, and tanks, including wellhead and aboveground piping/equipment, to exclude livestock, if present.

No.	Condition of Approval
11.	A spill prevention, control, and countermeasures plan must be developed and complied with, in compliance with EPA regulations under 40 CFR 112, when using tank batteries. A sufficiently fluid-impermeable secondary containment dike/berm must be constructed around any tank battery and facilities, according to 40 CFR 112.7. The dike/berm and entire containment area must be covered with gravel. No water collected in the secondary containment can be discharged. In accordance with the spill prevention, control, and countermeasures plan and BIA regulations, the lessee will immediately notify the BIA of all spill incidents.
12.	Empty and close all pits utilized for drilling a new well with mud rotary equipment within 3 months of the date the well is completed. Empty and close all pits utilized for drilling a new well with an air rig or cable tools within 1 month of the date the well is completed. Empty and level all pits used during workover and plugging operations immediately following completion of operations unless otherwise directed by the surface owner(s).
13.	Minimize the disturbance to surface owners, wildlife, and natural resources caused by adverse visual impacts, excessive traffic, dust, and other impacts associated with operations to the extent possible. <sup>1</sup>
14.	Do not conduct activities within aquatic environments, as defined in the glossary in the Final EIS, without proper authorization. Avoid discharging soil or contaminants or removing stream water that could result in a violation of applicable, federally approved, water quality standards.
15.	If drilling and completion operations result in a producing well, promptly remediate areas of surface disturbance that are not necessary for production or operation of the well (i.e., well pad, access roads, and pipelines) in accordance with the approved EA and APD or such alternative agreement as may be reached with the surface owner. If drilling and completion operations result in a dry hole or a completed well is no longer in production, return surface lands to the original contour and revegetate with seed or sod unless an alternative agreement is reached with the surface owner. For dry holes and nonproducing wells, complete surface recontouring and revegetation within 90 days of final plugging and abandonment. Do not use noxious or invasive species for revegetation under any circumstances.
16.	Conduct activities in a manner that avoids potential incidental take or harm to federally listed threatened or endangered species in compliance with the BO for the Osage County Oil and Gas Program issued July 27, 2018. Follow the USFWS Impact Avoidance guidance.
17.	Follow USFWS-established protocol in areas where the ABB is known or suspected to exist (see <a href="http://www.fws.gov/southwest/es/oklahoma/ABBICP.htm">http://www.fws.gov/southwest/es/oklahoma/ABBICP.htm</a> ). Conduct an ABB presence/absence survey prior to commencing ground-disturbing activities, including construction of a drilling pit or other excavation activity using heavy equipment, within the ABB's range, unless the USFWS has characterized the habitat as being an area unfavorable for the ABB. If the proposed ground-disturbing activities do not commence prior to the start of the next ABB active season, the lessee must perform a new ABB presence/absence survey and submit the results to the Osage Agency. If subsequent surveys for the presence of the ABB are positive, the lessee must conduct additional consultation with the Osage Agency before beginning operations. If appropriate, the Osage Agency will issue incidental take to the lessee in accordance with the BO for the Osage County Oil and Gas Program issued by the USFWS on July 27, 2018.
18.	Implement the air quality BMPs listed in the approved site-specific EA, incorporated here by reference, when proposed drilling operations will penetrate formations having zones suspected of containing, or known to contain, H <sub>2</sub> S of 100 ppm or greater in the gas stream.
19.	Obtain EPA approval prior to commencing workover operations related to underground injection, construction, or the conversion of saltwater injection or disposal wells.
20.	Suitable habitat for the ABB is present on portions of the existing well pad where vegetation height currently exceeds 8 inches. Construct all pits required for the proposed operations in areas of the well pad where vegetation height is below 8 inches. Maintain vegetation height until the proposed operations are complete.
21.	Suitable ABB habitat is present at the site of the proposed workover operations. No ground-disturbing activities may occur during the conduct of such operations. Do not excavate any soil. If the operation requires wastewater containment, use a temporary aboveground storage tank instead of a pit or take such other actions as the BIA Osage Agency Superintendent may approve to avoid ground disturbance. Remove any temporary storage tanks immediately following completion of workover operations.
22.	Screen, net, cover, or otherwise render harmless to birds, all open-top tanks and pits.

No.	Condition of Approval
23.	Do not commence any new ground-disturbing activities or operations that were not specifically addressed and approved as part of the APD without the BIA Osage Agency Superintendent's prior approval. Submit a written request for new ground-disturbing activities to the BIA Osage Agency Superintendent together with documentation demonstrating compliance with NEPA, ESA, NHPA, and other applicable law.
24.	Conduct an initial test of the H <sub>2</sub> S concentration of the gas stream for each well or production facility. If a well or facility has an H <sub>2</sub> S concentration of 100 ppm or more in the gas stream, determine the 100 ppm and 500 ppm radius of exposure. Post danger or caution signs warning of the presence of H <sub>2</sub> S gas and take appropriate measures to ensure the safety of personnel and the general public.
25.	Do not locate well sites or pits in areas subject to frequent flooding according to the NRCS Soil Survey without the Superintendent's prior approval. <sup>2</sup>
26.	Do not apply waste oil, wastewater, contaminated soil, or similar substances to the land without the BIA Osage Agency Superintendent's prior approval. Submit a written request for land-based application of waste oil or other substances to the BIA Osage Agency Superintendent together with documentation demonstrating compliance with the ESA, NHPA, and other applicable law.
27.	Locate drilling pits at least 200 feet from streams and waterways, including reservoirs, lakes, wetlands, natural perennial or seasonally flowing streams or rivers, ponds, and aquatic environments.
28.	Avoid new road and pipeline crossings of aquatic environments and alterations to hydrology (the surface and subsurface flow of water) to the extent practicable. Where crossing cannot be avoided, design and construct crossings to minimize impacts on riparian and aquatic habitats. Such designs must be provided to the Superintendent for approval prior to the commencement of construction.
29.	Bury pipelines to protect aquatic environments (e.g., wetlands, rivers, streams, creeks, lakes, and ponds) or sensitive areas (e.g., public water supply wells and wellhead protection areas, sensitive water supplies, and Class I special source groundwater areas or areas designated as high vulnerability by the OWRB) when the Superintendent determines that such action is necessary to protect resource values based on site-specific review.
30.	Collocate new and existing facilities (e.g., roads and pipelines) when feasible.

<sup>1</sup> COAs 13 and 24 from **Table 2-3**, Summary Comparison of Conditions of Approval, in the Final EIS were combined in the above list of COAs to eliminate redundancy. Accordingly, COA 13 was updated to include adverse visual impacts and COA 24 was deleted.

<sup>2</sup> Lessees may submit, but are not required to submit, floodplain permits approved by the OWRB Osage County Floodplain Manager to the Superintendent for consideration as part of a site-specific EA or subsequent request to locate well sites or pits in areas subject to frequent flooding. While the Superintendent will consider OWRB floodplain permits submitted with requests to locate well sites and pits in areas subject to frequent flooding and may find that the terms and conditions provide appropriate protection, she retains authority over the approval of oil and gas operations within the Osage Mineral Estate and lease enforcement and compliance.

Under Alternative 2 – Modified, compliance with the Endangered Species Act (ESA) would continue under the existing consultation procedures pursuant to the approved USFWS Biological Opinion (BO) for the ABB and the USFWS letter of concurrence for all other species identified in the Biological Assessment (BA) (the BO and BA are included in **Appendix B** of the Final EIS). The BIA would not need to reinitiate formal consultation with USFWS, as it would have under Alternatives 2 and 3 as they appear in the Final EIS, because all of the minimization and mitigation measures the BO and letter of concurrence require are included in the COAs identified above.

The BIA would ensure compliance with the National Historic Preservation Act (NHPA) on a case-by-case basis in consultation with the Osage Nation THPO, SHPO, Oklahoma Archaeological Survey, and other interested parties, as appropriate. In addition to standard NHPA procedures, the BIA will implement the cultural resource buffers that applied in Alternative 3, low density sections, countywide. The application of these buffers, prepared in consultation with the Osage Nation THPO, will help protect, and ensure the integrity of, cultural resource sites, sacred sites, and historic properties important to the Osage Nation and other federally recognized Tribes. **Table R-3**, Cultural Site Buffers, identifies the cultural resource buffers

that will apply under Alternative 2 – Modified. The BIA may modify cultural site buffers or apply additional buffers where necessary to protect cultural resources.

**Table R-3  
Cultural Site Buffers**

<b>Site Type</b>	<b>Buffer</b>	<b>Reason</b>
Camps and villages (prehistoric and historic)	Minimum buffer zone of 160 feet around waterbodies; the buffer would be extended up to 500 feet in the presence of higher ground near undulating streams.	This site type is frequently close to water sources, such as creeks. The cultural resources are often buried and are frequently found within 160 feet of the water's edge. Sites can extend 500 to 650 feet, particularly in the presence of ridges, terraces, knolls, and other areas of higher ground; some areas exhibiting erosion have deeply buried deposits.
Graves, rock cairns, and cemeteries (prehistoric and historic)	Minimum buffer zone of 330 feet from graves, rock cairns, and family plots. Minimum buffer zone of 160 feet from cemeteries.	Buffer zones are required for all graves, family plots, and cemeteries. Historic cemeteries are often close to roads, in which case, buffer zones of this width may not be possible.
Historic bridges and other structures, such as barns	No buffer is required, unless the site is eligible for listing on or is listed on the National Register of Historic Places. In that case, the BIA would determine the buffer size, in consultation with the Osage Nation THPO and SHPO.	The need for a buffer would be specific to the site and undertaking.
Historic farmsteads or building complexes	No buffer would be required, unless the site is eligible for listing on or is listed on the National Register of Historic Places or if the household is occupied. In that case, the BIA would determine the buffer size, in consultation with the Osage Nation THPO, SHPO, and the resident of the building.	The need for a buffer would be specific to the site and undertaking.
Lithic scatter	No buffer required, except at the discretion of the BIA, in consultation with the THPO, SHPO, and Oklahoma Archeological Survey.	The need for a buffer would be specific to the site and undertaking.
Native American churches	Minimum buffer zone of 650 feet	Frequently located near other cultural sites. Oil and gas development activities and related traffic on access roads may have auditory and visual impacts on cultural practices.
Rock art	Minimum buffer zone of 650 feet	Frequently located near other cultural sites. Oil and gas development activities and related traffic on access roads may have auditory and visual impacts on cultural practices.
Rock shelters and caves	Minimum buffer zone of 330 feet	Potentially located near, or associated with, other cultural sites.
Traditional cultural properties	Minimum buffer zone of 650 feet	Frequently located near other cultural sites. Oil and gas development activities and related traffic on access roads may have auditory and visual impacts on cultural practices.



Site Type	Buffer	Reason
Trails	Minimum buffer zone of 160 feet	Until the Osage Nation THPO creates a geographic information system predictive model for the Osage Indian Trail, the need for a buffer zone larger than 160 feet would be specific to the location and undertaking.
Waterways and springs	Minimum buffer zone of 160 feet from the edge of the ordinary high-water mark or water source	Many types of cultural sites are located close to waterways or springs. This buffer will protect sites located on sand and gravel bars.

Note: All cultural site buffers were developed in consultation with the Osage Nation Tribal Historic Preservation Office.

The decisions contained in this ROD apply solely to the BIA's administration of the Osage Mineral Estate for oil and gas leasing and development; they do not apply outside of Osage County, Oklahoma. This ROD does not directly approve any oil and gas lease, drilling permit, or workover permit, nor does it authorize the construction or installation of any facilities, pipelines, or related infrastructure. All oil and gas leasing and development activities in Osage County require the BIA's prior approval. The Final EIS and this ROD only serve as the NEPA review for the approval of oil and gas leases and workover permits that do not involve new ground disturbance. Future applications for drilling and workover permits involving new ground disturbance require additional site-specific NEPA review prior to approval.

This decision is effective as of the date it is signed by the Regional Director, Eastern Oklahoma Region, Bureau of Indian Affairs.

## Section 4. Rationale for the Decision

The BIA's selection of Alternative 2 – Modified for implementation reflects careful balancing of the Osage Nation's objectives for developing the Osage Mineral Estate, the United States' trust responsibility, and resource conservation. The purpose of the EIS is to facilitate the BIA's decision-making process for the approval of oil and gas leases, drilling permits, and workover permits in compliance with federal law. The BIA's purpose is to promote leasing of the Osage Mineral Estate in the best interest of the Osage Nation, balancing resource conservation and the maximization of oil and gas production in the long term. The need for the BIA's action is to fulfill its trust responsibility under the 1906 Act to administer leasing and development of the Osage Mineral Estate. Alternative 2 – Modified best meets the purpose of and need for the BIA's action.

Alternative 2 – Modified strikes the appropriate balance by allowing the entire Osage Mineral Estate to remain available for oil and gas leasing and development, as it has been for more than 100 years, but imposing reasonable COAs on development activities to protect important resource values and uses. As discussed in **Section 2**, Decision, Alternative 2 – Modified does not include well spacing requirements or restrictions on new ground disturbance in sensitive areas. Allowing the entire Osage Mineral Estate to remain available for leasing and development provides the Osage Nation with the opportunity to maximize revenues, which has economic benefits for Osage shareholders, the community, and the state of Oklahoma. As the Osage Minerals Council states in its comments on the Final EIS, the Osage Mineral Estate is "the lifeblood of the Osage...economy." In addition, it provides the BIA with flexibility in decision-making, which is beneficial where, as here, the BIA does not know what areas of the Osage Mineral Estate will be explored, leased, or developed in the future.

The BIA considered the implementation of well spacing requirements under Alternative 2 – Modified, but determined that while feasible, the absence of well spacing over the past century and expansive historical development would make such requirements overly complex and administratively burdensome. As noted in the RFD, since the first well was spudded in Osage County in 1896, more than 42,000 wells have been drilled without spacing orders in place. Well spacing would also be less effective in Osage County due to the regulatory regime governing oil and gas development and the nature of mineral ownership. The purpose of traditional well spacing is to prevent the over-drilling of a reservoir, avoid well interference and the waste of oil and gas, and protect the correlative rights of landowners by dividing production from a common source of supply fairly.

The regulations in 25 C.F.R. part 226 impose line drilling requirements that prohibit the drilling of wells within 300 feet of lease boundaries, highways, and certain structures. Well spacing orders typically include similar setbacks. The regulations also require lessees to conduct operations in a manner that prevents waste and provide the Superintendent with authority to impose the requirements necessary to prevent waste and promote the greatest recovery of oil and gas. Further, the Superintendent's authority over the approval of applications for permits to drill is the mechanism for preventing over-drilling. If the Superintendent and/or Osage Nation determine that continued drilling in a particular reservoir will compromise the maximum recovery therefrom, the Superintendent may deny additional drilling permits for that reservoir. The rights of landowners to the division of production from a common source of supply is simply a non-issue in the planning area. In Osage County, there is just one beneficial owner of oil and gas – the Osage Nation.

As with well spacing requirements, the BIA also considered restrictions on new development in sensitive areas. Selection of Alternative 3, the preferred alternative in the Final EIS, for implementation would have resulted in restrictions on new ground-disturbing oil and gas activities on 238,800 acres of the Osage Mineral Estate categorized as sensitive areas. Of that acreage, 168,800 acres have high oil and gas development potential, 33,500 acres have moderate to high potential, and 46,100 acres have moderate potential, based on the available data. While Alternative 3 allowed prospective lessees to use horizontal or directional drilling to access minerals in sensitive areas from other locations on the lease, the costs of drilling and completion are significantly higher than those for vertical drilling, which is the predominant drilling method in Osage County.

As noted in the Final EIS and summary of the alternatives provided above, pursuant to the 1906 Act, as amended, the BIA has the authority to impose restrictions on the location of new oil and gas development so long as a minimum of 25,000 acres of the Osage Mineral Estate are offered for lease annually. While Alternative 3 is consistent with this statutory mandate, the BIA gave serious consideration to comments from the Osage Minerals Council and others expressing concern regarding the practical and economic effects of restrictions on development under that alternative.

Upon review, the BIA determined that restrictions limiting development and requiring the use of more costly drilling methods to exploit the minerals in sensitive areas could limit exploration in areas of both known and unknown oil and gas potential, prevent the recovery of salable minerals, and make it difficult for the Osage Nation to attract investment in the Osage Mineral Estate. Such limitations are not in the best interest of the Osage Nation. Moreover, the impact that restrictions on development could have on the Osage Mineral Estate at a time of historic market volatility cannot be overlooked. In 2020, the COVID-19 pandemic caused a severe decline in the demand for oil and gas. This decline in demand, exacerbated by the contemporaneous OPEC-Russia crude oil price war, significantly increased the supply of oil, causing a global shortage in storage

capacity. The decline in demand and oversupply of oil caused a collapse in commodity prices that devastated the industry.

In Osage County, and throughout the United States, oil and gas development and production are heavily correlated to market price. While commodity prices have improved since the second quarter of 2020, the industry is not forecast to fully recover from the COVID-19 downturn until 2022. Today, many productive wells remain shut-in because operations are not economically viable at current market prices and applications for drilling permits have declined countrywide. In this economy, investment in the oil and gas industry will be limited and the competition for such investment will be strong. The imposition of new restrictions on development in sensitive areas at this time would intensify the Osage Nation's challenges attracting new investment in a mature province and create additional obstacles to the Osage Mineral Estate's recovery from the global pandemic.

The BIA ultimately determined that oil and gas development and resource conservation within the planning area can be balanced without the need to impose restrictions on new ground-disturbance in sensitive areas and that such balancing is in the best interest of the Osage Nation. Accordingly, in light of the considerations outlined above, in recognition of the Osage Nation's concerns, and in acknowledgment of the economic and cultural importance of the Osage Mineral Estate, the BIA decided not to impose such restrictions. Instead, under Alternative 2 – Modified, the BIA opted to balance development and resource conservation through the application of COAs and cultural resource buffers. As noted in the decision, under Alternative 2 – Modified the BIA will apply the COAs and cultural resource buffers that would have applied in low density sections under Alternative 3 to all drilling and workover permits in the planning area.

The COAs and cultural resource buffers applied under Alternative 2 – Modified (see **Tables R-2** and **R-3** above) are designed to protect a wide range of surface and subsurface resources as well as support resource and land uses within the planning area aside from oil and gas development. The COAs and cultural resource buffers that apply under Alternative 2 – Modified are consistent with industry standards and responsible development of the Osage Mineral Estate. The application of COAs and cultural resource buffers countywide is a practicable and reasonable means of avoiding or minimizing environmental impacts as contemplated by the purpose of and need for the BIA's action and balances countywide development with protection of the environment, cultural resources, and the health and safety of the Osage people and general public. Moreover, the application of COAs and cultural resource buffers to all permits countywide provides certainty to the lessor, lessees, and surface owners and promotes consistency and transparency in lease enforcement and compliance actions.

The application of all COAs countywide also has the incidental benefit of ensuring continuity and efficiency in ESA compliance. The existing programmatic BO for the Osage County Oil and Gas Development Program eliminated the requirement for the BIA and lessees to submit site-specific ESA consultation packages to the USFWS for the ABB, as well as the 45-day processing period associated with such consultation, when there is a negative survey or the BIA determines that ABB habitat does not exist in the area of proposed activities. The BO included an incidental take statement for the ABB for up to 600 acres of the Osage Mineral Estate annually without further consultation contingent upon compliance with certain terms and conditions. The USFWS also issued a concurrence letter for all other threatened and endangered species in the planning area, allowing the BIA to issue "no effect" or "may affect/not likely to affect" determinations for those species without additional consultation.

The USFWS authorized these procedural changes on the condition that the BIA would apply certain minimization and mitigation measures identified in the BA, and incorporated into the BO and concurrence letter, to all drilling and workover permits in Osage County. Under Alternative 2 and Alternative 3 (high density) as presented in the Final EIS, the BIA would waive the majority of the COAs that included the required USFWS minimization and mitigation measures. As the BIA would no longer be complying with the terms of the BO and concurrence letter if it implemented either of those alternatives, it would need to reinitiate consultation with the USFWS regarding the approved procedural changes. In contrast, under Alternative 2 – Modified, the BIA will apply all the required USFWS minimization and mitigation measures as COAs to permits countywide. Accordingly, the BIA remains in compliance with the BO and concurrence letter and does not need to reinitiate formal consultation.

Ultimately, the implementation of Alternative 2 – Modified facilitates the BIA’s administration of the Osage Mineral Estate and fulfillment of its trust responsibility, supports the Osage Nation’s long-term development objectives, achieves the goal of streamlining the NEPA review process, and provides for economical, sustainable, and environmentally sound oil and gas exploration and development in accordance with federal law. Alternative 2 – Modified strikes the necessary balance between economic development and resource conservation by allowing the Osage Nation to optimize oil and gas recovery throughout Osage County while implementing safeguards to reduce surface disturbance and avoid or minimize impacts on water, cultural, and visual resources; public health and safety; wildlife; recreation; and other resource values. The BIA will utilize such safeguards as part of an integrated management strategy that includes monitoring, enforcement, and the application of statutory and regulatory controls to promote responsible development of the Osage Mineral Estate in the best interest of the Osage Nation.

## Section 5. Environmental Impacts

This section provides an overview of the anticipated environmental impacts associated with oil and gas leasing and development activities under Alternative 2 – Modified. The environmental impacts of the components of Alternative 2 – Modified are fully analyzed in the Final EIS; the overview in the ROD is provided for the convenience of the reader. This section is organized by resource and resource use topics. For a comprehensive discussion of environmental impacts on these resources and resource uses, please refer to **Chapter 4, Environmental Consequences**, in the Final EIS.

The effect that the COAs applied under Alternative 2 – Modified will have on the reduction, mitigation, or avoidance of impacts on resources and resource uses are the same as those for Alternative 3, low density sections, in the Final EIS. As previously noted, however, the removal of a redundant COA resulted in changes to the numbering of the COAs between the Final EIS and ROD. To avoid confusion, the BIA is including the full discussion of the COAs from the Final EIS in the ROD with the updated COA numbers.

### 5.1 TOPOGRAPHY, GEOLOGY, PALEONTOLOGY, AND SOILS

The potential impacts oil and gas development activities could have on topography, geology, paleontology, and soils in the planning area include:

- Alterations in the natural topography
- Soil compaction, vegetation removal, and accelerated erosion
- Release of hydrogen sulfide (H<sub>2</sub>S) gas

- Induced seismicity
- Increased risk of soil and vegetation contamination due to historical, improperly plugged, or orphaned wells purging as the result of waterflood and CO<sub>2</sub> injection operations
- Increased risk of contamination due to leaks, accidental spills, and infiltration of deleterious substances

The application of COAs to drilling and workover permits and implementation of cultural resource buffers, will reduce surface disturbance and avoid or minimize impacts from oil and gas development. COAs 4, 12, and 15 will minimize long-term changes to topography by limiting activities on steep slopes and requiring both the interim reclamation of pits and restoration of surface lands to their original contour once a well is no longer producing. While there are no COAs specific to paleontological resources, COAs aimed at other resources may result in incidental protections. COAs 1, 2, and 23, which require compliance with the NHPA and avoidance of impacts on cultural resources, may also result in the incidental avoidance and protection of paleontological resources.

COAs 18 and 24 will reduce the risk of potential impacts from the release of, or exposure to, H<sub>2</sub>S gas. COA 18 requires that lessees implement the air quality BMPs identified in the site-specific EA if operations will penetrate formations that may contain H<sub>2</sub>S concentrations of 100 ppm or greater. COA 24 requires lessees to conduct an initial test of the H<sub>2</sub>S concentration of the gas stream for each well and production facility and, if concentrations exceed 100 ppm, to determine the 100 ppm and 500 ppm radius of exposure, post warning signs, and take appropriate measures to protect personnel and the public. COA 19, which requires that lessees comply with EPA UIC program requirements, will reduce the risk of induced seismicity by regulating the formations available for injection, as well as injection volume and pressure.

COAs 3, 5, and 6 provide direct protection for soil resources, requiring that lessees avoid or minimize soil disturbance, implement appropriate erosion control measures, and confine vehicles and equipment to established lease roads. COAs 9, 11, 15, and 30 also reduce impacts on soil resources by requiring the removal of old equipment and contaminated soil from lease sites, preparation of SPCC plans, restoration of surface lands, and collocation of new and existing facilities when feasible. COAs 25 and 27, which require that lessees obtain the Superintendent's approval to locate well sites and pits in areas prone to frequent flooding and prohibit the construction of well sites and pits within 200 feet of streams and waterways, will reduce the risk of soil and vegetation contamination as well as the risks of salt-scarring. COA 26, which prohibits the land application of waste oil, wastewater, and other deleterious substances further reduces the risk of contamination.

COA 29, which requires the burial of pipelines to protect aquatic environments and sensitive areas, would increase soil disturbance. It should be noted, however, that because COA 29 applies only where appropriate, the BIA can waive the COA where necessary to avoid impacts on sensitive soils.

## 5.2 WATER RESOURCES

The potential impacts oil and gas development activities could have on water resources in the planning area include:

- Changes in water quality and quantity
- Alteration of hydrology, changes in aquifer properties, and potential dewatering of wetlands and riparian habitats

- Increased runoff and potential for sediment delivery to surface waters due to alterations of topography, vegetation removal, changes in natural drainage patterns, soil compaction, and erosion
- Increased risk of surface water and groundwater contamination due to leaks, accidental spills, infiltration, and migration of deleterious substances

The application of COAs to drilling and workover permits and implementation of cultural resource buffers, will reduce surface disturbance and avoid or minimize these impacts. COA 14 provides direct protection for water resources by prohibiting operations in stream channels and wetlands without prior authorization and requiring lessees to avoid water withdrawals and discharges of soil and contaminants that could violate water quality standards.

COAs 8 and 11, which require proper storage of chemicals and the preparation of SPCC plans, will reduce the risk of surface water and shallow groundwater contamination due to leaks, accidental spills, and infiltration of deleterious substances. COA 19, which requires that lessees comply with EPA UIC Program permitting and operational requirements for all injection and disposal wells, will reduce the risk of surface water and groundwater contamination by ensuring proper well construction and monitoring. COA 19 will also reduce the risk that induced seismicity could impact water resources by regulating the formations available for injection, as well as injection volume and pressure.

COAs 25 and 27, which require that lessees obtain the Superintendent's approval to locate well sites and pits in areas prone to frequent flooding and prohibit the construction of well sites and pits within 200 feet of streams and waterways, will also reduce the risk of surface water and groundwater contamination in the event of leaks or accidental spills. COA 26, which prohibits the land application of waste oil, wastewater, contaminated soil and other deleterious substances, will reduce the risk of contamination due to infiltration and runoff. COAs 28 and 29, which require lessees to avoid road and pipeline crossings of aquatic environments and bury pipelines will reduce the potential for sedimentation and other water quality impairment as well as changes to hydrology. It should be noted, that, because COA 29 applies only where appropriate, the BIA could waive the COA when necessary to avoid impacts on water resources.

COAs designed to protect other types of resources may provide incidental protection for surface water and groundwater. COAs 1, 2, and 23, which require lessees to comply with the NHPA, keep surface disturbance within the area described in the approved site-specific EA, and obtain approval to conduct ground-disturbing activities that were not covered by the approved permit, provide incidental protection for water resources by reducing surface disturbance. COAs 3-5, which require lessees to minimize soil and vegetation disturbance, avoid alteration of the natural topography, and implement erosion control measures, will reduce runoff that could impact surface water quality. COA 13, which requires lessees to minimize dust, could help protect surface water quality by reducing sedimentation and turbidity. The withdrawal of surface water for the purpose of dust abatement, however, could impact water levels if withdrawal rates exceed recharge rates.

### **5.3 AIR QUALITY AND CLIMATE**

The potential impacts oil and gas development activities could have on air quality and climate change include:

- Air pollutant and fugitive dust emissions from field construction and well production activities
- Changes in visibility
- Increased GHG emissions

The application of COAs to drilling and workover permits will minimize these impacts. COA 7, which prohibits venting or flaring without the BIA Osage Agency Superintendent's prior approval, will reduce air pollutant emissions and GHGs. COA 18, which requires lessees to implement the air quality BMPs identified in the approved site-specific EA if operations will penetrate formations that may contain H<sub>2</sub>S concentrations of 100 ppm or greater, will reduce the risk of H<sub>2</sub>S release and exposure. The same is true of COA 24, which requires lessees to conduct an initial test of the H<sub>2</sub>S concentration of the gas stream for each well and production facility and, if the H<sub>2</sub>S concentration exceeds 100 ppm, determine the 100 ppm and 500 ppm radius of exposure, post warning signs, and take appropriate measures to ensure the safety of personnel and the public.

COA 13, which requires lessees to minimize disturbance to surface owners, wildlife, and natural resources due to dust, will reduce fugitive dust emissions. COAs 2-6, 15, 23, and 30, which require lessees to confine surface disturbance to the area approved in the site-specific EA, minimize soil and vegetation disturbance, avoid alteration of the natural topography, implement erosion control measures, confine vehicles to existing lease roads, conduct interim restoration of surface lands, obtain approval to conduct operations outside of those approved in the permit, and collocate new and existing facilities when feasible, will also reduce fugitive dust emissions due to reduction in surface disturbance.

#### **5.4 FISH, WILDLIFE, AND MIGRATORY BIRDS**

The potential impacts oil and gas development activities could have on fish, wildlife, and migratory birds in the planning area include:

- Habitat loss, avoidance, degradation, modification, and fragmentation
- Displacement and disturbance due to vegetation removal, human presence, noise, dust, artificial lighting, and vibration
- Increased risk of fish injury and mortality due to changes in water quality and quantity and the mobilization of contaminants into aquatic systems
- Increased risk of wildlife and migratory bird injury and mortality due to collisions with vehicles and infrastructure; entrapment in pits; ingestion of, or exposure to, deleterious substances; and susceptibility to predation

The application of COAs to drilling and workover permits and implementation of cultural resource buffers, will reduce surface disturbance and avoid or minimize these impacts. COAs 3-6, which require lessees to minimize soil and vegetation disturbance, avoid alteration of the natural topography, implement erosion control measures, and confine vehicles and equipment to existing lease roads, will prevent habitat loss and degradation and protect suitable bird-nesting and bat-roosting habitat. COAs 12, 15, and 30, which require the interim and final restoration of surface lands and collocation of new and existing facilities when feasible, will reduce surface disturbance in the short- and long-term, minimizing habitat loss, modification, and fragmentation as well as the risk of permanent displacement.

COA 28, which requires lessees to avoid new road and pipeline crossing of aquatic environments and alterations to hydrology, further minimizes habitat loss and the risk of habitat avoidance due to noise and visual disturbances. The same is true of COA 29, which requires the burial of pipelines to protect important aquatic environments and other sensitive areas, when appropriate. It should be noted that construction operations associated with the burial of pipelines could result in habitat loss and would temporarily increase

potential impacts from noise and visual disturbances. As COA 29 applies only where appropriate, however, the BIA could waive the COA when necessary to avoid impacts on fish, wildlife, and migratory birds.

COA 13, which requires lessees to minimize disturbance to wildlife caused by noise, adverse visual impacts, excessive traffic, and dust, will reduce the risk of habitat avoidance and behavioral disturbances as well as habitat degradation. COA 14, which prohibits operations in aquatic environments and water withdrawals or discharges of soil and contaminants, will minimize habitat loss and changes in water quality that could impact the health of fish and wildlife. COA 27, which requires that drilling pits be located at least 200 feet from streams and waterways, will reduce the risk of impacts on aquatic habitats and water quality due to turbidity, sedimentation, and infiltration or accidental spills of deleterious substances.

COAs 8 and 9, which prohibit open containers of chemicals or waste from being present on the lease and require proper disposal of trash and contaminated soil, will reduce the risk of injury to wildlife and birds as well as the risk of contamination of food and water sources. COAs 10 and 22, which require the enclosure of production equipment and facilities and screening or netting of open top tanks and pits, will also reduce the risk of wildlife and migratory bird injury and mortality. COA 26, which prohibits the land application of waste oil, wastewater, and other deleterious substances, reduces the risk of injury or mortality due to exposure to hazardous materials and the contamination of important fish and wildlife habitat, such as wetlands and riparian zones.

## **5.5 SPECIAL STATUS SPECIES**

The potential impacts oil and gas development activities could have on special status species in the planning area include:

- Habitat loss, avoidance, degradation, modification, and fragmentation
- Displacement and disturbance due to vegetation removal, human presence, noise, dust, artificial lighting, and vibration
- Impairment of reproduction
- Increased risk of injury and mortality for aquatic species due to changes in water quality and quantity and mobilization of contaminants into aquatic systems
- Increased risk of injury and mortality to other species due to collisions with vehicles and infrastructure; entrapment in pits; trampling; ingestion of, or exposure to, deleterious substances; and susceptibility to predation

The application of COAs to drilling and workover permits and implementation of cultural resource buffers, will reduce surface disturbance and avoid or minimize these impacts. COAs 3-6, 8-9, 12-15, 22, and 26-30 will reduce impacts on special status species in the same manner as discussed above for fish, wildlife, and migratory birds. COAs 16-17 and 20-21 also provide direct protection for special status species. COA 16 requires lessees to conduct activities in a manner that avoids potential incidental take or harm to federal listed threatened or endangered species in compliance with the USFWS BO. COAs 17, 20, and 21, which require lessees to comply with the USFWS protocol in areas where the ABB is known or expected to exist, maintain vegetation height during operations, and avoid ground-disturbing activities in areas of suitable ABB habitat, will help prevent ABB habitat loss, modification, or degradation as well as injury or mortality.



## 5.6 VEGETATION, WETLANDS, AND NOXIOUS WEEDS

The potential impacts oil and gas development activities could have on vegetation, wetlands, and noxious weeds in the planning area include:

- Changes in plant community structure, species composition, diversity, and density due to surface disturbance, vegetation removal, and alteration of hydrology
- Impaired reproductive capacity and growth due to fugitive dust
- Increased risk of trampling and invasion of noxious weeds and nonnative grasses due to human and vehicle traffic
- Increased risk of contamination due to leaks, accidental spills, and infiltration of deleterious substances

The application of COAs to drilling and workover permits and implementation of cultural resource buffers, will reduce surface disturbance and avoid or minimize these impacts. COAs 3-6, which require lessees to minimize soil and vegetation disturbance, avoid alteration of the natural topography, implement erosion control measures, and confine vehicles and equipment to approved lease roads, will reduce potential impacts on vegetation density, growth, and reproduction due to vegetation removal and trampling, soil compaction and erosion, and fugitive dust. COAs 3-6 will also reduce potential impacts on wetland species composition and density by preventing alterations in topography that could increase runoff and change drainage patterns to the detriment of such species. COA 29, which requires lessees to avoid new road and pipeline crossings of aquatic environments, will prevent vegetation removal and reduces the risk of erosion, sedimentation, and water diversion associated with such construction and installations.

COA 13, which requires dust abatement, will reduce the risk of impaired reproductive capacity due to dust covering plants and preventing respiration or photosynthesis. COA 13 will also protect wetlands by reducing the risk of changes in water quality due to sedimentation and turbidity. COA 14, which prohibits operations in aquatic environments and water withdrawals or discharges of soil and contaminants, will protect wetlands by minimizing vegetation removal and reducing the risk of contamination. COAs 25 and 27, which require that lessees obtain the Superintendent's approval to locate well sites and pits in areas prone to frequent flooding and prohibit the construction of well sites and pits within 200 feet of streams and waterways, will reduce the risk that vegetation and wetlands will be contaminated due to a flood event or accidental spill. COA 26, which prohibits the land application of waste oil, wastewater, and other deleterious substances, will keep waste materials out of vegetation and wetlands and reduce the risk of vegetation and wetland contamination due to chemicals or other hazardous materials leaching into soils and water sources.

COA 15, which prohibits the use of noxious weeds or invasive species in the restoration of surface lands, will limit the potential for these species spreading and impacting vegetation growth and production. COA 30, which requires the collocation of new and existing facilities when feasible, will reduce surface disturbance, will help maintain the acreage, density, and condition of native vegetation communities and reduce the potential for the introduction and spread of noxious weeds. COAs 20 and 21, which are designed to protect ABB habitat, will also provide incidental protection for vegetation by limiting vegetation disturbance and requiring appropriate maintenance.

## 5.7 AGRICULTURE

The potential impacts oil and gas development activities could have on agriculture in the planning area include:

- Changes to the characteristics of prime or unique farmland due to increased soil compaction and erosion, alteration of hydrology, and changes in water quality and quantity
- Temporary conversion of prime farmland
- Reduction in the quality or quantity of livestock forage
- Livestock disturbance and displacement
- Increased risk of livestock injury and mortality due to collisions with vehicles and infrastructure, exposure to hazards, and ingestion of deleterious substances
- Increased risk of contamination of crops due to leaks, accidental spills, and infiltration of deleterious substances

The application of COAs to drilling and workover permits and implementation of cultural resource buffers, will reduce surface disturbance and avoid or minimize these impacts. COAs 3-6, which require lessees to minimize soil and vegetation disturbance, avoid alteration of the natural topography, implement erosion control measures, and confine vehicles and equipment to approved lease roads, will minimize the removal or degradation of livestock forage and reduce the potential for adverse impacts on soil properties and alteration of hydrology. COA 28, which specifically requires lessees to avoid alterations to hydrology, will also reduce potential impacts on farmland and livestock due to changes in drainage and runoff patterns or water diversion.

COAs 12 and 15, which require the interim and final restoration of surface lands, will prevent the permanent conversion of farmland and displacement of livestock. COA 15 also prohibits the use of noxious or invasive species during restoration, which protects livestock from ingesting noxious weeds and prevents the spread of invasive species that could impact crops. COA 30, which requires the collocation of new and existing facilities when feasible, further reduces surface disturbance and the potential conversion or fragmentation of agricultural lands. COAs 2, 21, and 23, which are designed to protect other resources, reduce surface disturbance in the planning area and, therefore, also reduce the conversion of agricultural lands.

COA 13, which requires lessees to minimize noise and visual disturbances to wildlife, will reduce potential impacts on livestock from construction and production operations. COAs 8 and 9, which require lessees to store chemicals properly and keep sites free of trash and waste materials, will reduce the risk of livestock being exposed to waste and other hazardous substances. COA 18, which requires lessees to implement the air quality BMPs identified in the approved site-specific EA if operations will penetrate formations that may contain H<sub>2</sub>S concentrations of 100 ppm or greater, will reduce the risk that agricultural personnel and livestock may be exposed to H<sub>2</sub>S.

COA 26, which prohibits the land application of waste oil, wastewater, and other deleterious substances, will reduce the risks of crop and livestock forage contamination as well as livestock injury or mortality due to exposure. COAs 6 and 10, which confine vehicle and equipment traffic to existing lease roads and require lessees to enclose production equipment, facilities, and tanks to exclude livestock, will reduce the risk of livestock injury or mortality due to off-road collisions or exposure to hazards at well sites. COAs 25 and 27, which require that lessees obtain the Superintendent's approval to locate well sites and pits in areas

prone to frequent flooding and prohibit the construction of well sites and pits within 200 feet of streams and waterways, will reduce the risk of livestock forage, pasture, farmland, and water source contamination in the event of a flood or accidental spill of deleterious substances.

## **5.8 CULTURAL RESOURCES**

The potential impacts oil and gas development activities could have on cultural resources in the planning area include:

- Increased risk of disturbance, damage, or destruction of cultural resources due to construction and secondary surface activities such as vehicle traffic, vegetation removal, erosion, and weathering
- Increased risk of surface artifact collection, unauthorized excavation, and visual or auditory intrusion at culturally significant sites

The application of COAs to drilling and workover permits and implementation of cultural resource buffers, will reduce surface disturbance and avoid or minimize these impacts. COAs 1, 2, and 23 provide direct protection for cultural resources. COA 1 requires lessees to avoid impacts on National Register-eligible and unevaluated cultural resources, halt operations if cultural resources or human remains are discovered and report the discovery of human remains to the appropriate authorities. COAs 2 and 23 prohibit surface disturbance outside the area described in the approved site-specific EA and the commencement of new ground-disturbing activities that were not approved as part of the drilling or workover permit without the BIA Osage Agency Superintendent's prior approval and compliance with the NHPA, including preparation of a cultural resource survey. Together, these COAs will protect cultural resources from inadvertent damage and destruction.

COAs 3-6, 13-14, 27-28, and 30, which are designed to protect other resources, will provide incidental protection to cultural resources. COAs 3-5 and 30, which require lessees to minimize soil and vegetation disturbance, avoid alteration of the natural topography, implement erosion control measures, and collocate new and existing facilities when feasible, will reduce potential impacts on cultural resources by reducing surface disturbance. COA 6, which confines vehicles and equipment to existing lease roads, will reduce the risk of damage or inadvertent destruction of undiscovered cultural resources due to trampling and traffic. COA 13, which requires lessees to minimize noise, traffic, dust, and visual disturbances, will reduce auditory and visual impacts on the atmosphere at cultural sites, sacred sites, and historic properties.

COA 14, which requires lessee to avoid activities in aquatic environments, will also reduce the risk of damage or destruction by limiting surface disturbance near water bodies, where cultural resources are often located. COAs 27 and 28, which require that drilling pits be located at least 200 feet from streams and waterways and that lessees avoid new road and pipeline crossings of aquatic environments, also limit surface disturbance near water bodies. COA 29, however, requires the burial of pipelines to protect aquatic environments and sensitive areas, which would increase surface disturbance. As COA 29 applies only where appropriate, however, the BIA could waive the COA when necessary to avoid impacts on cultural resources.

## **5.9 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE**

The potential impacts oil and gas development activities could have on socioeconomics and environmental justice in the planning area include:

- Job creation
- Increased demands on public services, local schools, and utilities
- Short-term impacts on quality of life due to erosion, dust, traffic, and noise
- Long-term impacts on local air quality, water quality and quantity, and visual setting
- Increased risk of auditory and visual disturbances at sites used for traditional Tribal activities
- Conflict with other land uses

The application of COAs to drilling and workover permits will avoid or minimize adverse impacts. COAs 1, 2, and 23, which require the avoidance and protection of cultural resources, will reduce the risk of auditory and visual disturbances at sacred sites and sites used for traditional Tribal activities. COA 13, which requires lessees to minimize noise, dust, and visual disturbances, will also reduce the risk of auditory and visual disturbances at such sites.

COAs 3-6, 12-13, and 15 which require lessees to minimize soil and vegetation disturbance, avoid alteration of the natural topography, implement erosion control measures, confine vehicles and equipment to approved lease roads, reduce auditory and visual disturbances, and conduct interim and final restoration of surface lands, will reduce the risk of impacts on quality of life factors for residents in the planning area by minimizing the likelihood of erosion, fugitive dust, and changes in visual setting. COAs 11, 14, 25, and 27-29, which require that lessees prepare SPCC plans, avoid activities in aquatic environments and the discharge of contaminants, obtain approval to locate well sites and pits in areas prone to flooding and prohibit the construction of well sites and pits within 200 feet of streams and waterways, and bury pipelines, will reduce the risk that water sources will be contaminated in the event of leaks, accidental spills, and infiltration, as well as other adverse impacts on water quality and quantity.

COA 7, which prohibits venting and flaring without the BIA Osage Agency Superintendent's prior approval, will reduce emissions and potential impacts on local air quality. COAs 18 and 24 will also reduce potential impacts on air quality. COA 18, which requires lessees to implement the air quality BMPs identified in the approved site-specific EA if operations will penetrate formations that may contain H<sub>2</sub>S concentrations of 100 ppm or greater, will reduce the risk of H<sub>2</sub>S release and exposure. The same is true of COA 24, which requires lessees to conduct an initial test of the H<sub>2</sub>S concentration of the gas stream for each well and production facility and, if the H<sub>2</sub>S concentration exceeds 100 ppm, determine the 100 ppm and 500 ppm radius of exposure, post warning signs, and take appropriate measures to ensure the safety of personnel and the public.

COAs 2, 3-6, 12-15, 21, 23, 25, and 27-30, which reduce surface disturbance, will also reduce the potential for conflicts between oil and gas development activities and other land uses in the planning area and minimize impacts on the economic contributions therefrom. The degree to which other land uses, and the jobs and income associated with these uses, will be affected by oil and gas development will differ from project-to-project based on the site-specific application of COAs.

## **5.10 PUBLIC HEALTH AND SAFETY**

The potential impacts oil and gas development activities could have on public health and safety in the planning area include:

- Increased risk of contamination of land, surface water, and groundwater due to leaks, accidental spills, infiltration, or subsurface migration of deleterious substances
- Auditory and visual disturbances
- Changes in air quality and exposure to H<sub>2</sub>S gas
- Induced seismicity

The application of COAs to drilling and workover permits and implementation of cultural resource buffers, will reduce surface disturbance and avoid or minimize adverse impacts. COAs 8, 9, and 11, which require lessees to store chemicals properly, keep sites free of litter and contaminated soil, promptly remove and dispose of waste, and prepare SPCC plans, will reduce the risk of hazardous chemicals or other deleterious substances being released into the environment, contaminating groundwater and agricultural products that the public may consume.

COA 19, which requires that lessees comply with EPA UIC Program permitting and operational requirements for all injection and disposal wells, will reduce the risk of surface water and groundwater contamination due to infiltration or subsurface migration of chemicals and other hazardous substances by ensuring proper well construction and monitoring. COA 19 also reduces the risk of induced seismicity by regulating the formations available for injection as well as injection volume and pressure. COA 26, which prohibits the land application of waste oil, wastewater, and other deleterious substances, will reduce the risk of shallow groundwater contamination due to infiltration through soils. COA 27, which requires that drilling pits be at least 200 feet from streams and waterways, will also reduce the risk of surface water or groundwater contamination due to leaks, accidental spills, or infiltration of deleterious substances.

COA 13, which requires lessees to minimize disturbances caused by noise, visual impacts, traffic, and dust, will reduce potential auditory and visual disturbances. It should be noted that many sources of noise associated with oil and gas development activities are temporary (*i.e.*, drilling rigs, construction of well pads and lease roads, installation of facilities and pipelines, interim restoration of surface lands) or otherwise short-term in nature (*i.e.*, well, vegetation, road, and pipeline maintenance; removal of production). Dust abatement requirements under COA 13 will also reduce the potential for air quality impacts due to wind-blown fugitive dust. COA 7, which prohibits venting and flaring without the BIA Osage Agency Superintendent's prior approval, will reduce air pollutant emissions and GHGs.

COAs 18 and 24 will also reduce potential impacts on air quality. COA 18, which requires lessees to implement the air quality BMPs identified in the approved site-specific EA if operations will penetrate formations that may contain H<sub>2</sub>S concentrations of 100 ppm or greater, will reduce the risk of H<sub>2</sub>S release and exposure. The same is true of COA 24, which requires lessees to conduct an initial test of the H<sub>2</sub>S concentration of the gas stream for each well and production facility and, if the H<sub>2</sub>S concentration exceeds 100 ppm, determine the 100 ppm and 500 ppm radius of exposure, post warning signs, and take appropriate measures to ensure the safety of personnel and the public.

### **5.11 VISUAL RESOURCES**

The potential impacts oil and gas development activities could have on visual resources in the planning area include:

- Denuding of the land and exposure of soil with a different texture and color than undisturbed soil
- Diminished visual clarity due to wind-blown fugitive dust and glare

- Changes in scenery and visual quality due to the presence of artificial elements and lighting that contrast with the surrounding terrain and vegetation and reduce nighttime darkness

The application of COAs to drilling and workover permits and implementation of cultural resource buffers, will reduce surface disturbance and avoid or minimize these impacts. COAs 3-5, 12, and 15, which require lessees to minimize soil and vegetation disturbance, avoid alteration of the natural topography, implement erosion control measures, and conduct interim and final restoration of surface lands, will reduce visual impacts associated with vegetation removal and soil exposure during construction and operations and minimize short- and long-term impacts on visual quality by maintaining the natural topography and returning surface lands as close as possible to their original state once operations are complete. COA 26, which prohibits the land application of waste oil, wastewater, and other deleterious substances, will minimize the risk of changes in soil composition or appearance and the loss of vegetation due to contamination.

COA 6, which requires lessees to confine vehicles and equipment to approved lease roads, will improve visual clarity by limiting off-road traffic that could result in fugitive dust. COA 13, which specifically requires lessees to minimize disturbances due to surface owners, wildlife, and natural resources due to dust, will further reduce the potential for changes in visual clarity due to airborne dust by ensuring that lessees implement appropriate dust abatement measures where necessary. COA 7, which requires that lessees obtain the BIA Osage Agency Superintendent's approval prior to venting or flaring, may reduce, or impose limitations on, flaring that will reduce visual distractions from natural scenery, particularly during nighttime darkness.

COA 9, which requires lessees to keep sites free of trash and unused containers, remove old or unnecessary equipment from the lease, and properly dispose of waste, will minimize visual distractions due to clutter and littering, improve visual clarity by reducing glare from equipment, and reduce contrasts with the natural terrain. COAs 28 and 29, which require lessees to avoid new road and pipeline crossings of aquatic environments and bury pipelines, will maintain the appearance of the terrain and vegetation surrounding scenic waterbodies and minimize the introduction of artificial elements in those areas. COA 30, which requires the collocation of new and existing facilities when feasible, will also reduce surface disturbance, vegetation removal, and alteration of the natural topography.

COAs 2, 21, and 23, which are designed to protect other resources, provide incidental protection for visual resources by reducing surface disturbance, thereby reducing potential impacts on the form, line, color, and texture of the landscape. It should be noted that COAs 10 and 22, which require lessees to enclose equipment and facilities to exclude livestock and screen or net open-top tanks and pits, could contribute to long-term visual impacts on landscapes that currently lack such features.

## **5.12 NOISE**

The potential impacts oil and gas development activities could have on noise in the planning area include:

- Increased ambient noise levels due to construction, operations, equipment, and vehicle traffic

The application of COAs to drilling and workover permits and implementation of cultural resource buffers, will reduce surface disturbance and avoid or minimize these impacts. COA 13, which requires lessees to minimize disturbance to surface owners, wildlife, and natural resources caused by excessive traffic and other impacts associated with operations, will limit noise impacts by ensuring that construction, operations, and production are conducted in a manner that minimizes auditory disturbances. COA 6, which requires lessees

to confine vehicles and equipment to approved lease roads, will also reduce the noise from traffic by concentrating traffic in specific areas and avoiding widespread off-road vehicle and equipment traffic throughout the lease.

COAs 3-4, 12, 14-15, 27-28, and 30, which are designed to protect other resources, will provide incidental reduction in noise impacts due to reduction in overall surface disturbance that involves the use of heavy equipment, increased vehicle traffic, and other noise associated with construction and operations. It should be noted that COA 29, which requires lessees to bury pipelines to protect aquatic environments and sensitive areas, will increase intermittent ambient noise levels due to the need to use heavy equipment to both install and, potentially, maintain buried pipelines.

### **5.13 LAND USE PLANS, UTILITIES, AND TIMBER HARVESTING**

The potential impacts oil and gas development activities could have on land use plans, utilities, and timber harvesting in the planning area include:

- Potential displacement of, or conflict with, other land uses, including recreation, hunting, wind energy development, livestock grazing, and ROW corridors
- Conversion of land in and around rural communities from existing agricultural, open space, or other uses to provide services supporting oil and gas development
- Changes in landscape character due to increased access to remote and previously undeveloped areas, removal and maintenance of vegetation in ROWs, maintenance of lease and service roads, and noise and visual impacts on recreation and livestock uses along ROWs
- Removal of wood, plants, and seeds; trampling of understory vegetation; soil compaction; and increased spread of invasive and noxious weeds in timber stands

The application of COAs to drilling and workover permits and implementation of cultural resource buffers, will reduce surface disturbance and avoid or minimize these impacts. COAs 3-5, which require lessees to minimize soil and vegetation disturbance, avoid alteration of the natural topography, and implement erosion control measures, will prevent impacts on other land uses due to changes in the landscape, minimize tree removal, and reduce changes in soil characteristics or compaction due to erosion.

COAs 12 and 15, which require the interim and final restoration of surface lands, will reduce potential impacts on other land uses, including timber harvesting, by ensuring that lands that are no longer being used for oil and gas development are returned as closely as possible to their original state so that they are available for other land uses and development opportunities. COA 13, which requires lessees to minimize disturbances to surface owners, wildlife, and natural resources due to noise and traffic, will reduce potential impacts on noise and visual impacts on recreation, hunting, livestock grazing and other land uses.

COAs 9 and 11, which require lessees to keep sites free of trash and contaminated soil, properly dispose of waste, prepare SPCC plans, and construct secondary containment at tank batteries and facilities, will reduce potential impacts on other land uses by reducing the risk that the land, vegetation, or water sources will be contaminated due to leaks, accidental spills, or infiltration of deleterious substances. COAs 25-27, which require that lessees obtain the Superintendent's approval to locate well sites and pits in areas prone to frequent flooding and prohibit the construction of well sites and pits within 200 feet of streams and waterways and prohibit the land application of waste oil, wastewater, and other deleterious substances, will

also reduce the risk of contamination in the event of a flood or accidental spill as well as the risk of infiltration through soils.

COA 29, which requires the burial of pipelines, could create more permanent corridors that utilities could utilize, reducing overall surface disturbance. COA 30, which requires the collocation of new and existing facilities when feasible, will further reduce surface disturbance by concentrating operations in certain areas and minimizing the displacement of, or conflict with, other land uses. COAs 2, 14, 23, and 27, while designed to protect other resources, will also reduce the displacement of, or conflict with, other land uses, utilities, and timber harvesting. COA 28, however, requires lessees to avoid new road and pipeline crossings of aquatic environments. While this could reduce potential noise and visual impacts near waterbodies and wetlands, it could also result in increased noise and visual impacts at other locations. In addition, the need to avoid aquatic environments could result in increased tree clearing, vegetation removal, and surface disturbance if lessees must find alternative routes for lease roads and pipelines in order to avoid sensitive resources. As COA 28 applies only where practical, the BIA can waive the COA to avoid a significant increase in impacts on other land uses or resource values.

#### **5.14 TRAFFIC AND TRANSPORTATION**

The potential impacts oil and gas development activities could have on traffic and transportation in the planning area include:

- Increased vehicle and equipment traffic
- Increased risk of vehicle collisions
- Increased rate of deterioration of roadway surfaces

The application of COAs to drilling and workover permits and implementation of cultural resource buffers, will minimize these impacts. COA 6, which requires that lessees confine vehicles and equipment to approved lease roads and maintain and upgrade roads as directed by the BIA Osage Agency Superintendent, will reduce potential impacts on traffic and transportation by limiting off-road traffic on leases and ensuring adequate standards to facilitate current and anticipated traffic levels and reduce damage to public roads. COA 13, which requires that lessees minimize disturbance to surface owners, wildlife, and natural resources due to excessive traffic and dust, will reduce potential impacts by limiting the amount of traffic on lease roads and ensuring that lessees implement appropriate dust abatement measures to prevent the impairment of visibility.

COA 28 limits new road crossings of streams, waterways, and other areas susceptible to inundation. Prohibiting new roadways in these locations will maintain short- and long-term access by avoiding the siting of roads in areas that are subject to flooding and reducing roadway infrastructure deterioration, but could, in some cases, require vehicles to travel further in order to access wells and facilities on leases. COA 30, which requires the collocation of new and existing facilities when feasible, may reduce the amount of surface disturbance associated with road construction, but increase maintenance needs on existing roads that receive additional traffic.

#### **5.15 MINERAL EXTRACTION**

The potential impacts oil and gas development activities could have on mineral extraction in the planning area include:



- Continued collection of royalty revenues from the Osage Mineral Estate
- Depletion of oil and gas resources
- Potential conflict with the development of sand, gravel, sandstone, limestone, dolomite, and other solid minerals in the planning area
- Increased risk of contamination of other minerals in the planning area due to leaks, accidental spills, infiltration, or subsurface migration of deleterious substances

The application of COAs that reduce surface disturbance (COAs 2-6, 12-15, 23, 27-28, and 30), impose safety measures to protect public health and safety, the environment, and property (COAs 1, 7-11, 18, 22, 24-26), and require compliance with EPA UIC Program and the USFWS BO (COAs 16-17, 19, and 20-21), impose requirements on the lessees regarding the conduct of operations. The COAs are designed to avoid or minimize the impacts of mineral extraction on cultural resources, public health and safety, environmental and water quality, wildlife, and other resource values. These COAs do not prohibit mineral extraction or the diligent development of existing and future leases of the Osage Mineral Estate.

While the COAs do not prohibit mineral extraction, it should be noted that COAs 25 and 27-30, which require that lessees obtain the Superintendent's approval to locate well sites and pits in areas prone to frequent flooding and prohibit the construction of well sites and pits within 200 feet of streams and waterways; avoid new road and pipeline crossings of aquatic environments; bury pipelines; and collocate new and existing facilities; may impose limitations on the location of wells, pits, roads, and pipelines. Accordingly, these COAs may impact decisions regarding the timing and location of development, require the use of alternative methods of construction, and impose additional costs on lessees.

## **5.16 RECREATION AND SPECIAL USE AREAS**

The potential impacts oil and gas development activities could have on recreation and special use areas in the planning area include:

- Reduction or elimination of opportunities for recreation
- Changes in the quality of the recreational setting and experience
- Changes in water quality or quantity
- Disruption of the normal distribution and movement patterns of game and other wildlife
- Increased number of recreationists in the area due to improved road access
- Increased risk of illegal dumping

The application of COAs to drilling and workover permits and implementation of cultural resource buffers, will reduce surface disturbance and avoid or minimize these impacts. COAs 3-5, 12, and 15, which require lessees to minimize soil and vegetation disturbance, avoid alteration of the natural topography, implement erosion control measures, and conduct interim and final restoration of surface lands, will reduce surface disturbance within the planning area and minimize the displacement and disruption of recreational activities by protecting the natural landscape.

COAs 6 and 13, which require lessees to confine vehicles and equipment to approved lease roads and minimize disturbances caused by noise and traffic, will reduce potential impacts from changes in the scenic and acoustic quality of natural areas. Together, COAs 3-6, 12-13, and 15 reduce surface disturbance, minimize impacts on recreationists and natural resources, and reduce the potential for habitat avoidance,

loss, degradation, and fragmentation and behavioral impacts on fish, game species, and migratory birds. Accordingly, these COAs will help preserve fishing, nature watching, and hunting opportunities.

COA 9, which requires lessees to keep leases free of trash, old equipment, and contaminated soil and properly dispose of waste, will reduce potential impacts on recreation and special use areas by preserving their naturalness and helping prevent the creation of illegal dump sites. COA 11, which requires lessees to prepare SPCC plans and construct secondary containment at tank batteries and other facilities, will reduce the risk that water resources will be contaminated due to leaks, accidental spills, and infiltration of deleterious substances. COA 14, which prohibits activities within aquatic environments, the discharge or soil or contaminants, and withdrawals of stream water in violation of federal law, will reduce the risk of potential changes in water quality and quantity.

COAs 25 and 27, which require that lessees obtain the Superintendent's approval to locate well sites and pits in areas prone to frequent flooding and prohibit the construction of well sites and pits within 200 feet of streams and waterways, will reduce the risk that leaks, accidental spills, or infiltration of deleterious substances will contaminate vegetation, wildlife habitat, surface water, and groundwater. COA 26, which prohibits the land application of waste oil, wastewater, or contaminated soil, will also reduce the risk of infiltration as well as keep injurious material out of important fish and wildlife habitat, such as wetlands and riparian zones, thereby reducing potential impacts on recreation opportunities such as boating, fishing, and wildlife viewing. COA 28, which requires that lessees avoid new road and pipeline crossings of aquatic environments and alterations of hydrology, will reduce surface disturbance; preserve the naturalness of wetlands, streams, and other water sources; and minimize the risks of behavioral impacts on fish and wildlife, as well as habitat loss, degradation, or fragmentation.

COA 29, which requires the burial of pipelines to protect important aquatic environments and sensitive areas, will preserve aquatic habitat and the naturalness of wetlands, streams, and other water sources, but will increase ambient noise and visual disturbances in these areas due to the use of heavy equipment for installation and maintenance. Such disturbances could cause habitat avoidance or other behavioral impacts that could affect wildlife viewing and, depending on the time of year, hunting opportunities. The burial of pipelines will also likely require soil and vegetation disturbance, which may change the scenic quality of the subject area and result in habitat loss or degradation. COA 30, which requires the collocation of new and existing facilities, will reduce surface disturbance, but may result in increased noise and traffic on existing lease roads, changing the auditory and visual quality of natural areas within the vicinity.

## **5.17 TRUST ASSETS AND OSAGE NATION INTERESTS**

The potential impacts oil and gas development activities could have on trust assets and Osage Nation interests in the planning area include:

- Continued collection of royalty revenues from the Osage Mineral Estate
- Reduction in the time and costs associated with preparation of site-specific EAs for drilling and workover operations involving new ground disturbance
- Continued protection of cultural sites, sacred sites, and settings that are traditionally important to the Osage Nation

The application of COAs will impose procedural and operational requirements on lessees (as discussed in **Section 5.15**, Mineral Extraction, above). These requirements may represent site-specific constraints,

changes in the timing and location of development, and increased costs. Overall, the application of COAs 1-30 will not prohibit development of the Osage Mineral Estate, nor are they anticipated to make development uneconomical. Royalty revenues from production of oil and gas from the Osage Mineral Estate will continue to accrue, but the actual levels of development, production, and revenues will depend primarily on market conditions outside the control of the BIA or lessees.

COAs reducing surface disturbance, protecting cultural resources (as discussed in **Section 5.8**, Cultural Resources, above), and specifying the review of actions that may affect locations, sacred sites, locations, and settings that are traditionally important to the Osage Nation, will help preserve and protect these resources by ensuring that potential impacts are identified and mitigated.

## **Section 6. Mitigation and Monitoring**

The COAs specified in the ROD will minimize environmental impacts and provide environmental protection during and after implementation of the action. The BIA Osage Agency's Branch of Field Operations will continue to coordinate with the Branch of Environment and Lease Compliance and conduct routine and risk-based lease inspections, as well as inspections based on reports filed by surface owners and the public, to monitor compliance with the COAs applied to drilling and workover permits, as well as lease terms and conditions, the regulations in 25 CFR 226, and orders or notices issued by the Superintendent. Such monitoring will allow the BIA and lessees to identify, avoid, and, if necessary, mitigate, any unforeseen environmental impacts that may occur. The BIA will periodically evaluate the EIS to determine whether the decisions and accompanying NEPA analysis remain valid.

## **Section 7. Consultation and Coordination**

### **7.1 GOVERNMENT-TO-GOVERNMENT CONSULTATION**

The BIA mailed the Osage Nation a letter initiating formal government-to-government consultation in September 2013 when the Osage County Oil and Gas EIS was part of the OKT Joint EIS/BLM RMP/BIA IRMP. Consultation has been ongoing since separation of the EIS from the OKT Joint EIS/BLM RMP/BIA IRMP in November 2014.

### **7.2 COOPERATING AGENCIES**

In January 2015, the BIA invited the Osage Nation, Osage Minerals Council, Oklahoma Geological Survey, U.S. Fish and Wildlife Service, U.S. Geological Survey (USGS), and U.S. Environmental Protection Agency (EPA) to be cooperating agencies for the EIS. The Osage Nation, Osage Minerals Council, USGS, and EPA accepted the invitations and actively participated in preparation of the EIS.

## **Section 8. Public Involvement**

### **8.1 PUBLIC SCOPING**

Oil and gas leasing and development in Osage County was initially included in the OKT Joint EIS/BLM RMP/BIA IRMP (OKT Joint EIS). The scoping period for the OKT Joint EIS began on July 26, 2013 with publication of a Notice of Intent (NOI) in the Federal Register and concluded on January 31, 2014. The BIA

held a public meeting in Pawhuska, Oklahoma on January 15, 2014 as part of the scoping period. At the request of the Osage Nation, following the scoping period, the Osage County Oil and Gas EIS was removed from the OKT Joint EIS and prepared as a separated document.

On November 3, 2015, the BIA published the Osage County Oil and Gas Draft EIS (Draft EIS) for public comment. Due to the comments received, the BIA determined that the Draft EIS should be revised. On April 11, 2016, the BIA published the NOI to reinitiate scoping and revise the 2015 Draft EIS. This second scoping period concluded on May 8, 2016. The BIA held a public meeting in Pawhuska, Oklahoma on April 28, 2016 as part of the scoping period.

## 8.2 DRAFT EIS

The BIA published a Notice of Availability (NOA) for the revised Draft EIS on November 22, 2019 to solicit public comments. The BIA advertised the availability of the Draft EIS on the Osage Agency's website, in local newspapers, and through mailing of an EIS newsletter to all persons who elected to be on the Osage Agency's mailing list. The BIA held a public meeting in Pawhuska, Oklahoma on December 12, 2019 to receive feedback on the Draft EIS. The public comment period ended on February 21, 2020. The BIA received public comments from the Osage Minerals Council, Osage County surface owners, an oil and gas trade group, industry consultants, and private citizens. The public comments received, and responses thereto, are contained in **Appendix J**, Comment Summary and Response Report, of the Final EIS.

The BIA prepared the Final EIS based on the public comments received, revising the document to eliminate COAs that are duplicative of existing regulations; moving information on certain resource trends from **Chapter 3**, Affected Environment, to **Chapter 4**, Environmental Consequences; and clarifying and updating information and analyses.

## 8.3 FINAL EIS

The BIA published the NOA for the Final EIS in the Federal Register on October 16, 2020. The 30-day availability period for the Final EIS ended on November 16, 2020. The NOA for the Final EIS did not identify a public comment period, or otherwise invite public comments on the Final EIS, however the BIA received several comments during the 30-day availability period. While neither NEPA, nor Departmental regulations, require the BIA to respond to public comments on the Final EIS, the BIA elected to do so. The BIA's responses to comments on the Final EIS are included in **Appendix A**, Comment Summary and Response, to this ROD.

# Section 9. Appeal Process

This decision may be appealed to the Interior Board of Indian Appeals (IBIA) in accordance with the regulations set forth in 43 CFR §§ 4.310-4.340. The regulations are available online free of charge at <https://www.ecfr.gov>. A notice of appeal must be filed with the Interior Board of Indian Appeals, Office of Hearings and Appeals, U.S. Department of the Interior, 801 North Quincy Street, Arlington, VA 22203, within 30 days from the date this decision is published. Copies of the notice of appeal must also be sent to: (1) the Assistant Secretary – Indian Affairs, U.S. Department of the Interior, 1849 C Street NW, MS-4140, Washington, D.C. 20240; (2) the Regional Director, BIA Eastern Oklahoma Regional Office, P.O. Box 8002, Muskogee, OK 74402; (3) the Tulsa Field Solicitor's Office, U.S. Department of the Interior, 7906 East 33<sup>rd</sup>

Street, Suite 100, Tulsa, OK 74145; and (4) all interested parties known to you. The notice of appeal must certify that all required parties were served and list the names and addresses of all parties served.

The notice of appeal is considered to be filed with the IBIA on the date it is postmarked, if mailed, or on the date of personal service. No extension of time may be granted for filing of a notice of appeal. If you file a notice of appeal, the IBIA will advise you regarding further appeal procedures. If no appeal is timely filed, this decision will become final for the U.S. Department of the Interior upon expiration of the 30-day appeal period.

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# Appendix A

## Comment Summary and Response Report

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# Appendix A. Comment Summary and Response Report

## A.1 INTRODUCTION

This appendix presents substantive comments on the Osage Oil and Gas Final EIS organized by specific comment issue category that relate to an aspect of the National Environmental Policy Act of 1969 (NEPA), the BIA 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 BIA's response to the summary statement.

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Received Date	Comment	Comment Code	File Name	Response
10/28/2020	Specifically, in Table 2.2, how are camps and villages defined? What elements constitute a camp versus a village? Does this apply only for Native camps/villages? Early settler occupations prior to allotment or post-allotment to early statehood? How should oil field camps and abandoned boom towns be addressed? Do these fall under camps/villages or historic farmsteads/building complexes?	Affected Environment - Topography, Geology, Paleontology, and Soils	CassandraBurns 20201028	In general, prehistoric and historic camps are small, temporary, or seasonal sites, and prehistoric and historic villages are larger, permanent settlements. The BIA will determine the location, nature, and status of camps, villages, and other historic or cultural sites in the planning area as part of the site-specific NHPA consultation conducted at the project level.
11/13/2020	The FEIS with the BIA's preferred Alternative 3 will only exacerbate the regulatory burdens that have all but halted new development of the Osage mineral estate. The FEIS, and particularly Alternatives 3 and 4, would work to dismantle this longstanding, congressionally mandated Osage mineral trust system, as Alternatives 3 and 4 advance the interests of non-Osage surface landowners who continue to seek greater control over Osage lands and resources, despite the fact that the Osage mineral estate is the dominant estate. This fact is wholly omitted from the FEIS, which seems to consider public sentiments of non-Osages as equal in weight and importance to Osage's statutory rights in the development of the Osage mineral estate.	Range of Alternatives	11.13.2020 OMC FEIS	As a preliminary matter, note that the BIA has not imposed new regulatory burdens on oil and gas operations in Osage County. The regulations governing oil and gas leasing and development of the Osage Mineral Estate, at 25 CFR 226, have not undergone substantive revisions since 1974. Also note that the EIS does not create, or otherwise impose, regulations. In an EIS, agencies must consider a reasonable range of alternatives, including both a no action alternative and an environmentally preferable alternative. The alternatives in the EIS represent a reasonable range of management actions available to the BIA under applicable law and were developed in accordance with NEPA requirements. The BIA did not develop the alternatives in the EIS to advance the interests of "non-Osage surface landowners," as the Osage Minerals Council suggests. Ultimately, as discussed in the ROD, the BIA did not select Alternatives 3 or 4 for implementation.
11/13/2020	Based on the unverified well records and production data the RFD projects 4,761 new wells to be drilled in the next 20 years. The rate of drilling on the Osage mineral estate has declined steadily since 2010. The 4,761 new well projection could be accomplished by modifying Alternative 2 to include the COAs found under Alternative 1, minus the noise abatement requirement from COA 13, and incorporating the cultural resource buffer stipulations found in Table 2-2. With these modifications the EIS becomes a document which lessees can tier an Environmental Assessment to readily.	Range of Alternatives	11.13.2020 OMC FEIS	As stated in the RFD, the primary source of historical well and formation data was the IHS Enerdeq database, and that data was cross-checked and verified using the Osage Agency's geographic information system well data. In addition, before comparing the IHS and Osage Agency well records, the BIA reviewed both data sets to identify and remove wells that were permitted but never drilled. Comparing the IHS and Osage Agency data sets revealed that the total number of wells were within 1.6 percent of one another. The RFD represents a reasonable, but optimistic, estimate of future development. The BIA used the most optimistic estimate of future development in the planning area as the basis for analysis in the EIS. It did this to ensure that the it considered the potential impacts associated with maximum development during the planning period. This provides the most NEPA analysis coverage for the proposed actions.  The Osage Minerals Council states that "[t]he 4,761 new well projection could be accomplished by modifying Alternative 2 to include the COAs found under Alternative 1, minus the noise abatement requirement from COA 13, and incorporating the cultural resource buffer stipulations found in Table 2-2." As discussed in the ROD, the BIA selected Alternative 2—Modified for implementation. Under Alternative 2—Modified, the entire Osage Mineral Estate remains available for oil and gas leasing and development. This allows for the potential permitting of up to 4,761 new wells during the planning period. Alternative 2—Modified includes the COAs that would have applied to the Alternative 3 low-density sections (see <b>Table R-2</b> , Conditions of Approval, in the ROD). These COAs are those that were identified for Alternative 1 and several additional protective COAs. The BIA removed the noise abatement requirement from COAs to eliminate redundancy. Alternative 2—Modified also includes the referenced cultural site buffers (see <b>Table R-3</b> , Cultural Site Buffers, in the ROD).
11/13/2020	Due to the fact that Osage County participates in the NFIP, each operator must obtain a floodplain permit and comply with the rules of the County as it relates to development in floodplains. This is regardless of any of the applicable alternatives or COAs. The well-established benchmark for well locations and tank batteries located in areas prone to flooding is whether the action is located in a flood plain as established by FEMA for those counties that participate in the NFIP. Therefore, the applicable COA should be that well sites, pits, and facilities shall be subject to the rules and regulations of the Osage County Floodplain Manager. The BIA responded to the OMC's initial concern mentioned directly above, and stated that it was "[w]orking to reach someone to confirm how the program works in Osage County. Need to confirm whether this program would result in protections that are as stringent as or more stringent than that described in COA ... " See FEIS J-26. The FEIS neither makes these confirmations nor adopts the OMC's recommendation that "the applicable COA should be that well sites, pits, and facilities shall be subject to the rules and regulations of the Osage County Floodplain Manager."	General EIS comments	11.13.2020 OMC FEIS	The Bureau of Indian Affairs has jurisdiction over the approval of oil and gas operations in Osage County, including the siting of wells, pits, and facilities. The BIA revised the COA to clarify that the Superintendent's approval is required before construction of well sites and pits begins in areas subject to frequent flooding, according to the NRCS Soil Survey. The BIA also added a footnote to the COA explaining that operators who obtain floodplain permits from the OWRB Osage County Floodplain Manager may submit them for the Superintendent's consideration. This would be done as part of the site-specific EA package or subsequent written request to locate well sites or pits in areas subject to frequent flooding. The Superintendent will consider OWRB floodplain permits submitted with requests to locate well sites and pits in areas subject to frequent flooding. She may find that the terms and conditions provide appropriate protection; however, she retains authority over lease enforcement, compliance, and the approval of oil and gas operations in the Osage Mineral Estate.

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11/13/2020	"Paleontological resources are any fossilized remains or traces of organisms that are preserved in or on the earth's crust. They include invertebrate, plant, trace, or vertebrate fossils, which constitute a fragile and nonrenewable record of the history of life. The BIA may consult with, or request technical advice from, federal entities inside and outside the DOI that have subject matter expertise relating to paleontological resources on a case-by-case basis, as necessary." In the event there are paleontological issues associated with the Osage mineral estate, the BIA and the Osage Minerals Council should confer and concur about the experts that would be used to address these issues.	Environmental Consequences - Topography, Geology, Paleontology, and Soils	11.13.2020 OMC FEIS	The BIA is required to comply with federal regulations and departmental policy regarding the management of paleontological resources. The agency has authority to consult with, or request technical advice from, subject matter experts inside and outside the department at its discretion. The BIA is not required to confer with the Osage Minerals Council regarding or obtain its approval of the experts who will be consulted on paleontological resource issues. (Note that paleontological resources are part of the surface estate, not the subsurface mineral estate.) If paleontological resources are discovered on Tribal trust or restricted lands, the BIA will consult with the Osage Nation regarding the disposition of those resources, in accordance with departmental policy.
11/13/2020	"29. Avoid new road and pipeline crossings of aquatic environments and alterations to hydrology (the surface and subsurface flow of water), to the extent practicable. Where crossing cannot be avoided, design and construct crossings to minimize impacts on riparian and aquatic habitats."  New pipeline installations across the country cross aquatic environments rather frequently. There should be well established BMPs for this activity. This COA is not necessary. Notwithstanding, it should be established who approves the "designed and constructed to minimize impacts on riparian and aquatic habitat.	Conditions of Approval	11.13.2020 OMC FEIS	The BIA revised the COA to make it clear that the Superintendent will review and approve designs for unavoidable crossings of aquatic environments. Please note that this COA is listed as COA 28 in Table R-2, Conditions of Approval, in the ROD.
11/13/2020	"30. Bury pipelines to protect important aquatic environments or sensitive areas, when appropriate."  There is no definition of "important aquatic environments" or who determines that burying pipelines for the reasons stated is appropriate. This should not be subjective.	Conditions of Approval	11.13.2020 OMC FEIS	The BIA revised the COA to eliminate the word "important," as it is an unnecessary and subjective standard, and added language identifying the relevant aquatic environments and sensitive areas. The BIA also revised the COA to make it clear that the Superintendent will make the determination as to whether the burial of pipelines is appropriate. Please note that this COA is listed as COA 29 in <b>Table R-2, Conditions of Approval</b> , in the ROD.
11/13/2020	As the OMC noted in its DEIS comments, two alternatives analyzed in the FEIS-including the BIA's preferred alternative--overtly violate federal statutes related to the Osage mineral estate. Specifically, the Alternative 3 and Alternative 4 would limit mineral development on certain areas of the Osage Reservation deemed "sensitive." Beyond the "sensitive areas", Alternative 3 further treats the Osage mineral estate as public lands rather than land held in trust for a Tribe for the purpose of applying Conditions of Approvals (COAs). <sup>2</sup> These limitations on development of the Osage mineral estate are in direct conflict with the statutory mandate Congress handed to the Secretary of the Interior and Osage Nation, that is, to:  offer for lease for oil, gas, and other mining purposes any unleased portion of [the Osage Reservation] in such quantities and at such times as may be deemed for the best interest of the Osage Tribe of Indians ... [in] the highest percentage of ultimate recovery of both oil and gas [that] may be secured. <sup>3</sup>	Range of Alternatives	11.13.2020 OMC FEIS	Alternatives 3 and 4 do not diminish, nor are they intended to diminish, the Osage Nation's ownership of the Osage Mineral Estate or the total acreage thereof. The alternatives in the EIS represent a reasonable range of management decisions the Bureau of Indian Affairs can make regarding development of the Osage Mineral Estate. The Act of June 28, 1906, § 3, 34 Stat. 538, as amended ("1906 Act"), vests the Secretary of Interior with broad authority over leasing of the Osage Mineral Estate. Specifically, the 1906 Act provides that the Osage Nation may lease the Osage Mineral Estate for oil and gas mining "...subject to the approval of the Secretary of the Interior, and under such rules and regulations as he may prescribe."  In 1929, the U.S. Congress amended the 1906 Act, adding a provision governing the number of acres of the Osage Mineral Estate that must be offered for lease annually. The Act of March 2, 1929, § 1, 45 Stat. 1478 ("1929 Act") directs the Secretary of the Interior and Osage Nation to offer for lease..."any unleased portion of [the Osage Mineral Estate] in such quantities and at such times as may be deemed in the best interest of the Osage [Nation]. Provided, That not less than twenty-five thousand acres shall be offered for lease for oil and gas mining purposes during any one year." Alternatives 3 and 4 are consistent with this statutory mandate.

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11/13/2020	<p>The FEIS Wrongly Interprets NEPA to Displace the 1906 Osage Allotment Act and Subsequent Amendments that Require the BIA to Construe Federal Laws in the Best Interests of the Osage Nation</p> <p>In the FEIS, the BIA maintains that NEPA does not trump the Secretary's duties under the 1906 Act, but rather, supplements it. The OMC maintains its position, however, that the BIA's selection of Alternative 3 as the preferred alternative, which creates "sensitive areas" removed from mineral development, wholly undermines the 1906 Act, as amended, and the Secretary's responsibilities thereunder. Federal courts have, continuously, concluded that questions regarding the Secretary's authority under the 1906 Act are to be "liberally" construed in favor of the Osage Nation and Osage headright holders. For instance, in Logan v. Andrus, the U.S. District Court for the Northern District of Oklahoma laid out a clear standard for interpreting the 1906 Act. The Act is to be interpreted using the canons of construction of Indian legislation, the most general being "that legislation affecting the Indians is to be liberally construed in their interest and doubtful expressions resolved in their favor." Id. at 1324. Further, while the Department's interpretation of Indian laws is entitled to "[g]reat weight," the regulatory power is "not the power to change the law." Id. (citing United States v. Jackson, 280 U.S. 183 (1930)).</p> <p>Finally, the Court concluded, that "[i]t is within the framework of the above rules of statutory construction that the Osage Allotment Act must be examined." Id.</p> <p>Therefore, according to the Northern District, the 1906 Act obligates the Secretary to "provide for the greatest ultimate recovery of oil and gas underlying the Osage mineral estate." Pub. L. No. 95-496 § 4. This is consistent with the overarching canons of construction of Indian legislation, as affirmed by U. S. Supreme Court precedent.</p> <p>Nowhere in the FEIS--nor in the preceding DEIS--does the BIA actually consider whether NEPA's EIS process even applies to a lease issued pursuant to the 1906 Act, as amended. The failure to undertake this elementary consideration, given the clear precedent stating that the 1906 Act imposes strict and enforceable trust duty obligations on the Secretary, constitutes a failure sufficient to challenge the legality of the FEIS altogether.</p> <p>As stated in the OMC comments to the DEIS, and now incorporated into these comments in response to the unsatisfactory FEIS, even if the BIA had undertaken the requisite analysis to conclude that NEPA applies, it is within the</p>	General EIS comments	11.13.2020 OMC FEIS	<p>The Osage Minerals Council claims that the DEIS is the product of a BIA "assumption that NEPA trumps the Secretary's duties under" the 1906 Osage Allotment Act. BIA has made no such assumption. NEPA does not "trump" any other statute; the NEPA process is, rather, applicable to all major Federal actions to ensure that environmental considerations are "infused into the ongoing programs and actions of the Federal Government." Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 371 n. 14 (1989).</p> <p>The Minerals Council argues that the United States trust responsibility under Federal Indian law trumps the application of other "generic" laws, like NEPA. While it is true that "[w]hen the Secretary is acting in his fiduciary role rather than solely as a regulator and is faced with a decision for which there is more than one 'reasonable' choice as that term is used in administrative law, he must choose the alternative that is in the best interests of the Indian tribe," Jicarilla Apache Tribe v. Supron Energy Corp., 728 F.2d 1555, 1567 (10th Cir. 1984) (Seymour, J., concurring in part and dissenting in part), adopted as majority opinion as modified en banc, 782 F.2d 855 (10th Cir. 1986), compliance with NEPA in decision making is also required and part of the trust responsibility. Gros Ventre Tribe v. United States, 469 F.3d 801, 810 (9th Cir. 2006).</p> <p>The Minerals Council also asserts that the Secretary cannot prioritize national or governmental interests over the trust responsibility. The BIA is not doing so. The BIA is not trying to accommodate another party while ignoring its duty to the Nation. Pyramid Lake Paiute Tribe of Indians v. Morton, 354 F. Supp. 252, (D.D.C. 1972), supplemented, 360 F. Supp. 669 (D.D.C. 1973), reversed on other grounds, 499 F.2d 1095 (D.C. Cir. 1974). Nor is it entering into a transaction with the Nation and considering its own needs paramount to the Nation's. Navajo Tribe of Indians v. U. S., 364 F.2d 320, 322-23 (Ct. Cl. 1966). Rather, the BIA is balancing the environmental review obligation that Congress has placed on it in NEPA with the trust obligations under the 1906 Act, as the Supreme Court and other courts have instructed it to do. Nevada v. U.S., 463 U.S. 110, 128 (1983). ("The Government does not 'compromise' its obligation to one interest that Congress obliges it to represent by the mere fact that it simultaneously performs another task for another interest that Congress has obligated it by statute to do."); Davis v. Morton, 469 F.2d 593 (10th Cir. 1972) (NEPA review must be done for approval of leases of Indian land under statutes specifically applying to Indian land, even in consideration of the trust responsibility); and Hayes v. Chaparral Energy, LLC, 180 F. Supp. 3d 902 (N.D. Okla. 2016), order vacated, appeal dismissed on other grounds sub nom. Hayes v. Osage Minerals Council, 699 Fed.</p>
11/13/2020	<p>The FEIS Purpose and Need Statement Does Not Match the FEIS Substantive Content.</p> <p>ES.2 PURPOSE AND NEED FOR THE DEIS</p> <p>"The purpose of the BIA's actions is to promote leasing and development of the Osage Mineral Estate in the best interest of the Osage nation pursuant to the 1906 Act, as amended, balancing resource conservation and maximization of oil and gas production in the long term."</p> <p>While the FEIS says its purpose is to promote oil and gas leasing of the Osage mineral estate, it, as written, does not adequately match the alternatives. The purpose and need section is supposed to drive the reasonable range of alternatives. The alternatives do not meet the need to promote oil and gas leasing within a "reasonable range" as CEQ regulations require. The alternatives developed for this FEIS would not meet the requirements of the 1906 Act, subsequent amendments, nor the CEQ regulations. They appear to have been developed for alternative land use such as what BLM might consider in their decision-making. To meet the BIA's stated purpose and need, the FEIS alternatives should have been developed in concert with the OMC as a fully cooperating agency and should emphasize enhanced recovery, new technologies and other alternatives that would optimize the mineral rights of the Osage Nation.</p>	Range of Alternatives	11.13.2020 OMC FEIS	<p>The purpose and need section of the EIS focuses on strategies for BIA's management and administration of the Osage Mineral Estate in the best interest of the Osage Nation. Under the CEQ Regulations, the alternatives in the EIS flow from the purpose and need, not the other way around. 40 C.F.R. 1502.13. The Osage Minerals Council, as a cooperating agency, was consulted during the alternatives development process and provided comments and suggestions for alternatives, which are addressed in the EIS. There was no suggestion for new technologies or the other measures proposed in the comment, and use of such measures is within the scope of industry to propose and the Minerals Council to agree, not within the BIA's management.</p>
11/13/2020	<p>Further, the FEIS does not lend itself to be tiered with an EA for future oil and gas development. Just one example of this would be found in the Wetlands discussion in Section 3.7 and Section 4.7. In Section 3.7, the writer gives a broad overview of the various wetland types and the number of acres within the Planning Area for each type. This is supported by a generalized map in Appendix E in Figure 3-11, however, there are no detailed and readily usable maps to illustrate where and what type of wetlands are located within the Planning Area, which is essential for detailed analysis of a proposed surface disturbing activity.</p> <p>An EA could be tiered more efficiently to an EIS if there were detailed maps provided showing where Wetlands are located. Furthermore, there is a threshold of allowable disturbance based on the activity and the type of wetland being disturbed. This information should also be included in the analysis. Blanket statements with no specific analysis translate to a deficient EIS that precludes efficient EA tiering. Because this portion of the FEIS remains largely unchanged from the DEIS, the OMC's concerns from the DEIS continue--dense EAs as currently written for each project will remain unchanged.</p>	Vegetation, Wetlands, and Noxious Weeds	11.13.2020 OMC FEIS	<p>Section 4.7.2 of the DEIS states that under all alternatives, lessees must comply with, and obtain, any permits or authorizations necessary to comply with Federal laws, including the Clean Water Act (CWA) and Federal Noxious Weed Act. The EIS does not assume that all the analyzed environmental impacts will occur, nor does it assume that lessees will violate Federal law. As set forth in Section 4.1.1 – General Method for Analyzing Impacts, the EIS analyzes "potential impacts and effects." The language used in Section 4.7 is consistent with this statement, providing that "...vegetation could be removed to facilitate construction." The Bureau of Indian Affairs used the word "could" to indicate that vegetation removal is a possibility, not to indicate that it is a guarantee. If the Bureau of Indian Affairs was conducting its analysis based on an assumption of noncompliance with Federal law, Section 4.7 would have stated that "...vegetation will be removed to facilitate construction."</p> <p>A new figure has been added, referenced now in the discussion in Section 3.7.2 of the FEIS, showing wetlands in the planning area.</p>

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11/13/2020	<p>Finally, the FEIS does not adequately consider the "best interests" of the Osage Nation and Osage mineral estate. First, the 1929 amendment authorizes and directs the "Secretary of the Interior and the Osage tribal council ... to offer for lease for oil, gas, and other mining purposes any unleased portion of said land in such quantities and at such times as may be deemed for the best interest of the Osage Tribe of Indians."18 Thus, the best interest of the Osage Nation (formerly the Osage Tribe of Indians) is not a decision the Department through the FEIS can make unilaterally, without the Osage Minerals Council, the Constitutional representative of the Osage Nation on minerals matters. The FEIS best interest determination does not represent the views of the Osage Minerals Council, as required by statute, and thus is fundamentally flawed.</p>	<p>Environmental Consequences - Trust Assets and Osage Nation Interests</p>	<p>11.13.2020 OMC FEIS</p>	<p>As the Minerals Council notes, the Secretary, in consultation with the Osage Nation, must offer lands for lease as is "deemed for the best interest of the Osage [Nation]." That standard also applies to the Secretary's approval of a lease, permit, workover, or similar action. The publication of an EIS is not such an action. The EIS is an analysis that will be used to support later Secretarial decisions that are based on the best interest of the Nation. In fact, even the Record of Decision resulting from this EIS will choose a strategy for the BIA's management of the Osage Mineral Estate, in consultation with the Nation. The ROD will still not be an offer of lands for lease or approval of a lease, permit, workover, or similar action. It is at that later offer or approval stage where Congress requires the application of the best interest standard, and at that stage, the Secretary will do so, in consultation with the Osage Nation.</p>
11/13/2020	<p>Second, the 1929 amendment requires the Department to lease "not less than twenty-five thousand acres shall be offered for lease for oil and gas mining purposes during anyone year."19 This leasing requirement is not optional. No lands under which the Osage mineral estate exist are exempt from being leased for oil and gas production, a fact evidenced by this statute that requires minimum leasing standards every year, with no cap or caveats considered.</p>	<p>Environmental Consequences - Trust Assets and Osage Nation Interests</p>	<p>11.13.2020 OMC FEIS</p>	<p>Neither the language in the 1906 Act, nor the 1929 Act, supports the contention that the entire acreage of the Osage Mineral Estate must be made available for lease annually or at any other time. The Act of June 28, 1906, § 3, 34 Stat. 539, as amended ("1906 Act"), vests the Secretary with broad authority over leasing of the Osage Mineral Estate. Specifically, the 1906 Act provides that the Osage Nation may lease the Osage Mineral Estate for oil and gas mining "...subject to the approval of the Secretary of the Interior, and under such rules and regulations as he may prescribe." The U.S. Congress' use of the word "may" indicates that leasing of the Osage Mineral Estate is permissive, as opposed to mandatory. Thus, the Osage Nation has the option of leasing the Osage Mineral Estate but is not required to do so. To the extent that the Osage Nation exercises its authority to execute a lease of the Osage Mineral Estate, such lease does not become effective unless and until the Secretary of the Interior approves it. The 1906 Act does not require the Secretary of the Interior to approve any or all leases of the Osage Mineral Estate. To the contrary, the Act provides the Secretary with discretion regarding such approval.</p> <p>In 1929, the U.S. Congress amended the 1906 Act, requiring that a certain number of acres of the Osage Mineral Estate be offered for lease annually. The Act of March 2, 1929, §1, 45 Stat. 1478 ("1929 Act") authorizes and directs the Secretary of the Interior and Osage Nation to offer for lease "...any unleased portion of [the Osage Mineral Estate] in such quantities and at such times as may be deemed in the best interest of the Osage [Nation], Provided, That not less than twenty-five thousand acres shall be offered for lease for oil and gas mining purposes during any one year." While the 1929 Act does require the Secretary of the Interior and Osage Nation to offer a minimum of 25,000 acres for lease annually, it does not require that the acreage offered be leased. Accordingly, the Osage Nation retains the authority to determine whether to execute a lease of the Osage Mineral Estate and the Secretary of the Interior retains discretion regarding the approval of any such lease.</p>

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11/13/2020	<p>Third, the 1929 amendment requires "as to all lands hereafter leased, the regulations governing the same and the leases issued thereon shall contain appropriate provisions for the conservation of the natural gas for its economic use, to the end that the highest percentage of ultimate recovery, of both oil and gas may be secured."&gt;20 To be clear, conservation, as discussed in this provision, is not for the purpose of ensuring there is always natural gas, but rather, to ensure that natural gas is not wasted in the production process. The intent of Congress in enacting this conservation provision was made clear in a hearing before the House Subcommittee on the Committee on Indian Affairs, where it was stated that: Congress by the action of 1921 continued ownership of the tribe in the minerals until 1946 and directed that all of the lands unleased should be offered for lease for minerals, oil, and gas by 1931 at the rate of one-tenth per year .... but we will not lease all of the land by 1931, and there is no provision in the act of 1921 authorizing the lease to be made after 1931.</p> <p>The Secretary . . . has suggested to Congress, in the interest of conservation of oil and gas, that the law requiring him to offer 100,000 acres each year, independent of conditions of the oil industry, does not conserve the oil, and, therefore, he has recommended ... that the law be changed to enable the Secretary to offer leases for oil at such times as the interest of the oil industry would warrant. Such being the case, if Congress so provided it would take care of leasing in the future .... That is the object of this provision.21</p> <p>Nine years later, when Congress was considering-and ultimately passed-another amendment to the 1906 Act, it reaffirmed the conservation provisions related to oil and gas in the 1929 amendment. Again preserving the requirement that leasing and production be conducted in a manner that would see the Osage receive all the benefit from the development of the Osage mineral estate, ensuring that leasing and production was in line with market demand to ensure the maximum return to the Osage.</p> <p>The Osage Indians are very anxious that the trust period be extended at this time in order that their rights may be fixed and that they may be better able to cooperate with the Government in the conservation policies regarding oil and gas, this extension being necessary in order to follow such conservation practices in the exploration and extraction of the oil and gas from the Osage Reservation of 1,470,933 acres ....</p>	Range of Alternatives	11.13.2020 OMC FEIS	<p>The National Environmental Policy Act ("NEPA") requires the Bureau of Indian Affairs ("BIA") to consider the effect of its proposed actions prior to authorizing "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4322(2)(C). While NEPA requires the BIA to take a hard look at the potential environmental consequences of the approval of oil and gas leases, drilling permits, and workover permits in Osage County, it is not obligated to reach a decision that protects the environment. NEPA's requirements are procedural, as opposed to substantive, in nature. "NEPA describes a process, not an outcome." <i>Robertson v. Methow Valley Citizens Council</i>, 490 U.S. 332, 350-51 (1989).</p> <p>The purpose and need statement outlines the BIA's objectives in conducting the NEPA process. As stated in the EIS, "[t]he purpose of the BIA's action is to promote leasing and development of the Osage Mineral Estate in the best interest of the Osage Nation pursuant to the 1906 Act, as amended, balancing resource conservation and maximization of oil and gas production in the long term." "Resource conservation," as that term is used in the purpose and need statement, is not limited to conservation of the environment as the Osage Minerals Council implies; it also encompasses conservation of natural resources, including oil, gas, and other minerals.</p> <p>In stating that the purpose of the EIS is to both conserve resources and maximize oil and gas production, the Bureau of Indian Affairs is not prioritizing conservation over its trust responsibility to the Osage Nation. Rather, the BIA is balancing the environmental review obligation that the U.S. Congress imposed on the Federal Government under NEPA with the trust obligations the U.S. Congress imposed on the Secretary under the 1906 Act. The Supreme Court has directed Federal Government agencies to engage in such balancing, as have other courts. See <i>Nevada v. United States</i>, 463 U.S. 110, 128 (1983) ("The Government does not 'compromise' its obligation to one interest that Congress obliges it to represent by the mere fact that it simultaneously performs another task for another interest that Congress has obligated it by statute to do."); see also <i>Davis v. Morton</i>, 469 F.2d 593 (10th Cir. 1972). The U.S. Congress also recognized the need to balance statutory mandates, including a provision in NEPA expressly providing that "[t]he policies and goals set forth in [NEPA] are supplementary to those set forth in existing authorizations of Federal agencies." 42 U.S.C. § 4335. Accordingly, the BIA is required to satisfy the obligations set forth in both NEPA and 1906 Act. The 1906 Act, as amended, does not supersede, or otherwise remove the BIA's obligations under NEPA.</p> <p>It appears from the Osage Minerals Council's comment that there may be confusion regarding a particular reference to "conservation" that readers see in multiple chapters of the EIS. The Osage Minerals Council states that "...the DEIS implements conservation standards that</p>
11/13/2020	<p>"The BIA needs this EIS in order to fulfill its trust responsibility under the 1906 Act to administer leasing and development of the Osage Mineral Estate."</p> <p>The trust responsibility is not the trigger that requires the EIS. The federal action of leasing and permitting to drill the mineral estate within the Osage Reservation does not constitute a "federal action" sufficient to trump the Secretary's trust duties and obligations under the 1906 Act, as amended.</p>	Purpose and Need	11.13.2020 OMC FEIS	<p>NEPA does not "trump" any other statute; the NEPA process is, rather, applicable to all major Federal actions to ensure that environmental considerations are "infused into the ongoing programs and actions of the Federal Government." <i>Marsh v. Oregon Natural Resources Council</i>, 490 U.S. 360, 371 n. 14 (1989). Compliance with NEPA is, therefore, a necessary part of BIA's fulfillment of its trust responsibility.</p>
11/13/2020	<p>"In addition, the BIA is required, under more generally applicable statutes, to include in the best interest calculation, protection of the environment in Osage County In order to enhance conservation of resources and protection of the health and safety of the Osage people."</p> <p>As explained above, this stated requirement is contrary to law. The "best interest" in this context means "best interest of the Osage Tribe of Indians" that in turn means minerals leasing and production. Furthermore, the best interest determination is not one that can be made by the Secretary unilaterally, as the law requires the Osage Minerals Council (formerly the Osage Tribal Council) to concur in the determination of what constitutes the best interest of the Osage. The Secretary of the Interior and the Osage tribal council are hereby authorized and directed to offer for lease for oil, gas, and other mining purposes any unleased portion of said land in such quantities and at such times as may be deemed for the best interest of the Osage Tribe of Indians: Provided, That not less than twenty-five thousand acres shall be offered for lease for oil- and gas-mining purposes during anyone years: Provided further, That as to all lands hereafter leased, the regulations governing same and the leases issued thereon shall contain appropriate provisions for the conservation of the natural gas for its economic use, to the end that the highest percentage of ultimate recovery of both oil and gas may be secured: Provided, however, That nothing herein contained shall be construed as affecting any valid existing lease for oil or gas or other minerals, but all such leases shall continue as long as gas, oil, or other minerals are found in paying quantities.26</p> <p>The statutes specifically applying to the Osage Reservation apply.</p>	Purpose and Need	11.13.2020 OMC FEIS	<p>There is no definition in the 1906 Act, or in the regulations implementing that Act, defining what factors the Secretary, in consultation with the Osage Nation, is to consider in the determination of what is in the "best interest" of the Nation. [The consultation is with the Nation, as the successor to the Osage Tribal Council, as held by the Osage Supreme Court in <i>Boone v. Osage Nation of Oklahoma</i>, SCV-2015-01 (September 9, 2016).] To determine what this phrase means, the Secretary can look to the general Indian mineral leasing regulations at 25 C.F.R. Part 211. <i>United States v. Osage Wind</i>, 872 F.3d 1078 (10th Cir. 2017) (interpreting "mining" in Osage regulations with reference to the Part 211 regulations). In 25 CFR 211.3, "in the best interest of the Indian mineral owner" is defined as the standard to be applied by the Secretary in considering whether to take an action. The definition goes on to state that "[i]n considering whether it is "in the best interest of the Indian mineral owner" to take a certain action . . . , the Secretary shall consider any relevant factor, including , but not limited to: economic considerations, such as date of lease expiration; probable financial effect on the Indian mineral owner; leasability of land concerned; need for change in the terms of the existing lease; marketability; and potential environmental, social, and cultural effects." Thus, when approving leases, permits, and workovers concerning the Osage Mineral Estate, the Secretary is required to consider many factors, including environmental, social, and cultural effects of the decision, to determine whether that approval is in the best interest of the Osage Nation.</p>

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11/13/2020	"Lessees may prepare a site-specific EA for one individual well, a 'batched' group of wells that will be located within the same area, an entire lease, a quarter-section, a section, or any larger area that they so choose. The Lessees are not responsible for preparing an EA. NEPA requires that a federal agency prepares the NEPA documentation. However, according to CEQ Regulations at 40 C.F.R. 1506.5, and the BIA NEPA Handbook, outside parties, that are in the business of drilling and operating oil and gas wells, in this case the lessees, may prepare an EA to support a proposed project. This is why it is so critical to produce an EIS which is constructed in a manner that readily supports tiering of EAs. The lessees are primarily engaged in drilling and production activities and expect an EIS which they can easily tier to.	General EIS comments	11.13.2020 OMC FEIS	The Minerals Council is correct that the ultimate responsibility for NEPA review lies with the Federal Agency. The CEQ Regulations, however, provide for preparation of NEPA reviews by contractors or applicants (e.g., producers) with independent evaluation by the Federal agency. 40 C.F.R. 1506.5. This is a recognition that preparation by an outside party may be faster than relying on the agency to prepare the review as it has resources and budget to do so. The BIA's NEPA Handbook has reflected its policy of requesting preparation by applicants since at least 2005. The Osage Agency adopted such a policy in 2014.
11/13/2020	Alternative 3 is in direct violation of the 1906 Act, as amended, treating the Osage mineral estate in a manner similar to public lands. Rules and regulations concerning the Osage mineral estate must be adopted by the Secretary as contemplated by the 1906 Act, as amended, not through an EIS that makes almost no mention of the Secretary's requirements related to the Osage mineral estate, and improperly gives weight to the subservient surface estate. Furthermore, the definition of High-density and low-density is arbitrary. There is no explanation as to why 17 or more total wells that have been drilled constitutes "High-density." A total of 16 wells in a section translates to an area that does not "have historic development and is not part of the setting," however, a total of 17 wells does. The rationale for this decision is not explained and is subjective rather than scientific. Additionally, future drilling technology may lead to discoveries of efficient oil and gas extraction which could lead to drilling and exploration in what is now considered low-density areas, a fact that Congress has directly considered related to the Osage mineral estate, and addressed to ensure the Osage would always be able to obtain the maximum benefit from the Osage mineral estate. <sup>27</sup> There are many instances across the country where areas that had little or no drilling activity suddenly became high-profile drilling areas. An example of this would be Blaine and Canadian County, OK. The area was historically drilled, however, in the last 10 years, these two counties have seen a tremendous increase in drilling. An area that once may have been considered a low-density area has become a high-density area. This option assumes no expansion or future discoveries and directly conflicts with congressional intent established by the 1929 amendment to the 1906 Act. Furthermore, denying an APD in a sensitive area could result in breach of contract according to the terms of the lease. If the areas that are determined to be sensitive are currently under lease, denying an application would be a breach of contract under the terms of the lease. This could be construed as a taking where regulations restrict the use of property. Designating a municipality as a sensitive area is overreaching. The FEIS does not explain the rationale behind limiting COA's in areas of high-density areas as opposed to low-density areas. As stated previously, an area that once was a low-density area and becomes a high-density area would have a mixed bag of COAs through development stages. This could lead to confusion from operators as to which COAs apply.	Range of Alternatives	11.13.2020 OMC FEIS	Alternative 3 does not violate the 1906 Act. The Act of June 28, 1906, § 3, 34 Stat. 538, as amended ("1906 Act"), vests the Secretary of Interior with broad authority over leasing of the Osage Mineral Estate. Specifically, the 1906 Act provides that the Osage Nation may lease the Osage Mineral Estate for oil and gas mining "...subject to the approval of the Secretary of the Interior, and under such rules and regulations as he may prescribe." The Secretary's regulations for leasing and management of the Osage Mineral Estate are in 25 C.F.R. Part 226. The alternatives in this EIS are not amendments to those regulations; they are, rather a reasonable range of strategies for management of the Osage Mineral Estate under those regulations. Any amendments to the regulations necessary to implement any strategy chosen in the ROD would be promulgated through the standard notice and comment rulemaking process under the Administrative Procedure Act, 5 U.S.C. 553.  Section 2.3.4 of the FEIS has been updated to explain the rationale behind the 17-well threshold for high-density vs. low-density sections. Alternative 3 does not prohibit drilling in low-density sections; therefore, it allows for expansion into newly discovered fields if such circumstances should arise.  Under 25 C.F.R. 226.16(b), a lessee cannot begin to drill without securing the approval of the Superintendent. Nowhere in the lease terms or the regulations is that approval guaranteed. Furthermore, the United States cannot breach a contract (the lease) to which it is not a party. The only parties to the lease are the lessee and the Osage Minerals Council.  Section 2.3.4 of the DEIS explains the rationale behind the different COAs applied in high-density vs. low-density sections.
11/13/2020	Denying an APD in a sensitive area could result in breach of contract. If the areas that are determined to be sensitive are currently under lease, denying an application would be a breach of contract under the terms of the lease. This could be construed as a taking where a subsequent EIS restricts the use of property.	Range of Alternatives	11.13.2020 OMC FEIS	Under 25 C.F.R. 226.16(b), a lessee cannot begin to drill without securing the approval of the Superintendent. Nowhere in the lease terms or the regulations is that approval guaranteed. Furthermore, the United States cannot breach a contract (the lease) to which it is not a party. The only parties to the lease are the lessee and the Osage Minerals Council.
11/13/2020	"Under all alternatives, oil and gas development would continue to affect topography, geology, paleontology, and soils in the planning area. Under all alternatives, the risk of induced seismicity from injection of wastewater would continue, as would damage to soils due to spills. Alternatives that reduce surface disturbance would reduce some adverse impacts." The writer wrongly and without evidence states that topography, geology, and paleontology have been adversely affected.	Environmental Consequences - Topography, Geology, Paleontology, and Soils	11.13.2020 OMC FEIS	As described in Section 3.2.2 of the DEIS, past oil and gas leasing and development has affected soils in the planning area in a variety of ways, including surface disturbance and soil compaction, salt scarring and soil salinization, tree kills, and brine and oil contamination. These statements are supported by the reference cited in this section. Similarly, Section 3.2.2 of the DEIS documents the risks and past occurrences of induced seismicity, with appropriate supporting references.
11/13/2020	"Under all alternatives, water resources, including surface water and Waters of the United States, groundwater, and aquatic environments, are susceptible to depletion or contamination by oil and gas development. Alternatives 3 and 4 would reduce the risk of spills or surface disposal of wastewater compared with Alternative 1 (No Action), by preventing new drilling in sensitive areas identified in Chapter 2, alternatives, and applying COAs designed to protect water resources Groundwater is not currently being used for oil and gas activities. Surface water that is used is minimal and is replaced by rainfall. Surface disposal of wastewater is not a practice observed on the Osage mineral estate and is prohibited by several statutes and regulations.	Environmental Consequences - Water Resources	11.13.2020 OMC FEIS	The quoted statement from Section ES.8.2 in the DEIS does not state that all of these waters are being used for development. It merely says they are susceptible to depletion or contamination from development. This is described in more detail in Section 4.3 of the DEIS.



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11/13/2020	<p>ES.S.3 SPECIAL STATUS SPECIES</p> <p>"Under all alternatives, special status species would continue to be affected by habitat loss and fragmentation and disruption from noise and traffic. Under all alternatives, requirements to comply with the ESA and USFWS guidelines would mitigate or reduce impacts. Alternatives 3 and 4 would reduce the risk of habitat loss and species takes compared with Alternative 1 (No Action), since they would prevent new drilling near some lakes and rivers, and apply COAs designed to minimize surface disturbance, which would incidentally protect species habitat."</p> <p>The alternatives, especially 3 and 4, would violate the 1906 Act, as amended, which contemplates leasing of the entire Osage Reservation, without exception.</p> <p>Furthermore, the writer presents no evidence of habitat loss and fragmentation and disruption from noise and traffic.</p>	Environmental Consequences - Special Status Species	11.13.2020 OMC FEIS	Section 3.6.2 of the DEIS describes effects on special status species from habitat fragmentation, disturbance, and other factors, with citations to relevant sources.
11/13/2020	<p>"Under all alternatives, cultural resources may be incidentally lost or damaged. Compliance with Section 106 of the NHPA (including the implementing regulations in 36 CFR 800)) would minimize and mitigate any such impacts. The BIA would conduct Section 106 consultation with the Tribal Historic Preservation Officer, State Historic Preservation Officer, and any other interested parties, as required.</p> <p>Any protections related to cultural protection must be provided within the context of the 1906 Act, as amended. The NHPA does not exist in a vacuum, void of Osage-specific federal laws. To the extent these alternatives do not specifically address how they comply with the 1906 Act, as amended, or otherwise why they can operate outside of the 1906 Act, as amended, they are not in the best interest of the Osage.</p> <p>Additionally, the FEIS again assumes damage or loss of cultural resources has occurred by oil and gas development with no evidence or examples to show this.</p>	Environmental Consequences - Cultural Resources	11.13.2020 OMC FEIS	<p>Section 106 of the National Historic Preservation Act (NHPA), 54 USC 306108, requires that Federal agencies "take into account the effect of any undertaking on any historic property" before making a decision on the undertaking. The consideration of the effects is to be in consultation with the State Historic Preservation Officer or, for tribal land, the Tribal Historic Preservation Officer. 36 C.F.R. 800.1 and 800.2. An "undertaking" is "a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including: (1) those carried out by or on behalf of the Federal agency; (2) those carried out with Federal financial assistance; [and] (3) those requiring a Federal permit, license, or approval." 54 USC 300320. Thus, before taking the action, the Secretary must consider the effect on historic properties of any action that the Secretary takes, funds, or approves in Osage County. That consideration is done in consultation with the Oklahoma State Historic Preservation Officer, the Oklahoma Archaeological Survey, and the Osage Nation Tribal Historic Preservation Officer. Like the NEPA process, the Section 106 process does not "trump" or replace any other Federal law; rather, it supplements other laws to ensure that consideration of the effects on important tribal cultural and religious sites, as well as other historic properties, are taken into account in the decision making process.</p> <p>It is a commonly accepted fact that surface disturbing activities such as oil and gas development carry with them the risk of destruction of cultural resources. The DEIS acknowledges this in Sections 3.9 and 4.9 and also describes how following the procedures laid out in the NHPA significantly reduces the risk of these effects.</p>
11/13/2020	<p>2.3.4 Alternative 3-Hybrid Development of High- and Low-Density Development Sections National Historic Preservation Act Compliance:</p> <p>"Under Alternative 4, in addition to standard NHPA procedures, the BIA would apply the same cultural site buffers applied in low-density sections under Alternative 3. Table 2-2 describes the distance that any surface disturbance on an oil and gas lease would have to be from cultural sites. The BIA would ensure compliance with the NHPA regulations, 36 CFR 800, on a case-by-case basis in consultation with the THPO, SHPO, OAS, interested Tribes, and other parties, as appropriate. The BIA would apply special buffers or COAs for historic or cultural resources if such protections are determined to be warranted based on site-specific conditions."</p> <p>As a matter of procedure, defined buffer zones around various cultural resources can be beneficial. There would be no interpretation or subjectivity associated with buffer zones and the protection of cultural resources. However, there should be a clause where discretion can be implemented in accordance with the THPO and the BIA archeologist consultation.</p>	Range of Alternatives	11.13.2020 OMC FEIS	As noted at the bottom of Table 2-2 in the DEIS, all buffers around cultural resources were developed in consultation with the THPO. Sections 2.3.4 and 2.3.5 of the DEIS state that the BIA may apply additional COAs, if necessary, based on a site-specific EA and otherwise would ensure compliance with Section 106 of the NHPA on a case-by-case basis. This allows the necessary flexibility to make adjustments in buffers based on site-specific circumstances.
11/13/2020	<p>"26. Do not locate well sites or pits in areas subject to frequent flooding, according to the NRCS Soil Survey.</p> <p>Due to the fact that Osage County participates in the NFIP, each operator must obtain a floodplain permit and comply with the rules of the County as it relates to development in floodplains. This is regardless of any of the applicable alternatives or COAs.</p> <p>The well-established benchmark for well locations and tank batteries located in areas prone to flooding is whether the action is located in a flood plain as established by FEMA for those counties that participate in the NFIP. Therefore, the applicable COA should be that well sites, pits, and facilities shall be subject to the rules and regulations of the Osage County Floodplain Manager.</p>	Range of Alternatives	11.13.2020 OMC FEIS	<p>BIA confirmed 3/31 that Osage County is a participant in the NFIP. Working to reach someone to confirm how the program works in Osage County.</p> <p>Need to confirm whether this program would result in protections that are as stringent as or more stringent than that described in COA 30 (no siting in areas subject to frequent flooding based on NRCS soil survey).</p> <p>Checking with field ops staff to try to find confirmation on this</p>

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11/13/2020	Avoid new road and pipeline crossings of aquatic environments and alterations to hydrology (the surface and subsurface flow of water), to the extent practicable. Where crossing cannot be avoided, designed and construct crossings to minimize impacts on riparian and aquatic habitat." New pipeline installations across the country cross aquatic environments rather frequently. There are well established BMP's for this activity. This COA is not necessary. Notwithstanding, it should be established who approves the "designed and constructed to minimize impacts on riparian and aquatic habitat."	Range of Alternatives	11.13.2020 OMC FEIS	While BMPs may be in use in the planning area, the COA provides additional certainty that these measures would be implemented by operators. The BIA would determine whether crossings are designed and constructed to minimize impacts on riparian and aquatic habitat.
11/13/2020	Bury pipelines to protect important aquatic environments or sensitive areas, when appropriate (new requirement)." There is no definition of "important aquatic environments" or who determines that burying pipelines for the reasons stated is appropriate. This should not be subjective.	Range of Alternatives	11.13.2020 OMC FEIS	Determination of important aquatic environments and appropriateness of burying pipelines is at the discretion of the BIA.
11/13/2020	Soils "Soils in the planning area have been affected by oil and gas leasing for the past 100 years. Impacts are as follows (USGS 2003b): • Surface disturbance and soil compaction related to the construction of oil and gas operations and ancillary facilities • Salt scarring and soil salinization; elevated sodium concentrations in soil kill vegetation and break down cohesion of soil particles, both of which enhance soil erosion • Tree kills • Brine and oil contamination from improper disposal or accidental release of large volumes of saline water produced in association with oil and gas production Before federal laws and regulations were instituted in the 1970s, produced waters were often discharged into streams, creeks, and unlined evaporation ponds, causing salt scars and surface water and groundwater pollution (USGS 2003b). These waters are highly saline (total dissolved solids may exceed 350,000 milligrams per liter) and may contain toxic metals, organic and inorganic components, and radium-226/228 and other naturally occurring radioactive isotopes. As documented in a 2003 study in Osage County performed by the US Geological Survey, contaminated water generally comes from accidental hydrocarbon and produced water releases and from incorrectly sealed abandoned wells (USGS 2003b). Areas with salt scarring or oil contamination are unable to support vegetation, leaving the soils susceptible to erosion. To gauge the potential success of restoration, the soil salt content, nutrients, organic matter, petroleum hydrocarbons, and bacterial activity at individual sites would need to be measured. Figure 3-4 in Appendix E shows a typical salt-scarred site, with exposed soil and damaged vegetation." These are very broad statements. It is unclear to what degree (number of acres) soils have been affected by oil and gas production. The focus of this section is fundamentally flawed as it only considers issues related to oil and gas, making no mention of farming, agriculture, ranching, or wild horse care, and the baseline analysis of these industries on soils. No	Affected Environment - Topography, Geology, Paleontology, and Soils	11.13.2020 OMC FEIS	Section 4.2.7 of the DEIS provides cumulative impact analysis that acknowledges the effects other non-oil and gas activities have had on soils in the planning area. The analysis of direct and indirect impacts from oil and gas development on soils in Sections 4.2.2 through 4.2.6 is appropriately limited to the action being considered in this EIS--BIA management of oil and gas leasing and development.  In addition, the USGS 2003b source that is being referenced represents the most recently available information specific to Osage County and is considered the best available data given its relevance to the planning area. The Osage Nation and BIA were included as stakeholders in the study effort. The sentence has been clarified in Section 3.2.2 of the FEIS to be more explicit about what the study relied on.
11/13/2020	SPECIAL STATUS SPECIES The FEIS provides a baseline for each Endangered Species and also provides an effects analysis within the environmental baseline. The effects analysis should be completed in Section 4. The FEIS effects analysis does not meet the standards outlined in 50 CFR part 402 or the 1998 USFWS MNFS Endangered Species Consultation Handbook. Effects analysis for endangered species are required to have either of the following determinations: "No effect," "Not likely to adversely affect," "Likely to adversely affect." Candidates species detenninations should be: "No affect," "Not likely to jeopardize proposed species or adversely modify proposed critical habitat," "Likely to jeopardize proposed species or adversely modify critical habitat."	Environmental Consequences - Special Status Species	11.13.2020 OMC FEIS	The description of the affected environment in Section 3.6 of the DEIS discusses current conditions and effects of past development in contributing to current conditions. The analysis of environmental consequences in Section 4.6 of the DEIS describes effects on special status species and, while an EIS is not subject to the requirements of the USFWS Endangered Species Consultation Handbook, effects in Section 4.6 are characterized using similar terminology of "likely to be affected," "not likely to be affected," etc. The analysis in the Biological Assessment (included as Appendix B of the DEIS) reflects the official consultation under Section 7 of the Endangered Species Act of 1973. This analysis uses the official effects determination terminology and complies with the USFWS Endangered Species Consultation Handbook.

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11/13/2020	<p>"Bald Eagle (<i>Haliaeetus leucocephalus</i>), Bird of Conservation Concern.</p> <p>The USFWS has identified the bald eagle as a Bird of Conservation Concern, meaning that it is a species that represents the agency's highest conservation priorities. In addition, the species is of cultural significance to the Osage Nation, as the feathers are highly valued.</p> <p>The eagle has a distinctive white head and tail, bright yellow bill, and dark plumage; it occurs in Osage Connty throughout the year. It can be found along the Arkansas River, including Kaw and Keystone Lakes (ODWC 2017c). The species prefers areas near water for hunting fish or waterfowl. It also nests in tall trees or cliffs near water. Clutch size is one to three eggs. Defended territories are relatively small, from 27 to 279 acres, but feeding home ranges around active nests are larger, from 1,729 to 5,337 acres. Wintering eagles tend to avoid areas with high levels of nearby human activity and development (NatureServe 2015).</p> <p>Birds of Conservation Concern - published by the USFWS Division of Migratory Bird Management, refers to the list of migratory and non-migratory birds of the U.S. and its territories that are of conservation concern. The 1988 amendment to the Fish and Wildlife Conservation Act requires the identification of "species, subspecies, and populations of migratory non-game birds that, without further additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973." Bald Eagles were removed from the endangered species list in August 2007 because their populations recovered sufficiently. Bald and Golden eagles are protected under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Act (Eagle Act).</p>	Affected Environment - Special Status Species	11.13.2020 OMC FEIS	3.6.2: FWS states on the website dedicated to Birds of Conservation Concern (BCC) that the list considers "ESA candidate, proposed, and recently delisted species." As the listing has not been updated since 2008, and bald eagles were on the BCC at that time, it is still technically correct to list them as a BCC.
11/13/2020	<p>The baseline used for the impact analysis is the current condition of the resources in the planning area, as described in Chapter 3, Affected Environment"</p> <p>This sentence is true, however, the reader makes conclusions and impact analysis throughout Section 3 where the impact analysis should be in Section 4 as stated.</p>	General EIS comments	11.13.2020 OMC FEIS	Chapter 3, Affected Environment, is intended to establish a baseline for comparison of the direct, indirect, and cumulative impacts of each of the alternatives in Chapter 4, Environmental Consequences. The proposed action in this EIS – oil and gas development – has been ongoing in Osage County for over 100 years. Accordingly, the baseline for the affected environment in Osage County must take historic development of the Osage Mineral Estate into account. For example, the baseline for Osage County water resources must acknowledge that there have been prior accidental releases of deleterious substances that have affected surface and groundwater. The acknowledgment of such prior or existing effects of development on the environment in Osage County is not an analysis of the potential impacts thereof.
11/13/2020	<p>"Under all alternatives, oil and gas leasing and development would continue to occur. Surface-disturbing activities associated with oil and gas production, such as road and well pad construction, can lead to soil compaction, vegetation removal, and accelerated erosion. Oil and gas production creates a risk of produced water and petroleum spills. These spills can damage or kill vegetation and create salt scars, leading to accelerated erosion."</p> <p>The FEIS assumes all oil and gas development have spills, therefore, affecting geology, soils, paleontology and topography. Spills are not common occurrences, however, the PEIS assumes that spills are widespread and occur on a daily basis.</p> <p>a) Regarding the direct impacts to paleontological resources, the writer does not take into consideration that:</p> <ol style="list-style-type: none"> <li>1) The cultural resources pedestrian survey can lead to paleontological findings, thus preserving these resources.</li> <li>2) Construction of well pads, lease roads, etc. can lead to paleo discoveries. Although there is not a COA that addresses this, operators who discover paleo resources most often stop construction and allow for preservation.</li> <li>3) Paleontological resources are more prevalent buried much deeper than what construction activities would disturb.</li> </ol> <p>b) Compact soils and accelerate erosion:</p> <ol style="list-style-type: none"> <li>1) Construction of well pads, lease roads etc. does to a certain extent require soil compaction to stabilize the surface. However, the well pads, lease road etc. are then covered with gravel and rock to mitigate erosion.</li> <li>2) Compacting soils and rocking does not accelerate erosion rates. The writer does not quantify how erosion is accelerated.</li> </ol>	Environmental Consequences - Topography, Geology, Paleontology, and Soils	11.13.2020 OMC FEIS	<p>The EIS does not assume that spills in Osage County are "widespread and occur on a daily basis." It is commonly accepted that if oil and gas development in an area increases, the risk of spills in that area also increases. The FEIS has been revised to clarify that the relevant assumption is an increase in the risk of spills, not an assumption that spills will be prevalent.</p> <p>The mitigating effects of measures to reduce erosion are discussed under the appropriate alternative in Section 4.2 of the DEIS. The disturbance of vegetation that holds soils in place allows easier transportation of soils. <input type="checkbox"/></p> <p><input type="checkbox"/></p> <p>Analysis has been added to Section 4.2.1 of the FEIS clarifying that cultural surveys may result in discovery and avoidance of paleontological resources. <input type="checkbox"/></p> <p><input type="checkbox"/></p> <p>The referenced text in Section 4.2.1 of the DEIS is not asserting that soil compaction accelerates erosion rates but that both soil compaction and accelerated erosion are effects of development of oil and gas facilities. Data are not available to quantify accelerated erosion rates; this effect would be dependent on site-specific conditions.</p>

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11/13/2020	<p>WATER RESOURCES</p> <p>4.3.1 METHODS AND ASSUMPTIONS</p> <p>Indicators</p> <p>"Indicators of impacts on surface water and groundwater resources are the following: ...</p> <ul style="list-style-type: none"> <li>• Miles of roads constructed</li> <li>• Contamination from spills of hazardous or other harmful materials"</li> </ul> <p>The FEIS does not present factual evidence showing the number of miles of road construction would affect surface water and groundwater quality. There are so many more contributing factors that could affect surface and groundwater. This is another example of biased towards the oil and gas industry. Furthermore, the FEIS focuses on the number of spills. It is not so much the number of spills, but rather the quantity and substance of the spill.</p> <p>4.3.2 IMPACTS COMMON TO ALL ALTERNATIVES</p> <p>"Oil and gas development may affect water resources in as the following ways:</p> <ul style="list-style-type: none"> <li>• Surface disturbance (e.g., road, power line, pipeline, and well pad construction) can increase runoff or change the physical characteristics of waterbodies."</li> </ul> <p>This is written as a statement of fact that surface disturbance can change the physical characteristics of waterbodies. The FEIS does not present examples and facts support the statement that runoff can result in changes to the physical characteristics of waterbodies.</p>	Environmental Consequences - Water Resources	11.13.2020 OMC FEIS	<p>Section 4.3.2 of the DEIS provides further explanation of how road construction affects surface waters (e.g., erosion and sediment pollution transport to surface water bodies). This EIS is specific to oil and gas, thus is focused on the impacts from those activities. Effects of non-oil and gas activities on water resources are acknowledged in Section 4.3.7 of the DEIS.</p> <p>The quoted text from Section 4.3.2 of the DEIS on changing the physical characteristics of waterbodies is correctly interpreted as surface disturbance potentially changing the physical characteristics.</p>
11/13/2020	<p>"Under all alternatives, oil and gas leasing would continue to occur. Such leasing can reasonably be expected to result in oil and gas development. Oil and gas development could affect special status species or their habitats through disturbance; direct habitat loss; reduced habitat effectiveness; habitat modification, degradation, and fragmentation; direct mortality; habitat avoidance; and interference with movement patterns. These potential disturbances are directly linked to changes in vegetation conditions and water quality and quantity."</p> <p>This states that all oil and gas leasing would continue under all alternatives. However, if areas are designated as sensitive with no surface occupancy stipulations this may make certain leases unable to be developed.</p>	Environmental Consequences - Special Status Species	11.13.2020 OMC FEIS	<p>Alternatives 3 and 4 do not impact the right of lessees to develop leases of the Osage Mineral Estate executed prior to issuance of the Record of Decision ("ROD") for the EIS ("existing leases"). The EIS does not alter or amend a lessee's right, title, or interest in an existing lease. Under all alternatives, lessees holding record title to existing leases remain authorized and obligated to develop the Osage Mineral Estate in accordance with the terms and conditions of the lease and the regulations in 25 C.F.R. part 226. Alternatives 3 and 4 provide for the use of directional drilling to extract oil and gas from designated "sensitive areas," to allow for continued development while minimizing surface disturbance. The Bureau of Indian Affairs acknowledges, however, that directional drilling is not feasible in all cases.</p> <p>If the Bureau of Indian Affairs selects an alternative that restricts drilling in designated "sensitive areas," the ROD will include a procedure whereby the Superintendent may approve variances from such restrictions where all, or some portion, of an existing lease is located within a sensitive area and directional drilling is not feasible. In the FEIS, Alternatives 3 and 4 have been revised to more clearly identify the allowance for directional drilling and explain the variance procedure that would be implemented for existing leases located within designated sensitive areas.</p>
11/13/2020	<p>4.6.4 ALTERNATIVE 2</p> <p>American Burying Beetle</p> <p>"Like Alternative 1 (No Action), under Alternative 2, lessees would be required to protect the federally endangered ABB; however, without key BMPs and eOAs, the BIA would likely need to revise the BA and reinstate formal consultation under ESA Section 7 for ABB compliance. Until the USFWS issues the new BO, lessees would be solely responsible for documenting compliance under ESA Section 10. Because ESA compliance would still be required under this alternative, impacts on the ABB would be the same as those described under Alternative 1 (No Action)."</p> <p>It is unclear why the BA would need to be revised for Alternative 2.</p>	Environmental Consequences - Special Status Species	11.13.2020 OMC FEIS	<p>As described in Section 2.3.3 of the DEIS and demonstrated in Appendix B, which contains the Biological Assessment (BA) and Biological Opinion (BO), the analysis in the BA is based in part on protections provided by the COAs currently being applied. Because Alternative 2 would no longer apply some of these COAs, the analysis in the BA would likely need to be revised to reflect the changes in protection, and a new BO would be needed.</p>

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11/13/2020	<p>"Under Alternative 2, potential impacts on raptors and birds of prey would increase compared with Alternative 1 (No Action) due to the waiver of protective COAs (COAs 3-16, 12-13, 15, and 22). The potential impacts of such waivers would be the same as those discussed for migratory birds. Similarly, the requirement to comply with USFWS Impact Avoidance (USFWS 2014b) guidance, described in Section 4.6.2, Impacts Common to All Alternatives, would mitigate some habitat degradation impacts and reduce the risk of mortality."</p> <p>If Lessees are required to following the same USFWS guidance under Alternative 1 and 2, it does not stand to reason that "Impacts of oil and gas development on raptors under Alternative 2 would increase, compared with Alternative 1 (No Action)." Regardless of whether the USFWS requirement is stated in a EOA or not, the requirement still must be met.</p>	Environmental Consequences - Special Status Species	11.13.2020 OMC FEIS	As described in Section 4.6.3 of the DEIS under Migratory Birds, Alternative 1 would apply additional COAs, such as requiring screening or netting open-top tanks and pits and minimizing noise. Because these measures would not be required under Alternative 2, the effects on migratory birds under Alternative 2 from oil and gas development would be greater, regardless of the fact that compliance with the USFWS Impact Avoidance guidance would be required under both alternatives.
11/13/2020	<p>"Rattlesnake Master Borer Moth No COAs would require identifying or avoiding the rattlesnake master plant before disturbing its habitat under Alternative 2. The rattlesnake master borer moth would continue to be affected by oil and gas development, as described in Section 4.6.2., Impacts Common to All Alternatives" The Rattlesnake Master Borer Moth would still be protected by the ESA which prevents take of habitat.</p>	Environmental Consequences - Special Status Species	11.13.2020 OMC FEIS	As described in Section 3.6.2 of the DEIS, the rattlesnake master borer moth is not listed as a threatened or endangered species (it is a candidate species). There are no current prohibitions on its taking under the Endangered Species Act of 1973.
11/13/2020	<p>American Burying Beetle "Like Alternative 1 (No Action), under Alternative 3, lessees would be required to follow the provisions of Oil and Gas Industry Conservation Plan Associated with Issuance of ESA Section 10(a)(1)(B) Permits for the ABB in Oklahoma (USFWS 2014a) to protect the ABB. In addition, in low-density sections under Alternative 3, the BIA would apply a buffer around culturally sensitive areas, such as historic sites, sacred sites, and grave sites. These buffers would preserve vegetation and habitat for the ABB and other special status species found in these areas by reducing surface disturbance. Under Alternative 3, new oil and gas related ground-disturbing activities would not be permitted in 209,100 acres of potential ABB range, including 53,600 acres (11 percent) of conservation priority area (BIA GIS 2017)." Lessees are only required to follow the provisions in the Oil and Gas Industry Conservation Plan if they are enrolled in the plan. If they are not enrolled in the plan they must comply with ESA. Adding buffers to culturally sensitive areas does not pertain to the American burying beetle. The ABB is a habitat generalist and these buffers would have minimal impact on the ABB. Removing 11 percent of the land in Osage County from oil and gas development could result in a "taking" from the oil and gas lessees in the area.</p>	Environmental Consequences - Special Status Species	11.13.2020 OMC FEIS	<p>All lessees in Osage County are required to comply with the ESA. The EIS does not alter or eliminate this requirement. The U.S. Fish and Wildlife Service (FWS) Oil and Gas Industry Conservation Plan Associated with Issuance of ESA Section 10(a)(1)(B) Permits for the American Burying Beetle in Oklahoma (ICP) is a habitat conservation plan for covered activities within areas where Federally-listed or protected species are known or likely to occur. With respect to Osage County, it allows individual lessees to apply for ESA 10(a)(1)(B) permits for incidental take of the ABB if they agree to comply with the terms and conditions of the ICP and meet permit issuance criteria.</p> <p>On July 27, 2018, the U.S Fish and Wildlife Service (FWS) issued a Biological Opinion (BO) for the Osage County Oil and Gas Program (EIS Appendix B). The BO includes an Incidental Take Statement for oil and gas development activities that may impact the ABB. The Incidental Take Statement authorizes the Osage Agency to permit incidental take for a maximum of 600 acres per year (450 acres of temporary disturbance and 150 acres of permanent disturbance). The non-discretionary terms and conditions of the Incidental Take Statement require the Osage Agency to implement and enforce certain conservation and minimization measures from the ICP, all of which are incorporated by reference. The cited language from the EIS is referencing these existing requirements under the BO. COAs 18 and 19 in Table 2-2 of the FEIS have been revised to more closely reflect the requirements under the BO.</p> <p>The purpose of establishing buffers around culturally sensitive areas under Alternative 3 – Low Density is not to protect the ABB or other special status species pursuant to the BO. As the EIS indicates, such buffers are for the protection of culturally significant areas including historic sites, sacred sites, and grave sites. While these buffers are not designed to protect the ABB, the practical impact of establishing buffers is a reduction in surface disturbance. Accordingly, the EIS is noting that the use of such buffers has the potential to preserve vegetation and suitable ABB habitat because they reduce surface disturbance in the planning area.</p> <p>The EIS does not alter or amend a lessee's right, title, or interest in an existing lease. Under all alternatives, lessees holding record title to existing leases remain authorized and obligated to develop the Osage Mineral Estate in accordance with the terms and conditions of the lease and the regulations in 25 C.F.R. part 226. Alternatives 3 provides for the use of directional drilling to extract oil and gas from designated "sensitive areas," to allow for continued development while minimizing surface disturbance. The Bureau of Indian Affairs</p>

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11/13/2020	<p>4.6.5 ALTERNATIVE 3</p> <p>"Under Alternative 3, the BIA would issue the same standardized list of BMPs and minimal COAs as Alternative 2 in sections with a high density of historical oil and gas development. The BIA would implement the same well spacing requirements and additional protective COAs as Alternative 4 in sections with a low density of historical oil and gas development. In addition, the BIA would not approve new ground-disturbing activities in the sensitive areas described in Section 2.3.4, Alternatives Considered for Detailed Analysis, Alternative 3-Hybrid Development. Applying COAs based on well density would result in location-specific impacts on special status species. In high-density sections, the waiver of COAs relating to soil and vegetation disturbance, erosion control, noise and traffic, restoration of surface lands, and coverings for open-top tanks and pits (COAs 3-6, 10, 12, 13, 15, and 22) would increase the potential impacts on special status species. Voluntary compliance with BMPs and agreements between lessees and surface owners regarding restoration of surface lands may mitigate some of these impacts.</p> <p>Past areas of high-density oil and gas development does not predict future areas of oil and gas develop due to the discovery of new fields and formation. Therefore, Alternative 3 may deter new development of oil and gas in other areas of Osage County. Furthermore, designating sensitive areas may result in take from current lessees if they are not allowed to drill. Osage Nation maybe required to refund bonuses for areas that can no longer be developed. If Alternative 3 is adopted the BIA should consider utilizing drilling islands that are pre-approved areas within the sensitive areas that can be used for drilling."</p>	Environmental Consequences - Special Status Species	11.13.2020 OMC FEIS	<p>Alternative 3 will not impact the right of lessees to develop leases of the Osage Mineral Estate executed prior to issuance of the Record of Decision ("ROD") for the EIS ("existing leases"). The EIS does not alter or amend a lessee's right, title, or interest in an existing lease. Under all alternatives, lessees holding record title to existing leases remain authorized and obligated to develop the Osage Mineral Estate in accordance with the terms and conditions of the lease and the regulations in 25 C.F.R. part 226. Alternative 3 provides for the use of directional drilling to extract oil and gas from designated "sensitive areas," to allow for continued development while minimizing surface disturbance. The Bureau of Indian Affairs acknowledges, however, that directional drilling is not feasible in all cases.</p> <p>If the Bureau of Indian Affairs selects an alternative that restricts drilling in designated "sensitive areas," the ROD will include a procedure whereby the Superintendent may approve variances from such restrictions where all, or some portion, of an existing lease is located within a sensitive area and directional drilling is not feasible. In the FEIS, Alternative 3 has been revised to more clearly identify the allowance for directional drilling and explain the variance procedure that would be implemented for existing leases located within designated sensitive areas.</p>
11/13/2020	<p>4.6.6 ALTERNATIVE 4</p> <p>"Under Alternative 4, approximately 524,400 acres would be protected from new ground-disturbing oil and gas development activities, reduciug the potential impacts on special status species. The culturalresource buffers (see Table 2-2 in Chapter 2) countywide under this alternative would also provide incidental protections due to the implementation of setbacks from streams, rivers, ponds, reservoirs, lakes, and wetlands. Such buffers further limit new ground disturbance and reduce the risks of habitat loss and degradation, noise and visual disturbances, and contamination due to spills within the buffer z6nes. Thus, Alternative 4 would afford more protections than Alternative 1 (No Action) and would likely result in the greatest reduction of impacts on special status species."</p> <p>Removing 36 percent of the county from oil and gas development violates the 1906 Act, as amended, and could drastically affect tribal income and negatively affect Environmental Justice. This could also result in a taking of private property from current lessees of the 36 percent area.</p> <p>American Burying Beetle</p> <p>"Under Alternative 4, the ABB would be provided a high level of protections in the same way as in low-density sections under Alternative 3. For example, the BIA would apply a buffer around culturally sensitive areas, such as historic sites, sacred sites, and grave sites, and require collocation of new facilities with existing facilities, when feasible (see Table 2-2 in Chapter 2). These buffers would preserve vegetation and habitat for the ABB and other special status species found in these areas by reducing surface disturbance. As a result, impacts of oil and gas development on the ABB would be reduced, compared with Alternative 1 (No Action). Under Alternative 4, new oil and gas-related ground-disturbing activities would not be permitted in 484,700 acres of potential ABB range, including 141,500 acres (29 percent) of conservation priority area (BIA GIS 2017)."</p> <p>It is unclear how this provision will change if the ABB is delisted. There could be a scenario where the ABB is delisted but still afforded "high level of protections" in Osage County. These protections may not be required under the ESA.</p>	Environmental Consequences - Special Status Species	11.13.2020 OMC FEIS	<p>Alternative 4 does not diminish, nor is it they intended to diminish, the Osage Nation's ownership of the Osage Mineral Estate or the total acreage thereof. Similarly, Alternative 4 has no impact on the right of lessees to develop leases of the Osage Mineral Estate executed prior to issuance of the Record of Decision ("ROD") for the EIS ("existing leases").</p> <p>The alternatives in the EIS represent a reasonable range of management decisions the Bureau of Indian Affairs can make regarding development of the Osage Mineral Estate. The Act of June 28, 1906, § 3, 34 Stat. 538, as amended ("1906 Act"), vests the Secretary of Interior with broad authority over leasing of the Osage Mineral Estate. Specifically, the 1906 Act provides that the Osage Nation may lease the Osage Mineral Estate for oil and gas mining "...subject to the approval of the Secretary of the Interior, and under such rules and regulations as he may prescribe."</p> <p>In 1929, the U.S. Congress amended the 1906 Act, adding a provision governing the number of acres of the Osage Mineral Estate that must be offered for lease annually. The Act of March 2, 1929, § 1, 45 Stat. 1478 ("1929 Act") directs the Secretary of the Interior and Osage Nation to offer for lease..."any unleased portion of [the Osage Mineral Estate] in such quantities and at such times as may be deemed in the best interest of the Osage [Nation], Provided, That not less than twenty-five thousand acres shall be offered for lease for oil and gas mining purposes during any one year." Alternative 4 is consistent with this statutory mandate.</p> <p>The EIS does not alter or amend a lessee's right, title, or interest in an existing lease. Under all alternatives, lessees holding record title to existing leases remain authorized and obligated to develop the Osage Mineral Estate in accordance with the terms and conditions of the lease and the regulations in 25 C.F.R. part 226. Alternatives 3 and 4 provide for the use of directional drilling to extract oil and gas from designated "sensitive areas," to allow for continued development while minimizing surface disturbance. The Bureau of Indian Affairs acknowledges, however, that directional drilling is not feasible in all cases.</p> <p>If the Bureau of Indian Affairs selects an alternative that restricts drilling in designated "sensitive areas," the ROD will include a procedure whereby the Superintendent may approve variances from such restrictions where all, or some portion, of an existing lease is located within</p>

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11/13/2020	<p><b>4.6.7 CUMULATIVE IMPACTS</b></p> <p>This cumulative impact analysis does not appear to be specific to any of the Alternatives. This appears to be cumulative impacts based on worst case scenario.</p> <p>"Surface disturbance resulting from oil and gas development activities would continue to disturb and displace special status species and alter, reduce, or fragment their habitat. Other activities within the cumulative impact analysis area that may contribute to these impacts are livestock grazing, agriculture, mining (other than oil and gas), infrastructure projects (e.g., pipelines, transportation projects, and wind farms), and population growth."</p> <p>This paragraph is conclusionary with no data to back any of the statements. The FEIS tends to be vague and conclusionary without background data. This will make the FEIS very difficult to tier any future site-specific Environmental Assessments to and may therefore slow the permitting process.</p> <p>"Under all alternatives, the rattlesnake master borer moth also would cumulatively lose an indeterminate but potentially large number of individuals from loss of its host plant and sole food source, the rattlesnake master plant. Losses would occur during construction of oil and gas and infrastructure projects across the region."</p> <p>The Rattlesnake Master Borer Moth is currently not a listed species on the ESA. Once it is listed it will be afforded protections by USFWS that would put forth mitigation protocols.</p>	Environmental Consequences - Special Status Species	11.13.2020 OMC FEIS	<p>Section 4.6.7 of the DEIS discusses cumulative effects in general terms and then distinguishes between the different alternatives and how their contributions to cumulative effects may differ (see subsection on Alternatives Analysis).</p> <p>The fact that the rattlesnake master borer moth is not currently listed as a threatened or endangered species does not preclude it from being analyzed as a species affected by the alternatives considered in this EIS.</p>
11/13/2020	<p><b>4.9 CULTURAL RESOURCES</b></p> <p>It seems all alternatives would be equal in the affects analysis with respect to cultural resources and the potential impacts. This is due to the fact that Section 106 under the NHP A would have to be complied with. COA's would not have any impact on complying with Section 106.</p> <p>The preservation of cultural resources in Osage County can be primarily attributed to the oil and gas industry and the requirement to comply with the NHP A. The writer fails to analyze and describe to the public how many acres in Osage County have been surveyed for cultural resources and what industry those surveys were related to. The writer fails to definitely conclude that these surveys related to oil and gas development have had a positive outcome for the preservation of cultural resources.</p>	Environmental Consequences - Cultural Resources	11.13.2020 OMC FEIS	<p>Section 3.9.2 of the DEIS describes how "compliance activities have steadily increased the rate of site discoveries due to continued mineral and energy development and the use of block surveys to efficiently inventory the cultural resources." While data on the total acreage surveyed in the County are not available, information on the total number of cultural surveys that have been conducted in the County associated with activities authorized by the BIA has been added to Section 3.9.2 of the FEIS. It is not feasible to separate these data by type of activity, but they provide a picture of the total number of surveys for all authorized activities.</p>
11/13/2020	<p><b>4.16 MINERAL EXTRACTION</b></p> <p><b>4.16.4 ALTERNATIVE 2</b></p> <p>"Due to the waiver of certain COAs under Alternative 2, the BIA would likely need to submit a revised BA to the USFWS and reinstate formal consultation on a new BO. Until a new BO is issued, lessees would be solely responsible for documenting compliance under ESA Section 10. Oil and gas operations could not proceed until a 45-day wait period has elapsed, unless there is no suitable habitat and the BIA is willing to make a "no effect" determination for the ABB. This could delay oil and gas development in the planning area, compared with Alternative 1 (No Action)."</p> <p>The FEIS needs to explain this in more detail. It is unclear as to why a revised BA would be needed with a new BO.</p>	Environmental Consequences - Mineral Extraction	11.13.2020 OMC FEIS	<p>As described in Section 2.3.3 of the DEIS and demonstrated in Appendix B, which contains the Biological Assessment (BA) and Biological Opinion (BO), the analysis in the BA is based in part on protections provided by the COAs currently being applied. Because Alternative 2 would no longer apply some of these COAs, the analysis in the BA would likely need to be revised to reflect the changes in protection, and a new BO would be needed.</p>
11/13/2020	<p>This data does not support the expected number of wells to be drilled. Clearly, the trend is that new well spuds is declining and has declined since 2010. This is inconsistent with the writers' conclusion that well spuds will continue to increase and that there is a correlation between oil prices and new well spuds. The prices of oil were at an all-time high through those years, above \$100/bbl. This needs to be reconciled throughout the DEIS.</p> <p>This is an inconsistent representation with other benchmarks. It fails to show 2008 - 2014 where well spuds decreased and oil prices remained above \$100/bbl.</p>	General EIS comments	11.13.2020 OMC FEIS	<p>The projections are based on trends that occurred prior to litigation which may have impacted the rate new well spuds. Additionally the projection is designed to project an optimistic scenario in order to allow analysis of potential maximum impacts in order to avoid having to conduct additional NEPA analysis if a high number of spuds occur.</p>

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11/13/2020	<p>Shortcomings Related to Osage Minerals Council Status as Cooperating Agency</p> <p>The FEIS retains a number of provisions that conflict with the 1906 Act and subsequent amendments to the 1906 Act. These conflicts could have been resolved based upon critical analysis of OMC's comments in response to the DEIS. Instead, the BIA continues to disregard the 1906 Act, as amended, to reach a predetermined conclusion that favors the subservient surface estate.</p>	Consultation and Coordination	11.13.2020 OMC FEIS	<p>Neither the language in the 1906 Act, nor the 1929 Act, supports the contention that the entire acreage of the Osage Mineral Estate must be made available for lease annually or at any other time. The Act of June 28, 1906, § 3, 34 Stat. 539, as amended ("1906 Act"), vests the Secretary with broad authority over leasing of the Osage Mineral Estate. Specifically, the 1906 Act provides that the Osage Nation may lease the Osage Mineral Estate for oil and gas mining "...subject to the approval of the Secretary of the Interior, and under such rules and regulations as he may prescribe." The U.S. Congress' use of the word "may" indicates that leasing of the Osage Mineral Estate is permissive, as opposed to mandatory. Thus, the Osage Nation has the option of leasing the Osage Mineral Estate but is not required to do so. To the extent that the Osage Nation exercises its authority to execute a lease of the Osage Mineral Estate, such lease does not become effective unless and until the Secretary of the Interior approves it. The 1906 Act does not require the Secretary of the Interior to approve any or all leases of the Osage Mineral Estate. To the contrary, the Act provides the Secretary with discretion regarding such approval.</p>