

**Environmental United States
Department of the Interior Bureau of
Indian Affairs - Osage Agency**



Proposed Oil and Gas Development on the Osage Minerals Reservation
By Tallgrass Resources, LLC
Twenty-Three (23) Oil and Gas Wells
Osage County, Oklahoma

Section	Township	Range	Proposed New Wells
NE/4 Sect. 26	24N	9E	202, 204, 205, 206, 231, 233, 234, 235, 236, 240, 241, 242, 243, 244
NW/4 Sect. 26	24N	9E	207, 208, 232
SE/4 Sect. 26	24N	9E	219, 221, 222, 252, 253, 254

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Abbreviations and Acronyms

ABB	American Burying Beetle
APD	Application for Permit to Drill
BGEPA	Bald and Golden Eagle Protection Act
BIA	Bureau of Indian Affairs
BMP	Best Management Practice
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
EA	Environmental Assessment
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FPPA	Farmland Protection Policy Act
GHG	Greenhouse Gases
HAP	Hazardous Air Pollutants
ICP	Industry Conservation Plan
IPaC	Information, Planning, and Consultation System
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966
NPDES	National Pollution Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OAS	Oklahoma Archeological Survey
ODWC	Oklahoma Department of Wildlife Conservation
ODEQ	Oklahoma Department of Environmental Quality
ONPD	Osage Nation Police Department
OSHA	Occupational Safety and Health Administration
PHMSA	Pipeline and Hazardous Materials Safety Administration
RCRA	Resource Conservation and Recovery Act
OME	Osage Nation Mineral Estate
ROW	Right of Way
SARA	Superfund Amendments and Reauthorization Act
SPCC	Spill Prevention, Control, and Countermeasures Plan
THPO	Tribal Historic Preservation Officer
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USDW	Underground Source of Drinking Water
USFWS	United States Fish and Wildlife Service
VOC	Volatile Organic Compound

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1.0 INTRODUCTION

1.1 Background

In the 1880s, the Osage Tribe purchased 1,469,077 acres of land from the Cherokee Indians, and this area, now known as Osage County, Oklahoma, became the new homeland of the Osage Nation. Prior to statehood, the U.S. Congress passed the Act of June 28, 1906 (“1906 Act”) providing for allotment of the Osage Nation’s lands to individual Tribe members. The 1906 Act, as amended, severed the surface estate of the Osage lands from the subsurface mineral estate (“Osage Mineral Estate”) and reserved the oil, gas, coal, and other minerals 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 Interior and under such rules and regulations as they may provide. The regulations governing leasing of the Osage Mineral Estate for oil and gas mining are set forth in 25 C.F.R. Part 226. (BIA 2020)

The Osage Mineral Estate underlies all of present-day Osage County, Oklahoma. (Figure 1-1). The Osage Nation’s tribal headquarters, the county seat, and the Osage Agency, Bureau of Indian Affairs (BIA) are all located in Pawhuska. Much of Osage County is rural and sparsely populated. The population includes a relatively high percentage (14.12%) of Native Americans (mostly Osage) compared to the state average (8.2%). The typical landscape of Osage County is characterized by gently rolling hills of native grassland and woods, used primarily for cattle grazing and dotted with oil and gas wells and associated structures.

Osage County is one of the leading oil and gas producing counties in the state of Oklahoma. The availability of energy resources underlying Osage County, the national demand for energy, and the improvement of petroleum extraction technologies, have combined to make the Osage Mineral Estate a valuable asset for both the Osage Nation and the local economy. Oil and gas development in Osage County began in 1896 when the first oil and gas lease was obtained by Edwin B. Foster of Rhode Island, with the first oil well spud in 1897. Since that time, the Osage Mineral Estate has been repetitively leased for mineral development, parts of it more than four or five times. Accordingly, today there are large numbers of active and inactive wells in Osage County.

1.2 Purpose, Need, and Decision to be Made

Purpose

Tallgrass Resources, LLC (hereinafter referred to as “TGR” or “Applicant”) is proposing new oil and gas development within the Osage Mineral Estate consisting of twenty-three (23) oil and gas wells. The proposed development includes constructing well pads, access roads, and utility corridors to accommodate drilling of the wells. Table 1-1 (see Appendix F) lists the locations for the proposed new wells. The proposed wells will be located on a valid, existing oil and/or gas lease held by TGR. This lease is a blanket lease over the entirety of Section 26 Township 26 North Range 9 East. Figure 1-2 (see Appendix G) depicts the general location of the wells to be developed.

The BIA Osage Agency is the federal agency with responsibility for administering leasing and development of the Osage Mineral Estate. The purpose of this site-specific Environmental

Assessment (EA) is to determine whether BIA should take federal action to approve TGR’s proposal to drill the new wells listed in Table 1-1 (Appendix F).

On October 16, 2020 the BIA Eastern Oklahoma Regional Office published the Final 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. (ROD 2020)

This EA is tiered to and incorporates by reference, Alternative 2 – Modified, of the Osage County Oil and Gas Environmental Impact Statement (EIS), as described in the Record of Decision (ROD), December 15, 2020.

This site-specific Environmental Assessment addresses potential impacts associated with the following potential actions by BIA:

- Approval of Application for Permit to Drill
- Approval of Request for Exemption from location requirements (if necessary, dependent upon site-specific considerations)
- If needed, BIA will set the route for ingress/egress roads

To assess reasonably foreseeable future impacts, this EA will also consider activities associated with the Proposed Action that do not require separate permits or approvals from BIA Osage Agency, although these activities may be subject to federal and/or other requirements (*e.g.*, use of temporary drilling pits; the installation of utility corridors; oil, gas, and water gathering pipelines; electric and other utility lines; and temporary use of freshwater sources).

This EA does not include an analysis of all potential future activities associated with the new wells, such as workovers and plugging actions which require a separate permit. A separate NEPA review will be performed for such future activities as the need arises. The NEPA analysis for these activities may include preparation of supplements to this EA and/or preparation of a document that tiers to and incorporates by reference Alternative 2 – Modified, of the Osage County Oil and Gas EIS as described in the ROD.

Need

The leases upon which the proposed wells will be drilled were executed by TGR and the Osage Nation, and approved by the BIA Osage Agency Superintendent, in contemplation of future oil and gas development operations thereon. The need for TGR's proposed oil and gas development operations, and the associated federal actions by BIA, is to develop the leases in accordance with the terms and conditions thereof and the regulations in 25 C.F.R. Part 226. Consistent with these obligations, TGR has committed resources to, and made financial investments in, developing the leases and producing oil and/or gas from the Osage Mineral Estate.

TGR needs to engage in development to obtain a return on its investment and generate income from the Osage Mineral Estate for the benefit of the Osage Nation. Responsible and reasonable development of these mineral resources in compliance with applicable laws and regulations is consistent with BIA's dual mission to promote leasing and development of the Osage Mineral

Estate and conserve Tribal trust resources.

Decision to be Made

This EA analyzes potential impacts to the human environment for:

- 1) The No Action Alternative (described fully in Section 3.1), and
- 2) The Proposed Action (described in Section 3.2)

If this EA finds that the Proposed Action will not result in significant negative consequences, the BIA will prepare a Finding of No Significant Impact and the Proposed Action may proceed. A drilling permit would be issued by BIA, with appropriate conditions, for the new wells at the locations described in Table 1-1 (Appendix F) of this EA. BIA will also determine whether any exemptions are necessary, and whether they should be granted, with respect to location requirements for the new wells. The Applicant would be required to undertake all activities in accordance with the terms and conditions of approved permits, leases, regulations, and laws.

If this EA identifies significant adverse impacts because of the effects of the Proposed Action, then the BIA must prepare an environmental impact statement (EIS) to comply with NEPA. Until such an EIS is prepared, the Applicant would not be allowed to drill a new well at the specified location on their existing lease.

1.3 Identification of Issues

The BIA identified issues relevant to the proposed action based on public scoping for the Osage County Oil & Gas EIS, public comments submitted on the Draft and Final Osage County Oil & Gas EIS, TGR's discussions with other interested parties regarding the proposed action, public comments submitted on the prior Programmatic EAs for Leasing and Workover Operations, surface owner and other complaints documented in the Osage Agency's tracking system, review of issues raised during monthly meetings with the Osage Minerals Council, and experience administering the Osage Mineral Estate. The issues include:

1. What potential effects will the proposed action have on livestock and wildlife due to the installation of electric and flow lines, habitat disturbance, and accidental spills or releases?
2. What potential effects will the proposed action have on watering places for livestock and other surface waters in the event of accidental spills or releases?
3. What potential effects will the proposed action have on drinking water?
4. What potential effects will the proposed action have on known and newly discovered artifacts or areas of cultural, paleontological, and archeological significance?

5. What potential effect will the proposed action have on federally listed endangered or threatened species that may be present within the project area?
6. What potential effects will the proposed action have on fugitive dust, visual and noise disturbances, and traffic on access roads?
7. What potential effects will the proposed action have on tribal, state, and local economies?

2.0 FEDERAL STATUTES, REGULATIONS AND OTHER AUTHORITIES

Refer to the Osage County Oil and Gas EIS, Sections 1.4, 2.1, 3.10.1, 3.18.1, and 3.18.2 for the full description of applicable federal statutes, regulations, and other authorities.

Executive Order 14154, Unleashing American Energy (Jan. 20, 2025), and a Presidential Memorandum, Ending Illegal Discrimination and Restoring Merit-Based Opportunity (Jan. 21, 2025), require the Department to strictly adhere to the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321 et seq. Further, such Order and Memorandum repeal Executive Orders 12898 (Feb. 11, 1994) and 14096 (Apr. 21, 2023). Because Executive Orders 12898 and 14096 have been repealed, complying with such Orders is a legal impossibility. The Bureau of Indian Affairs verifies that it has complied with the requirements of NEPA, including the Department’s regulations and procedures implementing NEPA at 43 C.F.R. Part 46 and Part 516 of the Departmental Manual, consistent with the President’s January 2025 Order and Memorandum. The Bureau of Indian Affairs has also voluntarily considered the Council on Environmental Quality’s rescinded regulations implementing NEPA, previously found at 40 C.F.R. Parts 1500–1508, as guidance to the extent appropriate and consistent with the requirements of NEPA and Executive Order 14154.

3.0 PROPOSED ACTION AND THE NO ACTION ALTERNATIVE

NEPA requires federal agencies such as BIA to “study, develop, and describe technically and economically feasible alternatives ...” (NEPA Sec. 102 (F)). Developing a range of alternatives allows for exploration of options designed to meet the purpose of and need for the action. For this EA, the BIA analyzes and describes the impacts associated under two different alternatives: the “No Action Alternative” and the “Proposed Action Alternative”.

3.1 Alternative A – The No Action Alternative

Under the No Action Alternative, the access roads, well pads, wells, gathering pipelines, and utility lines described in the Proposed Action would not be constructed, drilled, installed, or operated. The BIA would not approve new APDs for the proposed well locations. There would be no project-related ground disturbance, use of hazardous materials, or trucking of product to collection areas. In addition, neither TGR, nor the Osage Nation, would realize potential financial gains from development of mineral resources at the proposed well locations.

Under the No Action Alternative, oil and gas activities associated with production and maintenance of the existing active wells listed in Table 4-1A (see Appendix F) would continue, and the lessee, operators, and well service contractors would continue to utilize existing access roads, utility easements and pipelines.

3.2 Alternative B - The Proposed Action

The Proposed Action involves drilling of the wells identified in Table 1-1 (see Appendix F) and the construction of the well pads and the associated infrastructure, which may include: access roads; oil, gas, and produced water gathering pipelines; buried electric lines; and temporary above-ground

freshwater pipelines. Appendix A and Appendix B of this EA include maps of the proposed well locations and the Drilling Plan for the proposed wells.

The Applicant must obtain an APD from the BIA, prior to drilling the wells. The well surface hole locations, discussed below in Section 3.2.1, were chosen by the Applicant and are intended to maximize the production potential of the Osage Mineral Estate.

The Applicant discussed the proposed action with the surface owners, pursuant to 25 C.F.R. § 226.18, and the surface owners raised no objections to the locations selected for the well, well pad, access roads, and utility corridors. See Appendix C-4 for the surface owner letters. As the surface owners consented to the proposed routing of the access roads and utility lines, the BIA did not need to take federal action to set the routes under 25 C.F.R. §§ 226.18(b) and 226.19(a).

The BIA Osage Agency manages surface lands held in trust by the United States for the Osage Nation and restricted allotments owned by individual Tribal members within Osage County, Oklahoma. The proposed action does not affect surface lands held in trust or restricted status, and tribal rights of way are not involved with the proposed action.

3.2.1 Specific Location Descriptions

The well and facility locations described below may include topsoil piles, soil berms, tanks and injection equipment. Some proposed wells will have optional routes for the access roads and utility corridors, which are described below and depicted on the maps in Appendix A. And additional area in the SE/4 of Section 26 has been evaluated as a potential optional routing of flowlines to connect some of the proposed wells. This area is described in detail in Section 3.2.1.24. A photographic log depicting the conditions of the proposed project areas is included in Appendix E.

3.2.1.1 202

The proposed well will be in the NE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 998 feet from the north line and 889 feet from the east line.

An access road and utility corridor will be installed to service the well. The access road will occupy 0.3 acres. The utility corridor will occupy 0.21 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 1.74 acres for all components of the proposed action.

3.2.1.2 204

The proposed well will be in the NE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 407 feet from the south line and 310 feet from the east line.

An access road and utility corridor will be installed to service the well. These corridors will be immediately adjacent to one another as a combined corridor. The access road will occupy 0.10 acres. The utility corridor will occupy 0.10 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 1.70 acres for all components of the proposed action.

3.2.1.3 205

The proposed well will be in the NE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 339 feet from the south line and 1,010 feet from the west line.

An access road and utility corridor will be installed to service the well. These corridors will be

immediately adjacent to one another as a combined corridor. The access road will occupy 0.25 acres. The utility corridor will occupy 0.23 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 1.98 acres for all components of the proposed action.

3.2.1.4 206

The proposed well will be in the NE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 358 feet from the south line and 328 feet from the west line.

Tallgrass has identified two (2) options for the access road and utility corridor. Final routes will be chosen based on which proposed wells are productive and successful, and which routes would be most efficient.

The Option A access road will occupy 0.08 acres. The Option A utility corridor will occupy 0.32 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 1.90 acres for all components of the proposed action Option A.

The Option B access road will occupy 0.28 acres. The Option B utility corridor will occupy 0.23 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 2.01 acres for all components of the proposed action Option B.

This well bore will be located within 200 feet of a public highway. Per CFR 226.33, written permission from the Superintendent must be obtained prior to drilling the well. The 206 well is approximately 100 feet north of CR 2240. The well and associated infrastructure will not impact CR 2240. See Appendix C-8 for the request letter and written permission from the Superintendent.

3.2.1.5 207

The proposed well will be in the NW/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 475 feet from the north line and 287 feet from the east line.

An access road and utility corridor will be installed to service the well. The access road will occupy 0.08 acres. The utility corridor will occupy 0.32 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 1.90 acres for all components of the proposed action.

3.2.1.6 208

The proposed well will be in the NW/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 1,748 feet from the north line and 296 feet from the east line.

An access road and utility corridor will be installed to service the well. The access road will occupy 0.27 acres. The utility corridor will occupy 0.25 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 2.02 acres for all components of the proposed action.

3.2.1.7 219

The proposed well will be in the SE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 395 feet from the north line and 297 feet from the west line.

Tallgrass has identified two (2) options for the utility corridor. The final route will be chosen based on which proposed wells are productive and successful, and which route would be most efficient for the proposed wells that go into production.

The access road will occupy 0.08 acres.

The Option A utility corridor will occupy 0.46 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 2.38 acres for all components of the proposed action Option A.

The Option B utility corridor will occupy 0.67 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 2.59 acres for all components of the proposed action Option B.

3.2.1.8 221

The proposed well will be in the SE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 413 feet from the north line and 780 feet from the east line.

An access road and utility corridor will be installed to service the well. The access road will occupy 0.06 acres. The utility corridor will occupy 0.15 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 1.71 acres for all components of the proposed action.

3.2.1.9 222

The proposed well will be in the SE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 1,100 feet from the north line and 357 feet from the east line.

An access road and utility corridor will be installed to service the well. The access road will occupy 0.04 acres. The utility corridor will occupy 0.04 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 1.58 acres for all components of the proposed action.

3.2.1.10 231

The proposed well will be in the NE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 919 feet from the south line and 309 feet from the west line.

Tallgrass has identified three (3) options for the utility corridor. The final route will be chosen based on which proposed wells are productive and successful, and which route would be most efficient for the proposed wells that go into production.

The access road will occupy 0.08 acres.

The Option A utility corridor will occupy 0.40 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 2.32 acres for all components of the proposed action Option A.

The Option B utility corridor will occupy 0.32 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 2.24 acres for all components of the proposed action Option B.

The Option C utility corridor will occupy 0.10 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 2.02 acres for all components of the proposed action Option C.

3.2.1.11 232

The proposed well will be in the NW/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 1,010 feet from the north line and 312 feet from the east line.

An access road and utility corridor will be installed to service the well. The access road will occupy 0.27 acres. The utility corridor will occupy 0.25 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 2.02 acres for all components of the proposed action.

3.2.1.12 233

The proposed well will be in the NE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 467 feet from the north line and 245 feet from the west line.

An access road and utility corridor will be installed to service the well. The access road will occupy 0.19 acres. The utility corridor will occupy 0.18 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 1.87 acres for all components of the proposed action.

3.2.1.13 234

The proposed well will be in the NE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 245 feet from the north line and 1,188 feet from the west line.

An access road and utility corridor will be installed to service the well. The access road will occupy 0.15 acres. The utility corridor will occupy 0.14 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 1.79 acres for all components of the proposed action.

3.2.1.14 235

The proposed well will be in the NE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 441 feet from the north line and 962 feet from the east line.

An access road and utility corridor will be installed to service the well. The access road will occupy 0.03 acres. The utility corridor will occupy 0.19 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 1.72 acres for all components of the proposed action.

3.2.1.15 236

The proposed well will be in the NE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 462 feet from the north line and 379 feet from the east line.

An access road and utility corridor will be installed to service the well. The access road will occupy 0.42 acres. The utility corridor will occupy 0.19 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 2.11 acres for all components of the proposed action.

3.2.1.16 240

The proposed well will be in the NE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 991 feet from the north line and 279 feet from the west line.

An access road and utility corridor will be installed to service the well. The access road will occupy 0.08 acres. The utility corridor will occupy 0.12 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 1.70 acres for all components of the proposed action.

3.2.1.17 241

The proposed well will be in the NE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 973 feet from the north line and 1,028 feet from the west line.

An access road and utility corridor will be installed to service the well. The access road will occupy 0.10 acres. The utility corridor will occupy 0.09 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 1.69 acres for all components of the proposed action.

3.2.1.18 242

The proposed well will be in the NE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 977 feet from the north line and 341 feet from the east line.

An access road and utility corridor will be installed to service the well. The access road will occupy 0.20 acres. The utility corridor will occupy 0.19 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 1.89 acres for all components of the proposed action.

3.2.1.19 243

The proposed well will be in the NE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 990 feet from the south line and 310 feet from the east line.

An access road and utility corridor will be installed to service the well. The access road will occupy 0.08 acres. The utility corridor will occupy 0.18 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 1.76 acres for all components of the proposed action.

3.2.1.20 244

The proposed well will be in the NE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 979 feet from the south line and 900 feet from the east line.

An access road and utility corridor will be installed to service the well. The access road will occupy 0.12 acres. The utility corridor will occupy 0.11 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 1.73 acres for all components of the proposed action.

3.2.1.21 252

The proposed well will be in the SE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 397 feet from the north line and 318 feet from the east line.

An access road and utility corridor will be installed to service the well. The access road will occupy 0.09 acres. The utility corridor will occupy 0.28 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 1.86 acres for all components of the proposed action.

3.2.1.22 253

The proposed well will be in the SE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 1,045 feet from the north line and 882 feet from the east

line.

An access road and utility corridor will be installed to service the well. The access road will occupy 0.04 acres. The utility corridor will occupy 0.14 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 1.68 acres for all components of the proposed action.

3.2.1.23 254

The proposed well will be in the SE/4 Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The surface well hole will be 1,033 feet from the north line and 395 feet from the west line.

An access road and utility corridor will be installed to service the well. The access road will occupy 0.19 acres. The utility corridor will occupy 0.23 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 1.92 acres for all components of the proposed action.

3.2.1.24 Proposed Area for Potential Flowline Corridor

The applicant is considering an optional utility corridor to connect the proposed 222 and 253 wells in the SE/4 of Section 26 to the infrastructure near the proposed 221 and 252 wells, which are also in the SE/4 of Section 26. To achieve this connection, the corridor would have to cross County Road 2240, which is situated between the pairs of wells. The final route of the corridor, if this option is chosen, will depend on which of these wells would be successful, productive wells, the most efficient route, and the location to cross County Road 2240 that is determined to be best. The utilities will cross under County Road 2240 and will not impact the roadway directly. This flowline route will be as described as in Section 3.2.2 for all other utility corridors.

While the area evaluated occupies approximately 6.15 acres, the final corridor would be kept to width of 15 feet and would occupy approximately 0.29 acres at a maximum. For the purposes of evaluating potential impacts by the corridor, the entire area depicted on Figure 30 in Appendix A has been considered.

3.2.2 Well Pads and Infrastructure

Well pad locations, shown in Appendix A, were developed in consultation with tribal resource managers during a pre-clearance process that included surveys for cultural, archaeological, and natural (*i.e.*, biological and physical) resources.

At the well pad locations, the access road will be maintained with gravel to reduce erosion. The road will be kept to a minimum and will utilize an easement approximately 16 feet wide.

Pipelines to connect wells to the existing tank batteries will be constructed. The installation will occur using a trencher, and where necessary, heavier equipment to penetrate through rock. Examples of heavier equipment would be trackhoes or backhoes. Actual soil disturbance is expected to be 6 inches except where rock is encountered, and then maximum width of soil disturbance will be approximately 10 inches.

Utility lines to supply power to the well pad equipment will be needed. Existing Infrastructure will be used where possible, and new flowlines and utility lines will occupy a Right of Way (ROW) of 15 feet. The flowlines and utility lines will occupy the same singular ROW.

Interim reclamation activities for this undertaking would reclaim approximately 0.3 acres from the initial well pad surface disturbance. All components (e.g., well pad, access road, storage areas, and supporting facilities), except for buried pipelines, and electrical lines would be reclaimed upon

final abandonment unless formally transferred, with federal approval, to either the BIA or the landowner. Applicant will incorporate the appropriate COAs and BMPs as described in Section 5.0, Mitigation and Monitoring.

3.2.3 Well Drilling

Drilling of the new wells is expected to occur within two (2) years months of the permits to drill being approved. The well pads will each occupy a maximum of 1.50 acres; however, actual field conditions may result in a lower area of impact at the well sites.

Following preparation of the well pad, a drilling rig will be rigged up. The total time for the well for rigging up, drilling the well, and rigging down the well is approximately 7 days.

Cuttings would be placed into steel tanks that will be sited on the well pad. No cuttings pits will be utilized.

3.2.4 Access Roads and Utility Corridors

Pipeline construction will adhere to the requirements of 49 C.F.R. § 192.707, Line Markers for Mains and Transmission Lines as applicable. Full text of the regulation is available online free of charge at www.ecfr.gov.

On average the temporary above-ground freshwater pipelines would remain in place for approximately 10 days to facilitate the drilling and hydraulic fracturing of the well, if needed.

Access road construction will follow a road design appropriate for the planned use as well as environment. Stockpiled topsoil will be placed on the outside slopes of the ditches following road construction. Care will be taken during road construction to avoid disturbing or disrupting any buried utilities that exist along existing major roads. The access road will be surfaced with aggregate. Also, the roadways would remain in use for the life of the wells. Details of road construction are addressed in the APD.

3.2.5 Casing and Cementing

Surface casing will be set to 500 feet, which is at least 50 feet below the underground source of drinking water (USDW) level and cemented to surface. The wells will be drilled to depth, with 5 ½" casing set to total depth of the well. Each of the proposed wells will be drilled to a total depth of 2,300 feet. See the Drilling Plan in Appendix B.

3.2.6 Completion and Evaluation

Completion of the wells involves the fracturing of the well, utilizing 10,000 to 30,000 pounds of sand propping agent in conjunction with 300 to 500 barrels of saltwater. This is pumped in at a rate of 20 to 28 barrels per minute.

After the well has been pumped with sand and saltwater, the well is shut in for several days, after which the well is turned over to the production team to install pumping equipment. See the Drilling Plan in Appendix B

3.2.7 Commercial Production

If drilling, testing, and production results determine that there will be commercial production from the proposed production wells, black poly pipelines will be installed to transport crude oil, natural

gas and produced water to existing mainline pipelines, where it will travel to an existing storage facility which may serve multiple existing wells.

The duration of production operations cannot be reliably predicted, but some oil wells have been pumping for more than 100 years. The operator estimates that each of the wells would initially yield approximately 5 barrels of oil per day and 150 barrels of water per day during the first year of production. After the first year, the operator estimates production would decrease to approximately 2 barrels of oil per day and 50 barrels per day of water. Approval will be obtained from the Osage Agency Superintendent prior to the initiation of any flaring operations in accordance with applicable regulations. Please see the Drilling Plan in Appendix B.

3.2.8 Reclamation

Refer to Chapter 4 in the Osage County Oil and Gas EIS as well as Table R-2 and Sections 3.7, 4.2, 5.1 and Appendix A in the Osage County Oil and Gas EIS ROD for an in-depth description of interim and final reclamation.

Interim reclamation activities will be those actions to stabilize disturbed areas that are not necessary for production or operation of the well. Refer to COAs 4, 12, 13, and 15 of the Osage County Oil and Gas EIS ROD for requirements of interim reclamation activities.

Final Reclamation activities would be conducted once the well is deemed no longer viable for production and is removed from service. Final reclamation would be the removal of equipment and reclaiming all disturbed and developed areas to be consistent with the surrounding uses and conditions.

See the Drilling Plan in Appendix B for additional information.

4.0 THE AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS

The broad definition of NEPA leads to the consideration of the following elements of the human and natural environments: air quality, public health and safety, water resources, wetland/riparian habitat, threatened and endangered species, soils, vegetation and invasive species, cultural resources, and socioeconomic conditions.

The Affected Environment and Environmental Consequences are as discussed in Osage County Oil and Gas EIS, Chapter 3, “Affected Environment” (existing biological, physical, and socioeconomic resources) and Chapter 4, “Environmental Consequences” (social, and economic consequences). Only aspects which are unique or relevant to this project are included in this EA.

No new impacts would occur due to the No Action Alternative to the following critical elements: air quality, public health and safety, water resources, wetland/riparian habitat, threatened and endangered species, soils, vegetation and invasive species, cultural resources, and socioeconomic conditions.

Under the No Action Alternative, any impacts due to present levels of surface disturbance, oil and gas operations, access roads and traffic can be expected to continue. Existing oil and gas leases would remain in effect so long as production from existing wells continues in paying quantities. Table 4-1A (see Appendix F) shows the locations of currently existing wells, as well as proposed new oil and gas wells in the same quarter section. Therefore, the No Action Alternative is being eliminated from further analysis in this document.

The Affected Environment and Environmental Consequences are as discussed in Osage County

Oil and Gas EIS, Chapter 3, “Affected Environment” (existing biological, physical, and socioeconomic resources) and Chapter 4, “Environmental Consequences” (social, and economic consequences). See Table 4-1B in Appendix F for a list of components of the affected environment incorporated from the EIS and listed in with corresponding section numbers. Sections incorporated entirely from the EIS will not be included in this EA therefore only site-specific considerations will be analyzed below.

4.1 Land Resources

4.2 Topography, Geology, Paleontology, and Soils

Table 4-1C (see Appendix F) details the elevation at the proposed well pad sites. A list of all mapped soil types that occur within the proposed project area is in Table 4-3 (see Appendix F).

4.2.1 Impacts to Topography, Geology, Paleontology, and Soils

The proposed actions are in an area where soils have 0-15% slopes. Care would be taken during construction to minimize soil erosion impacts. Refer to COAs 2, 3, 4, 5, 6, 13, and 15 of the Osage County Oil and Gas EIS ROD.

1. The soil types found at the well pad locations have variable run-off depending on the slope, which ranges between 0-15% (NRCS 2012).
2. Reclamation of vegetative communities should be attainable due to the affinity of native grassland species to the soil types present (NRCS 2012).
3. The sites would be monitored during and after construction to prevent erosion, minimize runoff and loss of sediment, and ensure soil stabilization.

4.3 Water Resources

The Proposed Action location is in the central portion of Osage County, which is included in Oklahoma Water Quality Basin #1 (see Appendix D-1).

Refer to Table R-2 in Section 3 of the Osage County Oil and Gas EIS ROD for an in-depth description of conditions of approval related to water resources in Osage County.

The appropriate SPCC plan is on file at the BIA and is included in Appendix C-7. Provisions established under these plans would minimize potential impacts to any surface waters associated with an accidental spill.

4.3.1 Potential Impacts to Surface Water and Groundwater Resources

Surface water

None of the proposed action features will impact any surface water body.

None of the proposed wells will be located within 200 feet of an established watering place.

The proposed wells are not located immediately adjacent to any perennial streams or lakes. Specific waterbodies that may be affected are described in Section 4.4 Wetlands. The proposed wells are not in the drainage area of any state designated scenic river or high-quality water.

The proposed development activities would be done in a manner to prevent any point source or nonpoint sources of contaminated discharges. Compliance with applicable SPCC requirements, mitigation measures and the conditions of approval identified in Section 5.0 or specifically listed

in any BIA-issued permits, would ensure protection of water quality and water resources.

Depending on circumstances at the time of drilling, fresh water for drilling operations may be sourced from existing impoundments in the vicinity of the proposed wells. See Appendix A for the location of the ponds that may be used as a source of fresh water.

If, at the time of drilling, surface water is not the best option for drilling, the fresh water will be obtained from a municipal source.

No reservoirs will be formed as part of this proposed action, therefore, no damages with the surface owner will be settled as provided in CFR 226.

None of the cutting pits will be installed in soils described by NRCS as “frequently flooded.”

Several Osage County streams are listed as impaired, and the source of impairment for some of these includes legacy oil and gas development. However, none of the proposed well locations are immediately adjacent to, nor would they drain directly into, any streams or lakes listed on the state’s list of impaired waterbodies.

Conclusion: No significant impacts to surface waters are anticipated by the proposed wells and associated activities connected with the Proposed Action.

Groundwater

There are areas in Osage County which are designated as wellhead protection zones (groundwater is being used for drinking water). However, the proposed well locations do not appear to be close to any of these designated areas.

No direct or indirect impacts to groundwater resources are anticipated from drilling of the proposed wells, hydraulic fracturing completions, or operation of the proposed wells due to the following.

- The employment of spill prevention planning during the construction phase of the project.
- The use of protective casings on the well shafts to protect shallow water-bearing rock formations during drilling and operation of the oil wells.

Casing and cementing operations for each well have been designed to protect the groundwater in the area. See Section 4.0 in the Drilling Plan in Appendix B.

Several groundwater protective measures have been included in the drilling and production procedures, such as drilling with freshwater to a point below the base of certain formations, implementing proper hazardous materials management, and using appropriate casing and cementing.

The intent of the Proposed Action is to minimize the risks associated with saltwater and hydrocarbon pollution. Based on the location, design, and the drilling methods that would be used on the proposed well pads, no significant adverse impacts to groundwater resources are anticipated from the Proposed Action.

4.3.1.1 Actions Designed to Reduce Impacts

New well field developments would be speculative until APDs are submitted to the BIA for approval. Additional wells have been or are likely to be drilled in the same general area as the Proposed Action, using many of the same main access roads and minimizing the disturbance as much as possible.

The Applicant is committed to using COAs and BMPs to minimize the potential effects of erosion.

BMPs would include the implementation of erosion and sedimentation control measures, such as installing culverts; constructing water bars alongside slopes; and planting cover vegetation if necessary, to stabilize soil following construction and before permanent seeding takes place. Additional information regarding COAs and BMPs is provided in Section 5.0, Mitigation and Monitoring.

Specific erosion control measures would be implemented when necessary at the proposed well pads. If needed, berms would be installed along the outer edges of the well pads, and well pad corners would be rounded.

4.4 Vegetation, Wetlands, and Noxious Weeds

The USACE regulates the discharge of dredge and fill material into waters of the U.S., including wetlands, pursuant to Section 404 of the Clean Water Act. Additionally, Executive Order 11990 (protection of Wetlands) requires federal agencies to avoid, to the extent possible, adverse impacts to wetlands.

The National Wetland Inventory (NWI) maps maintained by the U.S. Fish and Wildlife Service (USFWS) were reviewed for each proposed well site. Copies of the NWI data for the well sites, access roads, and flowline/utility corridors are included in Appendix D-1.

4.4.1 Potential Impacts to Wetlands

While initial siting of the well pads and other infrastructure disturbances shows that there will be no potential impacts to wetlands, TGR will implement COAs as described in Section 5.0 to avoid disturbances to any waterbodies near or in the proposed well pad development site.

No impacts to wetlands will occur as a result of the proposed action.

4.5 Prime Farmland

Consultation was conducted with the Natural Resources Conservation Service to identify prime farmland within the Proposed Action area. Table 4-5 (see Appendix F) is a summary of the information obtained from NRCS. Detailed prime farmland reports are included in Appendix C-1.

4.5.1 Potential Impacts to Prime Farmland

Impacts because of the Proposed Action would be considered minimal, as TGR will limit the area of impact and disturbance during the well pad installation. Losses of prime farmland will be temporary in nature, as the land will be reclaimed and placed back to natural conditions when the well production has ceased, and the well is closed in. No significant impacts to NRCS- designated Prime Farmland soils are anticipated because of the proposed action.

4.6 Wildlife

4.6.1 Potential Impacts to Wildlife

Approximately 37.24 and 9.25 acres of existing vegetation will be removed short and long term, respectively, by well pad, pipeline, and access road construction. Vegetation will be removed by mechanical means such as bulldozers. Vegetation will be restored after completion of project activities in compliance with COA 15. Refer to Table R-2 in the Osage County Oil and Gas EIS ROD.

The above-mentioned areas of vegetation to be disturbed are the maximum amounts anticipated, and the extent evaluated in this EA. The applicant will only disturb what is necessary to facilitate

construction of the well and infrastructure in compliance with COAs 2, 3, 4, and 13. Refer to Table R-2 in the Osage County Oil and Gas EIS ROD.

4.6.2 Threatened and Endangered Species and Migratory Birds

As part of the proposed action's preliminary planning and development, information was obtained to determine the federally protected species that could potentially occur within the vicinity of the project. An official list of species potentially impacted by the wells is in Appendix C-2.

4.6.3 Potential Impacts to Threatened and Endangered Species and Migratory Birds

A list of federally-listed species that may be affected by the proposed action was obtained from the USFWS' Information, Planning, and Consultation System (IPaC) online database. Table 4-6 (see Appendix F) lists the species reported as well as their federal status and preferred habitat descriptions.

BEACON conducted both a desktop-based analysis of the habitat in the area of each well, as well as a field-based habitat assessment at each proposed well site. No suitable habitat was identified within any of the well pad sites for supporting the Eastern black rail, piping plover or rufa red knot. Therefore, the proposed action would have "**no effect**" on these listed species.

Habitat suitable for potentially supporting the American burying beetle (ABB) was identified within the proposed well pad areas. However, per the USFWS Reclassification of the American Burying Beetle to Threatened with a Section 4(d) Rule effective November 16th, 2020 (Docket No. FWS-R2-ES-2018-0029), incidental take of the ABB in the Southern Plains Analysis Region is not prohibited except on certain defined conservation lands. These defined areas are military installations, and none of the conservation lands are located in Osage County.

Per the 4(d)-rule issued by USFWS, any incidental take resulting from the proposed action would not be restricted, and no further action (presence/absence surveys, prescribed mowing, etc.) would be required for USFWS approval of the proposed action. In accordance with the 4(d) Biological Opinion approved on October 15, 2020, BEACON submitted a determination key to the USFWS asking for concurrence on a "may affect, not likely to adversely affect" determination for the ABB (https://www.fws.gov/southwest/es/oklahoma/abb_add_info.htm). The verification letter from USFWS confirming this determination is included in Appendix C-3.

According to the official species list obtained for the USFWS' IPaC online database there are no bald and golden eagles or FWS Migratory Birds of Concern in the vicinity of the proposed action.

No project activities will intentionally impact migratory birds. No capturing, killing, selling, trading, or transporting of migratory birds are part of the proposed action.

No significant impacts to federally listed species, migratory birds, or eagles are anticipated as a result of the Proposed Action. No further Section 7 consultation with USFWS is required for the proposed action with regard to these resources.

4.6.4 Proposed Species

The IPaC list also included species that are proposed for listing as threatened or endangered. Until the final rule to list the species is issued, proposed species are not protected by take prohibitions of Section 9 of the ESA.

Under Section 7(a)(4) of the ESA, federal agencies must confer with USFWS if the action will

jeopardize the continued existence of a proposed species. Section 7(a)(4) does not apply to candidate species.

No habitat suitable for supporting the Alligator Snapping Turtle will be impacted by the proposed actions.

The project activities are not expected to have an impact on the continued existence of the proposed as threatened Monarch Butterfly or Western Regal Fritillary.

The project will have “no effect” and “no jeopardy” to the continued existence of the species proposed for listing.

4.7 Agriculture

4.7.1 Potential Impacts to Agriculture

No cropland exists in or near the proposed action area; therefore, none would be affected. The well pad sites are located within cattle pasture, and any impacts would be minor and temporary in nature.

4.8 Cultural Resources

Historic properties, or cultural resources, on federal or tribal lands are protected by many laws, regulations, and agreements. Section 106 of the National Historic Preservation Act of 1966 (16 USC 470 et seq.) requires, for any federal, federally assisted, or federally licensed undertaking, that the federal agency consider the effect of that undertaking on any district, site, building, structure, or object that is included in the National Register of Historic Places (National Register) before the expenditure of any federal funds or the issuance of any federal license. Cultural Resources is a broad term encompassing sites, objects, or practices of archaeological, historical, cultural, and religious significance. Eligibility criteria (36 CFR 60.4) include association with important events or people in our history, distinctive construction or artistic characteristics, and either a record of yielding or a potential to yield information important in prehistory or history. In practice, properties are generally not eligible for inclusion in the National Register if they lack diagnostic artifacts, subsurface remains, or structural features, but those considered eligible are treated as though they were listed in the National Register, even when no formal nomination has been filed. This process of considering the effect on historic properties is known as “Section 106 review,” or more commonly as a cultural resource inventory.

The area of potential effect of any federal undertaking must also be evaluated for significance to Native Americans from a cultural and religious standpoint. Sites and practices may be eligible for protection under the American Indian Religious Freedom Act of 1978 (42 USC 1996). Sacred sites may be identified by a tribe or an authoritative individual (Executive Order 13007). Special protections are afforded to human remains, funerary objects, and objects of cultural patrimony under the Native American Graves Protection and Repatriation Act (25 USC 3001 et seq.).

Whatever the nature of the cultural resource addressed by a particular statute or tradition, implementing procedures invariably include consultation requirements at various stages of a federal undertaking (Executive Order 13175). The Osage Nation has designated a Tribal Historic Preservation Officer (THPO), whose office and functions are certified by the National Park Service.

The BIA consults and corresponds with the THPO regarding cultural resources on all projects proposed within Osage County.

If cultural resources are discovered during construction or operation, the operator shall immediately stop work, secure the affected site, and notify the BIA and THPO. Unexpected or inadvertent discoveries of cultural resources or human remains trigger mandatory federal procedures that include work stoppage and BIA consultation with all appropriate parties. Following any such discovery, operations shall not resume without written authorization from the BIA. Project personnel are prohibited from collecting any artifacts or disturbing cultural resources in the area under any circumstance. Individuals outside the ROW are trespassing. No laws, regulations, or other requirements have been waived; no compensatory mitigation measures are required. The presence of qualified cultural resource monitors during construction activities is encouraged.

4.8.1 Brief Cultural Overview

Based on previous archaeological work within Oklahoma, portions of the state have been inhabited by humans for at least 12,000 years. Throughout most of the state, the recorded prehistoric occupations range from Paleoindian Period encampments to Late Prehistoric Period sites. Some areas within the region hold a long history of Native American habitation. Multiple sites have been explored that suggest the area was inhabited by societies adapted for various geographical regions of the area dating back to 6000 B.C.

Historic Period sites vary widely across Oklahoma. Structures and buildings associated with pre-removal and post-removal historic Native American tribes, non-Indian settlements of the Oklahoma Territory beginning in 1889, farming, and the late nineteenth/early twentieth century petroleum industry are commonly encountered.

4.8.2 Potential Impacts to Cultural Resources

The proposed action areas have been investigated by qualified archeologists using normal care and standards. During the records review portion of the investigation, no records of cultural resources or historical register eligible places were identified.

The cultural survey report was submitted to the BIA Eastern Oklahoma Regional Office Archeologist for review and approval. In accordance with 36 CFR Part 800.3 and 800.4 the survey report was provided to the Osage Nation Tribal Historic Preservation Office, the State of Oklahoma Historic Preservation Office, the Oklahoma Archeological Survey, and any interested tribal parties for further review. All National Historic Preservation Act (NHPA) correspondence and concurrence letters are provided in Appendix C-5 of the EA to demonstrate completion of the section 106 NHPA compliance process.

Significant archaeological resources are irreplaceable and often unique; any destruction or damage of such resources can be expected to diminish the archaeological record as a whole. However, no such damage or destruction of significant archaeological resources is anticipated as a result of the Proposed Action. Therefore, no cumulative impacts to the archaeological record would occur as a result of implementation of the Proposed Action.

4.9 Lifestyles and Cultural Values

Oklahomans are proud of their diverse cultures, scenic landscapes, and hospitality. Oklahoma has a history of rich American Indian culture and currently, Oklahoma is home to more than 39 tribes. Additionally, Oklahoma has a long-standing tradition of rodeos and is home to horse and cattle ranches with working cowboys. Over 100 traditional and Indian rodeos occur through the year in Oklahoma (Shop Oklahoma 2012). The Osage Nation is headquartered in Pawhuska, Oklahoma and has 22,925 members nationwide as of February 1, 2021 as shown in Appendix C-6.

4.10 Infrastructure

Osage County is generally rural with small farming communities and rural residences are scattered throughout; there is limited infrastructure development. There is very little urban development in the County with the exception of the southeast corner which borders the city limits of Tulsa. Communities within are served by multiple municipal services including police, fire, water, power and other utilities.

4.10.1 Potential Impacts to Resource Use Patterns

Based on the limited and short-term nature of the project, no significant impacts to any resource use patterns are anticipated as a result of the proposed action.

5.0 MITIGATION AND MONITORING

Many protective measures and procedures are described in this document and will be incorporated, as appropriate, by the applicant.

Mitigation opportunities can be found in general and operator-committed COAs and BMPs and mitigation measures. BMPs are loosely defined as techniques used to lessen the visual and physical impacts of development. TGR will implement, to the extent possible, BMPs in an effort to mitigate environmental concerns in the planning phase, thereby allowing for smoother analysis, and possibly faster project approval.

The Applicant will employ BMPs during construction activities to comply with the COAs of the approved permit, both general and site specific. By committing to complying with applicable COAs, the applicant is demonstrating proactive efforts to minimize and/or mitigate the impacts of the proposed actions. These commitments to employ BMPs to comply with the COAs of the permit at this stage of the project planning can mitigate environmental concerns that arise in the evaluation of impacts phase, thereby allowing for smoother analysis, and possibly faster project approval.

Please refer to the Conditions of Approval in Table R-2 of the Osage County Oil and Gas ROD.

5.1 General Requirements

Applicant will comply with the requirements of 25 CFR 226, including but not limited to:

- §226.22 – Prohibition of Pollution
- §226.33 – Line Drilling – Prohibiting location of any well or tank battery within 200 feet of a public highway, established watering place, or building used as a dwelling, granary, or barn unless prior written permission is granted by the Superintendent.
- §226.19 – Use of Surface Lands – Lessee must conduct operations in a workman like manner, commit no waste and allow none to be committed upon the land, nor permit any unavoidable nuisance to be maintained on the premises under his/her control.

5.2 Osage County Oil and Gas EIS ROD Conditions of Approval

Refer to Table R-2 in the *Record of Decision for the Osage County Oil and Gas Environmental*

Impact Statement (ROD) for applicable Conditions of Approval (COAs).

** In addition to the COAs listed above, the BIA may impose additional site-specific COAs as deemed necessary. The lessee must comply with all site-specific COAs unless: (1) the lessee submits a written request for an exemption from a specific COA and obtains the Superintendent's approval thereof; or (2) the Superintendent approved a set of equivalent COAs that were developed by the lessee and incorporated in the EA.

5.3 Air Quality BMPs

Refer to Attachment B in the Osage County Oil and Gas EIS for an in-depth description of air quality best management practices in Osage County.

6.0 REASONABLY FORESEEABLE FUTURE IMPACTS

Refer to Chapter 4 in the Osage County Oil and Gas EIS for an in-depth description of reasonably foreseeable future impacts in Osage County.

7.0 CONSULTATION AND COORDINATION

The BIA is committed to ongoing efforts to solicit the opinions and concerns of all stakeholders. For the purpose of this EA, a stakeholder is considered any Tribe, agency, municipality, or individual person which the Proposed Action may affect either directly or indirectly in the form of public health, environmental, or socioeconomic issues. The BIA has informally engaged the Osage Minerals Council in discussions about the NEPA process as it relates to this EA. The BIA has received comments concerning NEPA and environmental concerns from lessees, operators, Osage headright holders, nonprofit environmental organizations, the Osage Producers Association, the Osage Cattlemen's Association, state agencies, landowners and other interested stakeholders at various meetings of the Osage Minerals Council and at joint EPA/BIA stakeholder meetings on updates to the Osage Producers Manual. Discussion of issues with the Osage Nation, Osage Minerals Council, and Oklahoma Department of Wildlife Conservation, U.S. Fish and Wildlife Service and others is ongoing, including meetings of cooperating agencies on the county-wide Environmental Impact Statement for Oil and Gas Operations in Osage County.

Pursuant to 25 CFR §226.18, TGR has conducted meetings to discuss the proposed action with the surface owners of the tracts the wells are to be situated to coordinate the activity related to drilling and completing of the proposed wells. This included confirming project location and ingress/egress routes. Evidence of the communication with the surface owners has been submitted to the BIA – Osage Agency, a copy of which is included in Appendix C-4.

A copy of this EA will be available to the public on the BIA NEPA Documents web page (www.bia.gov/regional-offices/eastern-oklahoma-region/nepa-documents), and it will be submitted to the Osage Nation, Osage Minerals Council, all federal cooperating agencies and to those with interests in or near the proposed actions.

8.0 LIST OF PREPARERS

An interdisciplinary team of BIA resource professionals, including Environmental Specialists, a Petroleum Engineer, Petroleum Engineer Technicians, and an Archeologist contributed to the development of this document in accordance with the requirements of NEPA, as amended, and 516 DM 1 the DOI Handbook of NEPA Implementing Procedures. This document was drafted by BEACON Environmental Assistance Corporation. Information was compiled from various sources within TGR.

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APPENDIX A
LOCATION MAPS

APPENDIX B
DRILLING PLAN

APPENDIX C

REFERENCE DOCUMENTS

APPENDIX C-1

PRIME FARMLAND CLASSIFICATION FROM NRCS

APPENDIX C-2

THREATENED AND ENDANGERED SPECIES LIST FROM USFWS IPaC SYSTEM

APPENDIX C-3

ABB 4(d) CONSISTENCY VERIFICATION LETTER

APPENDIX C-4

SURFACE OWNER NOTIFICATION

APPENDIX C-5

NHPA DOCUMENTATION

APPENDIX C-6

TRIBAL ENROLLMENT DATA COLLECTION

APPENDIX C-7

JACKSON LEASE TANK BATTERY SPILL PREVENTION CONTROL AND
COUNTERMEASURE PLAN

APPENDIX C-8

EXEMPTION REQUEST AND APPROVAL LETTERS-25 CFR 226.33

APPENDIX D

WATER RESOURCES

APPENDIX D-1

WATER QUALITY AND GROUNDWATER

APPENDIX D-2

NRCS HYDRIC MAPS

APPENDIX E
PHOTOGRAPHIC LOGS

APPENDIX F – TABLES

Table 1-1. Proposed Well Locations

Section	Township	Range	Proposed New Wells
NE/4 Sect. 26	24N	9E	202, 204, 25, 206, 231, 233, 234, 235, 236, 240, 241, 242, 243, 244
NW/4 Sect. 26	24N	9E	207, 208, 232
SE/4 Sect. 26	24N	9E	219, 221, 222, 252, 253, 254, 252, 253, 254

Table 4-1A. Existing Wells and New Wells.

LEGAL DESCRIPTION	EXISTING WELLS	PROPOSED NEW WELLS
NE/4 Sect. 26 T24N R9E		202, 204, 25, 206, 231, 233, 234, 235, 236, 240, 241, 242, 243, 244
NW/4 Sect. 26 T24N R9E		207, 208, 232
SE/4 Sect. 26 T24N R9E		219, 221, 222, 252, 253, 254, 252, 253, 254

Table 4-1B. Description of Affected Environment and Potential Impacts Osage EIS References

COMPONENTS OF THE HUMAN ENVIRONMENT	DESCRIPTION OF AFFECTED ENVIRONMENT	POTENTIAL IMPACTS
Topography, Geology, Paleontology, and Soils Resources	Section 3.2	Section 4.2
Air Quality	Section 3.4	Section 4.4
Air Quality BMPs	Section 4.2 & Attachment B in the Osage County Oil and Gas EIS Sections 5.1, 5.3, & Table R-2 in Section 3 of the Osage County Oil and Gas EIS ROD	
Water Resources	Section 3.3	Section 4.3
Hydraulic Fracturing	Chapter 3 and Section 4.3	
Vegetation, Wetlands, and Noxious Weeds	Section 3.7	Section
Prime Farmland	Section 3.8	Section 4.8
Vegetation and Noxious Weeds	Section 3.7	Section 4.7
Wildlife	Section 3.5, 3.6	Section 4.5, 4.6
Threatened and Endangered Species	Section 3.6	Section 4.6
Migratory Birds	Section 3.5	Section 4.5
Agriculture	Section 3.8	Section 4.8
Cultural Resources	Section 3.9	Section 4.9
Public Health and Safety	Section 3.11	Section 4.11
Resource Use Patterns	Section 3.14, 3.17	Section 4.14, 4.17
Socioeconomic and Environmental Justice	Section 3.10	Section 4.10
Hunting and Fishing	Section 3.17	Section 4.17
Timber Harvesting	Section 3.14	Section 4.14
Recreation	Section 3.17	Section 4.17
Land Use Plans	Section 3.14	Section 4.14
Noise and Light	Section 3.13	Section 4.13
Visual	Section 3.12	Section 4.12

Table 4-1C. Well Pad Elevations

Well Name	Estimated Mean Elevation (feet above sea level)
202	909
204	902
205	928
206	932
207	939
208	935
219	943
221	897
222	881
231	913
232	939
233	919
234	925
235	912
236	883
240	916
241	924
242	894
243	882
244	887
252	883
253	891
254	938

Table 4-3. Soil Descriptions.

Well Name	Soil Description	Percent Slope	Hydric Rating
202	Steedman-Lucien complex	3-15	0
	Bigheart-Niotaze-Rock outcrop complex	1-8	0
204	Steedman silt loam	3-5	0
	Bigheart-Niotaze-Rock outcrop complex	1-8	0
	Niotaze-Bigheart-Rock outcrop complex	3-5	0
205	Coyle loam	1-3	0
	Steedman silt loam	3-5	0
	Bartlesville-Bigheart complex, very rocky	1-5	0
206	Coyle loam	1-3	0
	Coyle loam	3-5	0

207	Coyle loam	1-3	0
	Coyle loam	3-5	0
	Parson silt loam	0-1	0
208	Coyle loam	1-3	0
	Coyle loam	3-5	0
219	Coyle loam	1-3	0
	Parson silt loam	0-1	1
	Prue loam	3-5	0
	Bartlesville-Bigheart complex, very rocky	1-5	0
221	Bigheart-Niotaze-Rock outcrop complex	1-8	0
222	Oil-waste land-Huska complex	1-8	0
	Verdigris silt loam, occasionally flooded	0-1	8
	Bartlesville-Bigheart complex, very rocky	1-5	0
	Bigheart-Niotaze-Rock outcrop complex	1-8	0
231	Coyle loam	3-5	0
	Lucien-Coyle complex	3-8	0
	Steedman silt loam	3-5	0
232	Coyle loam	1-3	0
	Parson silt loam	0-1	1
233	Coyle loam	1-3	0
	Coyle loam	3-5	0
	Lucien-Coyle complex	3-8	0
234	Lucien-Coyle complex	3-8	0
	Prue loam	3-5	0
235	Bigheart-Niotaze-Rock outcrop complex	1-8	0
	Lucien-Coyle complex	3-8	0
236	Agra-Ashport, frequently flooded complex	0-12	0
	Prue loam	3-5	0
	Steedman silt loam	3-5	0
	Bigheart-Niotaze-Rock outcrop complex	1-8	0
240	Lucien-Coyle complex	3-8	0
241	Steedman-Lucien complex	3-15	0
	Coyle loam	3-5	0
	Bigheart-Niotaze-Rock outcrop complex	1-8	0
242	Bigheart-Niotaze-Rock outcrop complex	1-8	0
243	Verdigris silt loam, occasionally flooded	0-1	8
	Bigheart-Niotaze-Rock outcrop complex	1-8	0
	Niotaze-Bigheart-Rock outcrop complex	3-5	0
244	Bigheart-Niotaze-Rock outcrop complex	1-8	0
252	Bartlesville-Bigheart complex, very rocky	1-5	0
	Niotaze-Bigheart-Rock outcrop complex	3-5	0
253	Oil-waste land-Huska complex	1-8	0
	Prue loam	3-5	0
	Bartlesville-Bigheart complex, very rocky	1-5	0
	Parson silt loam	0-1	1

254	Prue loam	3-5	0
	Bartlesville-Bigheart complex, very rocky	1-5	0

Table 4-4. USDW Maximum Depth and Surface Casing Depth

LEGAL DESCRIPTION	USDW DEPTH	SURFACE CASING DEPTH	PROPOSED NEW WELLS
NE/4 Sect. 26 T24N R9E	435'	500'	202, 204, 25, 206, 231, 233, 234, 235, 236, 240, 241, 242, 243, 244
NW/4 Sect. 26 T24N R9E	435'	500'	207, 208, 232
SE/4 Sect. 26 T24N R9E	435'	500'	219, 221, 222, 252, 253, 254, 252, 253, 254

Table 4-5. Prime Farmland Soils

Well Name	Soil Description	Percent Slope	Prime Farmland
202	Steedman-Lucien complex	3-15	Not Prime Farmland
	Bigheart-Niotaze-Rock outcrop complex	1-8	Not Prime Farmland
204	Steedman silt loam	3-5	Not Prime Farmland
	Bigheart-Niotaze-Rock outcrop complex	1-8	Not Prime Farmland
	Niotaze-Bigheart-Rock outcrop complex	3-5	Not Prime Farmland
205	Coyle loam	1-3	All Areas are Prime Farmland
	Steedman silt loam	3-5	All Areas are Prime Farmland
	Bartlesville-Bigheart complex, very rocky	1-5	All Areas are Prime Farmland
206	Coyle loam	1-3	All Areas are Prime Farmland
	Coyle loam	3-5	All Areas are Prime Farmland
207	Coyle loam	1-3	All Areas are Prime Farmland
	Coyle loam	3-5	All Areas are Prime Farmland
	Parson silt loam	0-1	All Areas are Prime Farmland
	Coyle loam	1-3	All Areas are Prime

208			Farmland
	Coyle loam	3-5	All Areas are Prime Farmland
219	Coyle loam	1-3	All Areas are Prime Farmland 0
	Parson silt loam	0-1	All Areas are Prime Farmland
	Prue loam	3-5	All Areas are Prime Farmland
	Bartlesville-Bigheart complex, very rocky	1-5	All Areas are Prime Farmland
221	Bigheart-Niotaze-Rock outcrop complex	1-8	Not Prime Farmland
222	Oil-waste land-Huska complex	1-8	Not Prime Farmland
	Verdigris silt loam, occasionally flooded	0-1	All Areas are Prime Farmland
	Bartlesville-Bigheart complex, very rocky	1-5	All Areas are Prime Farmland
	Bigheart-Niotaze-Rock outcrop complex	1-8	Not Prime Farmland
231	Coyle loam	3-5	All Areas are Prime Farmland
	Lucien-Coyle complex	3-8	Not Prime Farmland
	Steedman silt loam	3-5	All Areas are Prime Farmland
232	Coyle loam	1-3	All Areas are Prime Farmland
	Parson silt loam	0-1	All Areas are Prime Farmland
233	Coyle loam	1-3	All Areas are Prime Farmland
	Coyle loam	3-5	All Areas are Prime Farmland
	Lucien-Coyle complex	3-8	Not Prime Farmland
234	Lucien-Coyle complex	3-8	Not Prime Farmland
	Prue loam	3-5	All Areas are Prime Farmland
235	Bigheart-Niotaze-Rock outcrop complex	1-8	Not Prime Farmland
	Lucien-Coyle complex	3-8	Not Prime Farmland
236	Agra-Ashport, frequently flooded complex	0-12	All Areas are Prime Farmland
	Prue loam	3-5	All Areas are Prime Farmland
	Steedman silt loam	3-5	All Areas are Prime Farmland
	Bigheart-Niotaze-Rock outcrop complex	1-8	Not Prime Farmland
240	Lucien-Coyle complex	3-8	Not Prime Farmland
241	Steedman-Lucien complex	3-15	Not Prime Farmland
	Coyle loam	3-5	All Areas are Prime

			Farmland
	Bigheart-Niotaze-Rock outcrop complex	1-8	Not Prime Farmland
242	Bigheart-Niotaze-Rock outcrop complex	1-8	Not Prime Farmland
243	Verdigris silt loam, occasionally flooded	0-1	All Areas are Prime Farmland
	Bigheart-Niotaze-Rock outcrop complex	1-8	Not Prime Farmland
	Niotaze-Bigheart-Rock outcrop complex	3-5	Not Prime Farmland
244	Bigheart-Niotaze-Rock outcrop complex	1-8	Not Prime Farmland
252	Bartlesville-Bigheart complex, very rocky	1-5	All Areas are Prime Farmland
	Niotaze-Bigheart-Rock outcrop complex	3-5	Not Prime Farmland
253	Oil-waste land-Huska complex	1-8	Not Prime Farmland
	Prue loam	3-5	All Areas are Prime Farmland
	Bartlesville-Bigheart complex, very rocky	1-5	Not Prime Farmland
254	Parson silt loam	0-1	All Areas are Prime Farmland
	Prue loam	3-5	All Areas are Prime Farmland
	Bartlesville-Bigheart complex, very rocky	1-5	All Areas are Prime Farmland

Table 4-6. Federally-Listed Species, Status, Species Conclusion Table

Species/Critical Habitat	Habitat Determination	Notes/Documentation	ESA Determination
Eastern Black Rail (<i>Laterallus jamaicensis</i>)	No Habitat Present	Review of the project location determined that no suitable habitat (i.e. wet sedge meadows with dense vegetation cover) exists within the proposed project area	No Effect
Piping Plover (<i>Charadrius melodus</i>)	No Habitat Present	Review of the project location determined that no suitable habitat (i.e. sandbars of major rivers, salt flats, and mudflats of reservoirs) exists within the proposed project area.	No Effect
rufa red knot (<i>Calidris canutus</i>)	No Habitat Present	Review of the project location determined that no suitable habitat (i.e. sandbars of major rivers, salt flats, and mudflats of reservoirs) exists within the proposed project area.	No Effect
American Burying Beetle (<i>Nicrophorus americanus</i>)	Potential Habitat Present	Review of the project location determined that suitable habitat exists within the proposed project area. Section 7 consultation under the 4(d) rule was conducted with the USFWS to comply with the ESA. Concurrence on the BIA's may affect determination was received on 5/05/2026. USFWS had up to 30 days to provide further comment and no comment was received.	May Effect
Alligator Snapping Turtle (<i>macrochelys temminckii</i>)	No critical habitat has been designated for this species.	Review of the project location determined that no suitable habitat exists within the proposed project area. Proposed Threatened.	No Effect
Monarch Butterfly (<i>Danaus plexippus</i>)	No critical habitat has been designated for this species.	Habitat may be present but the scope of this project will not jeopardize the continued existence of the species. Proposed Threatened.	No Jeopardy
Western Regal Fritillary (<i>Argynnis idalia occidentalis</i>)	No critical habitat has been designated for this species.	Habitat may be present but the scope of this project will not jeopardize the continued existence of the species. Proposed Threatened.	No Jeopardy

*The list of federally-listed species that may be affected by the proposed action was obtained from the USFWS' Information for Planning and Consultation System (IPaC) online database on September 10, 2026.

Table 4-7. Migratory Bird Conclusion Table

No FWS migratory birds of concern within the vicinity of the project area per the IPaC list.

*The list of Migratory Birds that may be affected by the proposed action was obtained from the USFWS' Information, Planning, and Consultation System (IPaC) online database on September 10, 2026.

APPENDIX G - FIGURES

Figure 1-1 Map of Osage County

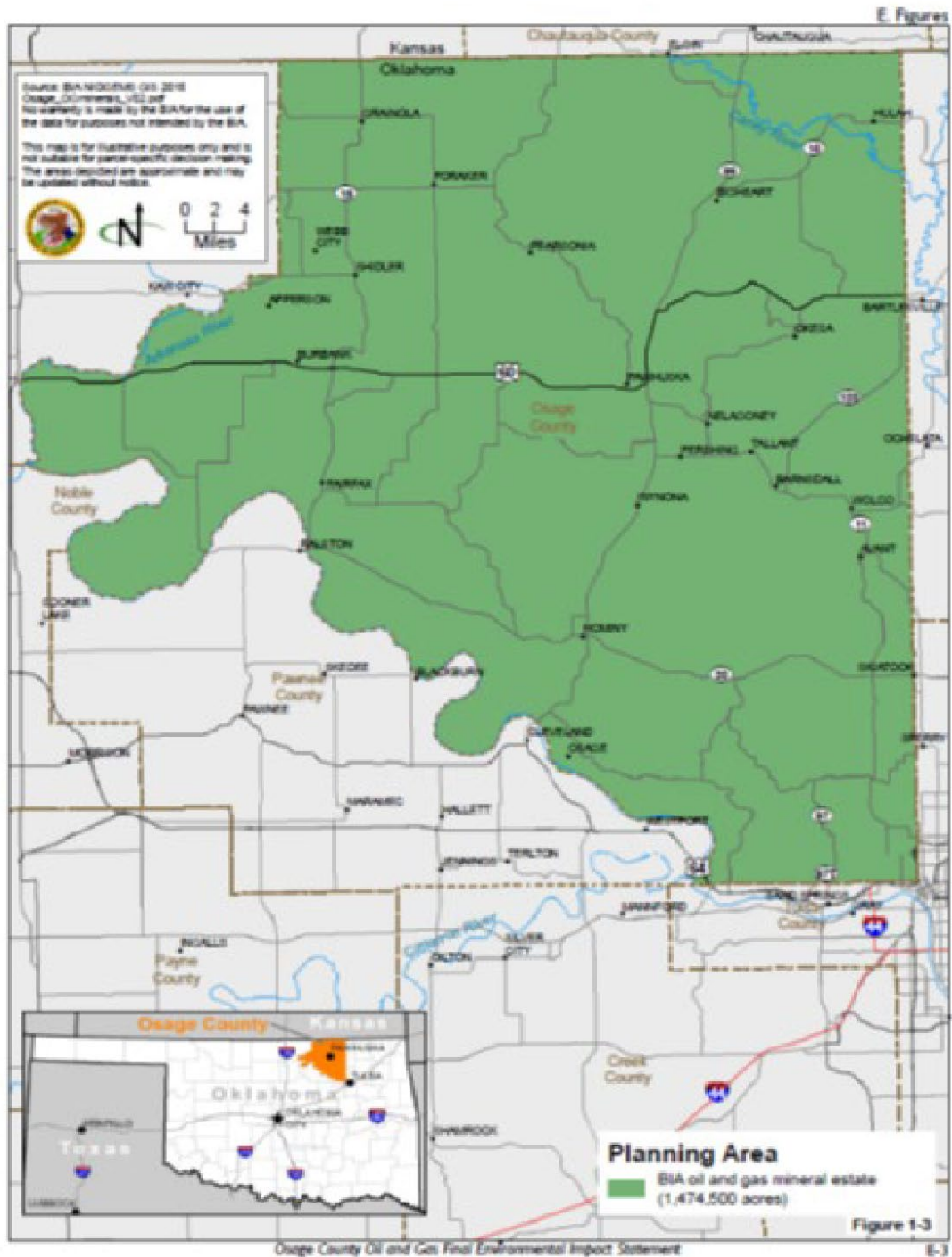


Figure 1-2 Map of Well Locations

