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
Five (5) Oil and Gas Wells
Osage County, Oklahoma

Well Name	Township	Range	Section
B-12	25 North	8 East	SW/4 Sect. 1
B-13	25 North	8 East	SW/4 Sect. 1
B-15	25 North	8 East	SW/4 Sect. 1
B-16	25 North	8 East	SW/4 Sect. 1
#100	24 North	9 East	SE/4 Sect. 26

November 2025

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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
EJ	Environmental Justice
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 five (5) 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 valid, existing oil and/or gas leases held by TGR. 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 Applications for Permits 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, BGI 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, BGI'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 appropriate alternatives to the recommended course of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources…" (NEPA Sec. 102(2)(e)). 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 location selected for the well, well pad, access roads, and utility corridor. 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. A photographic log depicting the conditions of the proposed project areas is included in Appendix E.

3.2.1.1 B-12

The proposed well will be in the SW/4 Section 1 Township 25 North, Range 8 East, Osage County, Oklahoma. The surface well hole will be 1,153 feet from the south line and 102 feet from the east line.

An access road and utility corridor will be installed to service the well. The access road will occupy 0.47 acres. The utility corridor will occupy 0.29 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 2.26 acres for all components of the proposed action.

The B-12 well will be located within 300 feet of a lease boundary line. TGR will only begin construction activity after receiving written permission from the BIA Superintendent according to 25 CFR 226.33. The oil and gas lease on the adjacent /4 section is held by TGR; therefore, a letter of no objection is not necessary. The notification letter and approval are included in Appendix C-9.

3.2.1.2 B-13

The proposed well will be in the SW/4 Section 1 Township 25 North, Range 8 East, Osage County, Oklahoma. The surface well hole will be 891 feet from the north line and 710 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 0.45 acres. The utility corridor will occupy 0.42 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 2.37 acres for all components of the proposed action.

3.2.1.3 B-15

The proposed well will be in the SW/4 Section 1 Township 25 North, Range 8 East, Osage County, Oklahoma. The surface well hole will be 1,098 feet from the south line and 1,154 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 0.33 acres. The utility corridor will occupy 0.31 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 2.13 acres for all components of the proposed action.

3.2.1.4 B-16

The proposed well will be in the SW/4 Section 1 Township 25 North, Range 8 East, Osage County, Oklahoma. The surface well hole will be 1,140 feet from the north line and 349 feet from the west 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 0.66 acres. The well pad will occupy 1.5 acres at a maximum, for a total area of 2.29 acres for all components of the proposed action.

3.2.1.5 #100

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 384 feet from the north line and 1,016 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 0.32 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.

3.2.2 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 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. 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, socioeconomic conditions, and environmental justice (EJ).

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, socioeconomic conditions, and environmental justice (EJ).

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 0-12% 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 0-12% (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 plans are on file at the BIA and aer included in Appendices C-8 and C-9. 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

<u>Surface water</u>

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

None of the new wellbores are located within 200 feet of an established watering place and are therefore not required to obtain Superintendent authorization for the wellbores per 25 CFR 226.33.

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.

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 mitigate 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 as a result 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 as a result of the proposed action.

4.6 Wildlife

4.6.1 Potential Impacts to Wildlife

Approximately 8.61 and 1.84 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 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 bald and golden eagles within the vicinity of the B-12, B-13, B-15, and B-16 wells. The IPaC does not report the vicinity from the project components that the report is based on.

The IPaC reported that there are no bald or golden eagles within the vicinity of the #100 well site.

During the field inspection of the proposed actions on August 21, 2025, BEACON staff noted that no trees were within 660 feet of the B-12, B-13, B-15, and B-16 wells that would be suitable for eagle nesting activities. Trees that were found in the vicinity of the project sites were small oaks.

Per the National Bald Eagle Management Guidelines, the proposed actions fall under Category B impacts, Oil and natural gas drilling activities. No nests are situated within 660 feet of any of the proposed wells. Refer to Appendix C-10 for a copy of the National Bald Eagle Management Guidelines.

The FWS Oklahoma Ecological Services Field Office has issued Migratory Bird and Eagle Impact Avoidance Measures for Actions Associated with Oil and Gas Projects, and this guidance is included in Appendix C-11. No gases will be flared as part of this proposed action, and no above ground utility poles will be installed. All utilities will be underground.

The proposed actions will not be within 660 feet of a nest, and the project will not result in any new power poles within the Eagle Use Area (EUA). The proposed action will have "no effect" on Bald or Golden Eagles.

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 have been evaluated and 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.

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 or the proposed as endangered Tricolored Bat.

The project will have "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.

Two rounds of cultural 106 consultation were undertaken as part of this action as the area of potential effect (APE) was encompassed by two distinct cultural surveys. *An Archaeological Survey of the Faulkner B Wells, Osage County, Oklahoma*, prepared by Cassandra Burns of Burns Consulting, LLC. accounts for the southwest 1/4 of Section 1, Township 25 north, Range 8 east. This survey includes four of the planned five wells. *An Archaeological Survey of the Proposed Jackson Wells, Osage County, Oklahoma*, prepared by Cassandra Burns of Burns Consulting, LLC. accounts for the remaining well in the east 1/2 of Section 26, Township 24 north, Range 9 east. The results of section 106 consultation on both cultural surveys was full concurrence with a finding of Not Likely to Effect culturally significant resources.

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 survey reports were submitted to the BIA Osage Agency 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 and the Oklahoma Archeological Survey for further review. All National Historic Preservation Act (NHPA) correspondence and concurrence letters are provided in Appendix D-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, as these resources would be avoided. 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 37 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. The Cultural Center, located in Pawhuska, was established in 2004 to maintain the ancestral traditions, values, and way of life of the Osage Nation. To maintain the values of their ancestors and their unique identity, the Osage Nation preserves the lessons of their ancestors. The Cultural Center hosts classes on traditional Osage language; traditional craft-wear, hosts artwork exhibits, and is home to a library (Osage Nation 2012 and Shop Oklahoma 2012).

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 wit 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, 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 guidance provided in Part 1502.6 of Council of Environmental Quality regulations. This document was drafted by BEACON Environmental Assistance Corporation. Information was compiled from various sources within TGR.

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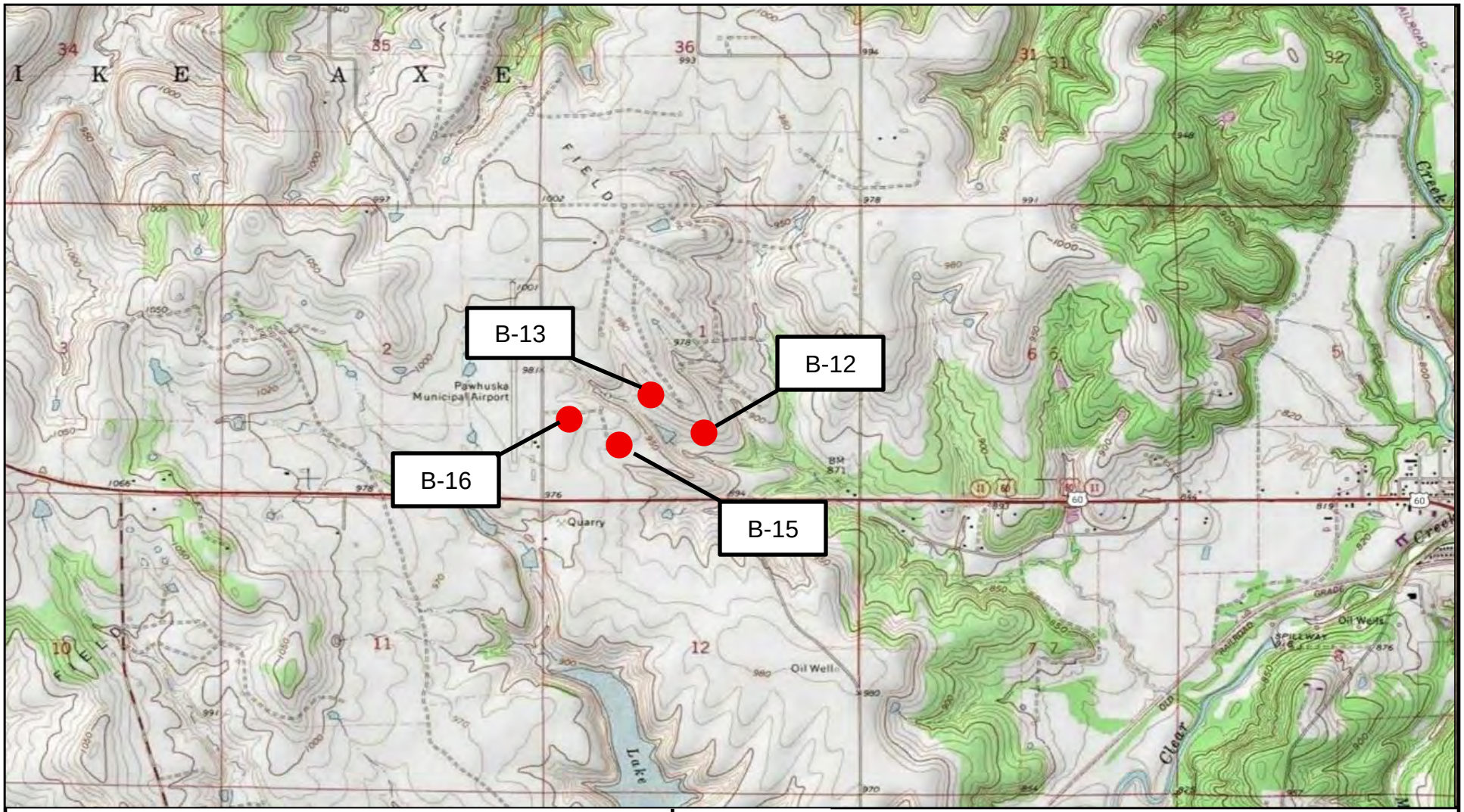
APPENDIX A

LOCATION MAPS



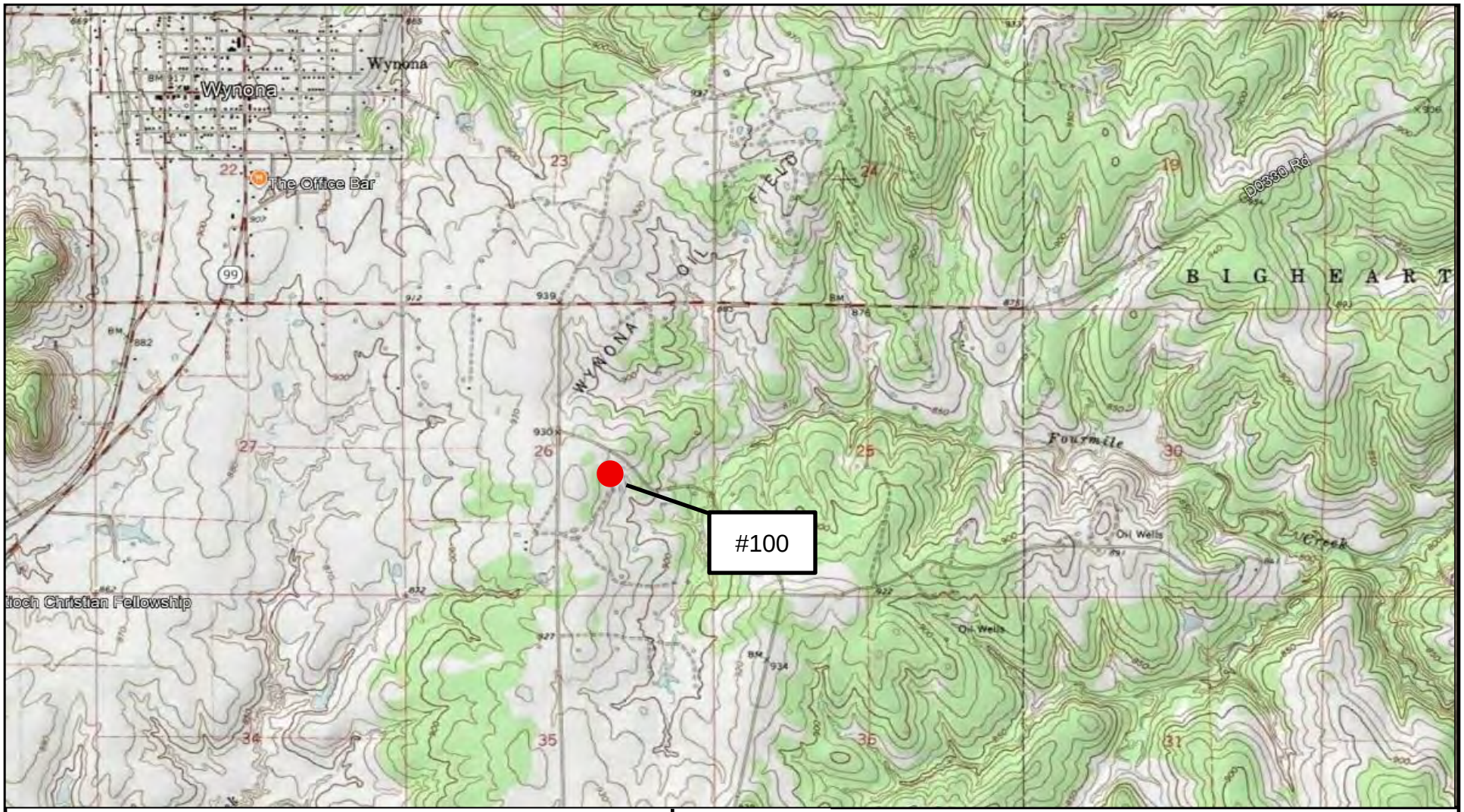
=WELL BORE LOCATION

TOPOGRAHICAL MAP

SW/4 SECTION 1 TOWNSHIP 25 NORTH
RANGE 8 EAST

OSAGE COUNTY, OKLAHOMA

Prepared For: TALLGRASS RESOURCES LLC		BEACON Environmental Assistance Corporation	
Drawn By: AM	Project # 25720	Date: 8/2025	FIGURE 1



=WELL BORE LOCATION

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TOPOGRAPHICAL MAP

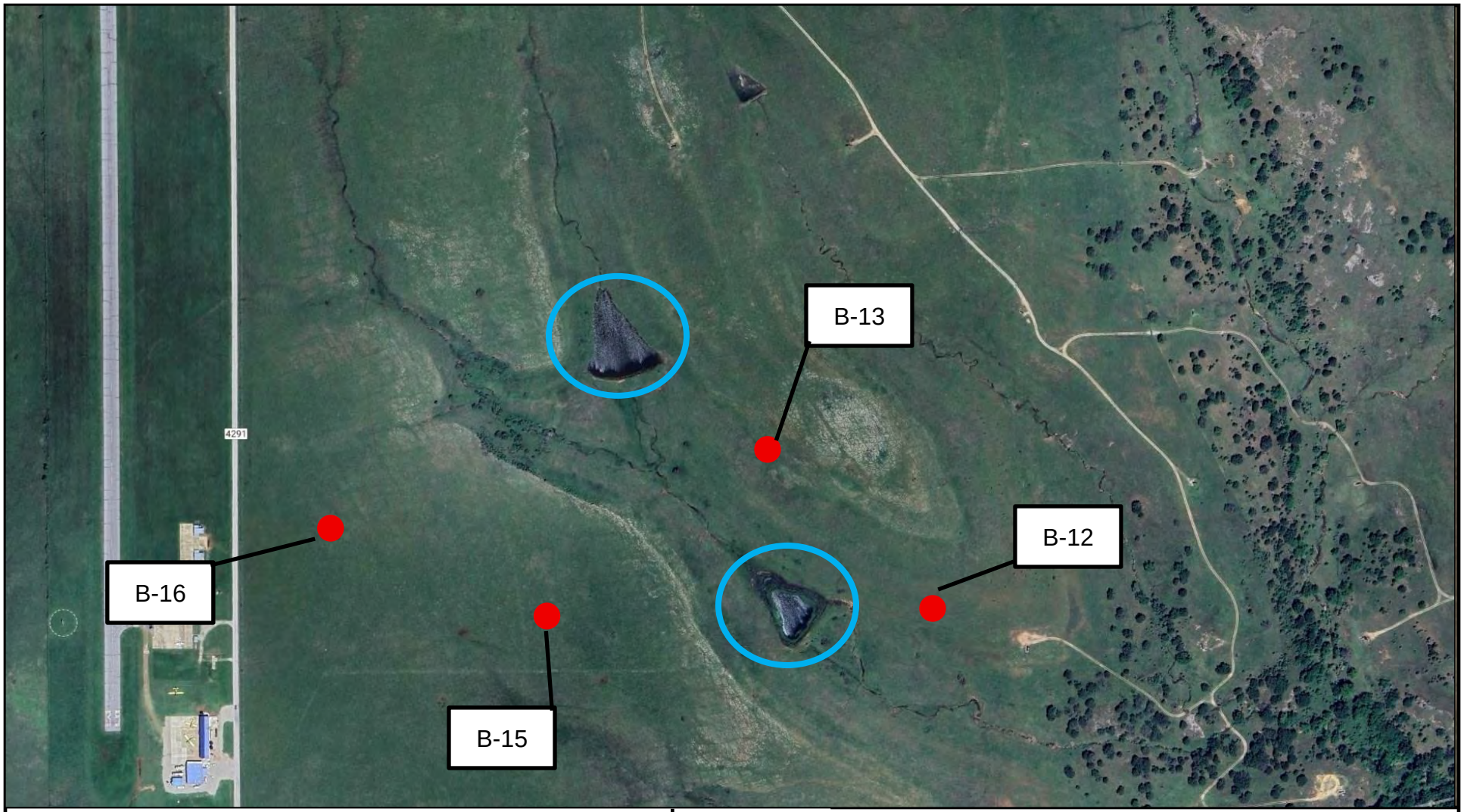
SE/4 SECTION 26 TOWNSHIP 24 NORTH
RANGE 9 EAST

OSAGE COUNTY, OKLAHOMA

Prepared For:
TALLGRASS RESOURCES LLC

BEACON
Environmental Assistance Corporation

Drawn By: AM	Project # 25720	Date: 8/2025	FIGURE 2



=WELL BORE LOCATION

=POTENTIAL SOURCES OF FRESH WATER FOR DRILLING

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AERIAL PHOTOGRAPH

SW/4 SECTION 1 TOWNSHIP 25 NORTH
RANGE 8 EAST

OSAGE COUNTY, OKLAHOMA

Prepared For:
TALLGRASS RESOURCES LLC

BEACON
Environmental Assistance Corporation

Drawn By: AM	Project # 25720	Date: 8/2025	FIGURE 3

=WELL BORE LOCATION

=POTENTIAL SOURCE OF FRESH WATER FOR DRILLING

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AERIAL PHOTOGRAPH

SE/4 SECTION 26 TOWNSHIP 24 NORTH
RANGE 9 EAST

OSAGE COUNTY, OKLAHOMA

Prepared For: TALLGRASS RESOURCES LLC		BEACON Environmental Assistance Corporation	
Drawn By: AM	Project # 25720	Date: 8/2025	FIGURE 4

=WELL BORE LOCATION

=ACCESS ROAD

=UTILITY CORRIDOR

=SPOIL PILE

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AERIAL PHOTOGRAPH

B-12 WELL SITE MAP

SW/4 SECTION 1 TOWNSHIP 25 NORTH RANGE 8 EAST
OSAGE COUNTY, OKLAHOMA

Prepared For:
TALLGRASS RESOURCES LLC

BEACON
Environmental Assistance Corporation

Drawn By: AM	Project # 25720	Date: 8/2025	FIGURE 5

=WELL BORE LOCATION

=ACCESS ROAD

=UTILITY CORRIDOR

=SPOIL PILE

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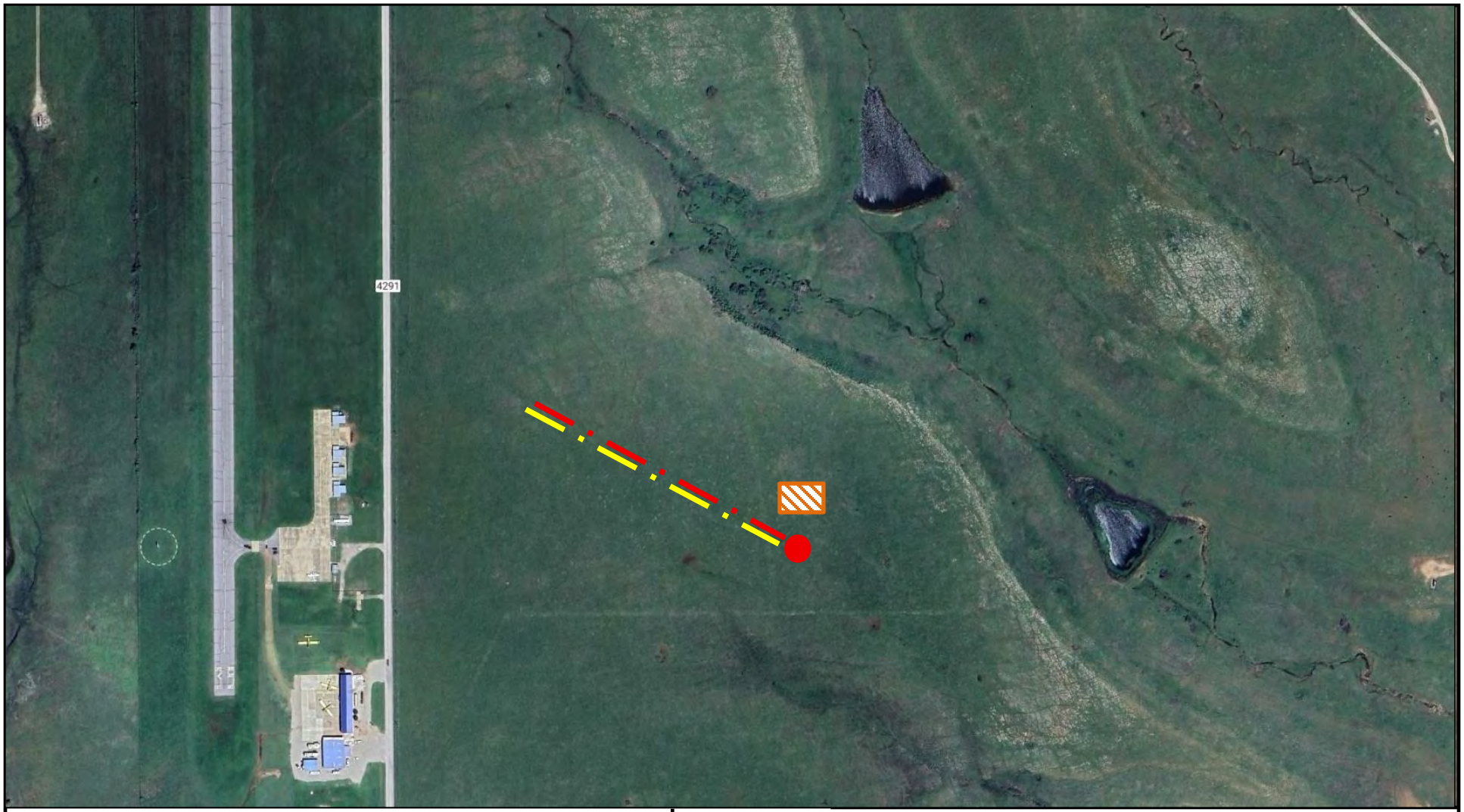
AERIAL PHOTOGRAPH

B-13 WELL SITE MAP

SW/4 SECTION 1 TOWNSHIP 25 NORTH RANGE 8 EAST
OSAGE COUNTY, OKLAHOMA

Prepared For: TALLGRASS RESOURCES LLC	BEACON Environmental Assistance Corporation		
Drawn By: AM	Project # 25720	Date: 8/2025	FIGURE 6



=WELL BORE LOCATION

=ACCESS ROAD

=UTILITY CORRIDOR

=SPOIL PILE

N

W E

S

AERIAL PHOTOGRAPH

B-15 WELL SITE MAP

SW/4 SECTION 1 TOWNSHIP 25 NORTH RANGE 8 EAST
OSAGE COUNTY, OKLAHOMA

Prepared For:
TALLGRASS RESOURCES LLC

BEACON
Environmental Assistance Corporation

Drawn By: AM	Project # 25720	Date: 8/2025	FIGURE 7

=WELL BORE LOCATION

=ACCESS ROAD

=UTILITY CORRIDOR

=SPOIL PILE

N

W E

S

AERIAL PHOTOGRAPH

B-16 WELL SITE MAP

SW/4 SECTION 1 TOWNSHIP 25 NORTH RANGE 8 EAST
OSAGE COUNTY, OKLAHOMA

Prepared For:
TALLGRASS RESOURCES LLC

BEACON
Environmental Assistance Corporation

Drawn By: AM	Project # 25720	Date: 8/2025	FIGURE 8

=WELL BORE LOCATION

=ACCESS ROAD

=UTILITY CORRIDOR

=SPOIL PILE

N
W
E
S

AERIAL PHOTOGRAPH

100 WELL SITE MAP

SE/4 SECTION 26 TOWNSHIP 24 NORTH RANGE 9 EAST
OSAGE COUNTY, OKLAHOMA

Prepared For: TALLGRASS RESOURCES LLC		BEACON Environmental Assistance Corporation	
Drawn By: AM	Project # 25720	Date: 8/2025	FIGURE 9

APPENDIX B

DRILLING PLAN

Drilling Plan

TALLGRASS RESOURCES LLC

Five (5) Vertical Wells

#B-12 (Mississippian Chat)

#B-13 (Mississippian Chat)

#B-15 (Mississippian Chat)

#B-16 (Mississippian Chat)

#100 (Bartlesville)

Osage County, Oklahoma

August 2025

1.0 Description of the Proposed Project

Tallgrass Resources LLC (TGR) has proposed to drill five (5) oil wells in Osage County, Oklahoma. The development of the wells and well pads will include access roads, utility corridors, and pipelines carrying crude oil and produced water to storage tanks to be transported to market. This document describes the well pad locations and drilling operations for the wells in detail.

2.0 Well Hole Location

This section describes the location of the well holes, with the location being referenced by legal description as well as by the footage from the section lines. These are to be vertical wells, so there are no bottom hole locations to be reported.

Faulkner Lease (SW/4 of Section 1-T25N-R8E)

#B-12

The proposed well pad, utility corridor, and pipeline system would be located in the SW/4 of Section 1 Township 25 North, Range 8 East, Osage County, Oklahoma. The well hole will be located approximately 102 feet from the East line and 1,153 feet from the South line.

#B-13

The proposed well pad, utility corridor, and pipeline system would be located in the SW/4 of Section 1 Township 25 North, Range 8 East, Osage County, Oklahoma. The well hole will be located approximately 710 feet from the East line and 891 feet from the North line.

#B-15

The proposed well pad, utility corridor, and pipeline system would be located in the SW/4 of Section 1 Township 25 North, Range 8 East, Osage County, Oklahoma. The well hole will be located approximately 1,154’ feet from the West line and 1,098 feet from the South line.

#B-16

The proposed well pad, utility corridor, and pipeline system would be located in the SW/4 of Section 1 Township 25 North, Range 8 East, Osage County, Oklahoma. The well hole will be located approximately 349 feet from the West line and 1,140 feet from the North line.

Jackson Lease (Section 26-T24N-R9E)

#100

The proposed well pad, utility corridor, and pipeline system would be located in the SE/4 of Section 26 Township 24 North, Range 9 East, Osage County, Oklahoma. The well hole will be located approximately 1,016 feet from the West line and 384 feet from the North line.

3.0 Drilling Operations

TGR plans to complete drilling of the wells between around December 2025. These dates include the first phases of construction (access roads, utility corridors, etc.) to completion and start of production. Air rigs will be utilized in the drilling phase using air and approximately 120 barrels of fresh water. The fresh water will come from an existing pond or city source to complete operations. No ponds will be constructed for use as a source of fresh water.

The oil wells will be vertical wells, with the bottom hole directly under the surface hole. Below is a table with the surface hole details and total depth of each well.

Well	Surface Hole	Total Depth
#B-12	11 Inches	2,400 feet
#B-13	11 Inches	2,400 feet
#B-15	11 Inches	2,450 feet
#B-16	11 Inches	2,450 feet
#100	11 Inches	2,300 feet

4.0 Casing and Cementing

Surface casing will be set at least 50 feet below the underground source of drinking water level (USDW) and cemented to surface. Production casing will be set to total depth of the well. The casing will be cemented to the surface in order to protect the USDW. Once the cement has been allowed time to cure, a cased-hole cement bond log will be ran to the surface. At this point, the well is to be perforated per recommendations from a geologist. Below is a table with the details of casing for each well.

Well	Surface Casing	Production Casing
#B-12	8 5/8 Inches, 24#, J-55 (4), set to 400 feet	5 ½ Inches, 17#, J-55 (new), set to total depth
#B-13	8 5/8 Inches, 24#, J-55 (new), set to 400 feet	5 ½ Inches, 17#, J-55 (new), set to total depth
#B-15	8 5/8 Inches, 24#, J-55 (new), set to 400 feet	5 ½ Inches, 17#, J-55 (new), set to total depth
#B-16	8 5/8 Inches, 24#, J-55 (new), set to 400 feet	5 ½ Inches, 17#, J-55 (new), set to total depth
#100	8 5/8 Inches, 24#, J-55 (new), set to 500 feet	5 ½ Inches, 17#, J-55 (new), set to total depth

5.0 Completion and Evaluation

After casing and cementing operations are complete, an acid job will be performed on the wells to break the cement and clean up any cement that may have permeated into the formation. These acid jobs usually consist of 300 to 500 gallons of 15% Hydrochloric Acid and approximately 80 barrels of either potassium chloride water or produced salt water from the well. These operations are generally pumped at a rate of 5 to 8 barrels per minute.

Once the acid job is completed, hydraulic fracturing operations are employed. Hydraulic fracturing operations utilize 10,000 to 30,000 pounds of sand along with 300 to 500 barrels of potassium chloride treated water. This solution is pumped in at a rate of 20 to 28 barrels per

minute, and the well is shut in. After a few days of being shut in, the well is transferred to the production team to install the proper pumping equipment and utility lines.

6.0 Access Roads and Utility Corridors

The access road will be constructed from existing roadways to the new well pads. The access roads will be approximately 12 feet wide and will be the shortest route possible to minimize impacts. The access road will have an approximately 2% grade away from the center to allow for drainage to protect the road's integrity. The access roads will be cleared of vegetation and large rocks, graded, and covered with a minimum of 4 inches of aggregate to minimize erosion and runoff.

Pipeline corridors will be combined with the utility (electric) corridors where possible to minimize impacts. Once installation is complete any disturbed areas will be re-seeded with native grasses.

There will be pipelines servicing the wells and the materials to be used are described in the table below. The piping will carry crude oil and produced water. These pipelines will extend from the new well to an existing well or a trunk line, depending on what is available. Valves controlling the flow for these pipelines will be located at the well sites and tank batteries.

Well	Pipeline Type
#B-12	Steel 2-7/8"
#B-13	Steel 2-7/8"
#B-15	Steel 2-7/8"
#B-16	Steel 2-7/8"
#100	Poly 2" SDR7 (buried)

Additionally, none of these well pads will include tank batteries for storage as part of this proposed action, as these wells will be connected to existing tank batteries.

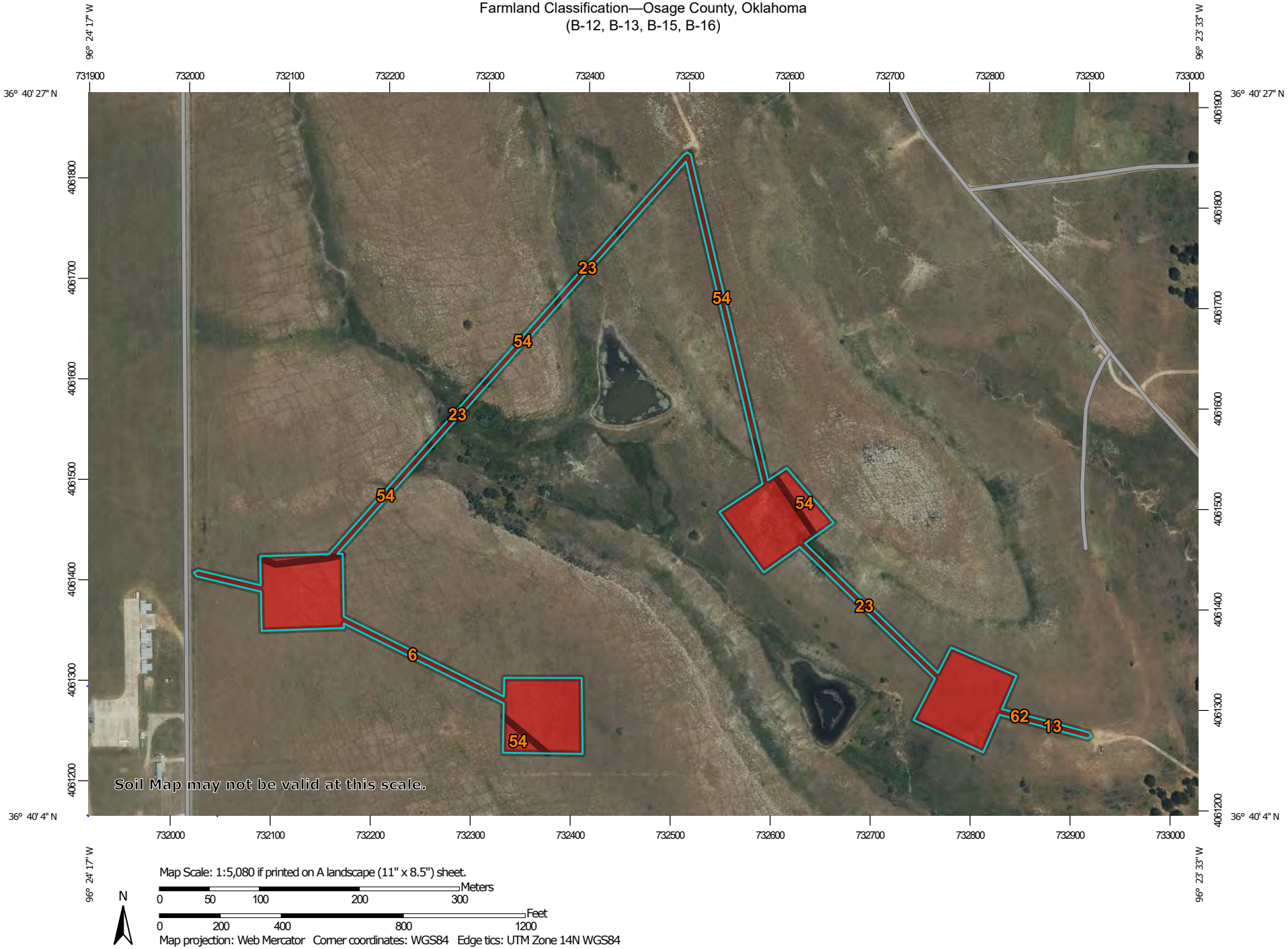
APPENDIX C

REFERENCE DOCUMENTS

APPENDIX C-1

PRIME FARMLAND CLASSIFICATION FROM NRCS

Farmland Classification—Osage County, Oklahoma
(B-12, B-13, B-15, B-16)



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

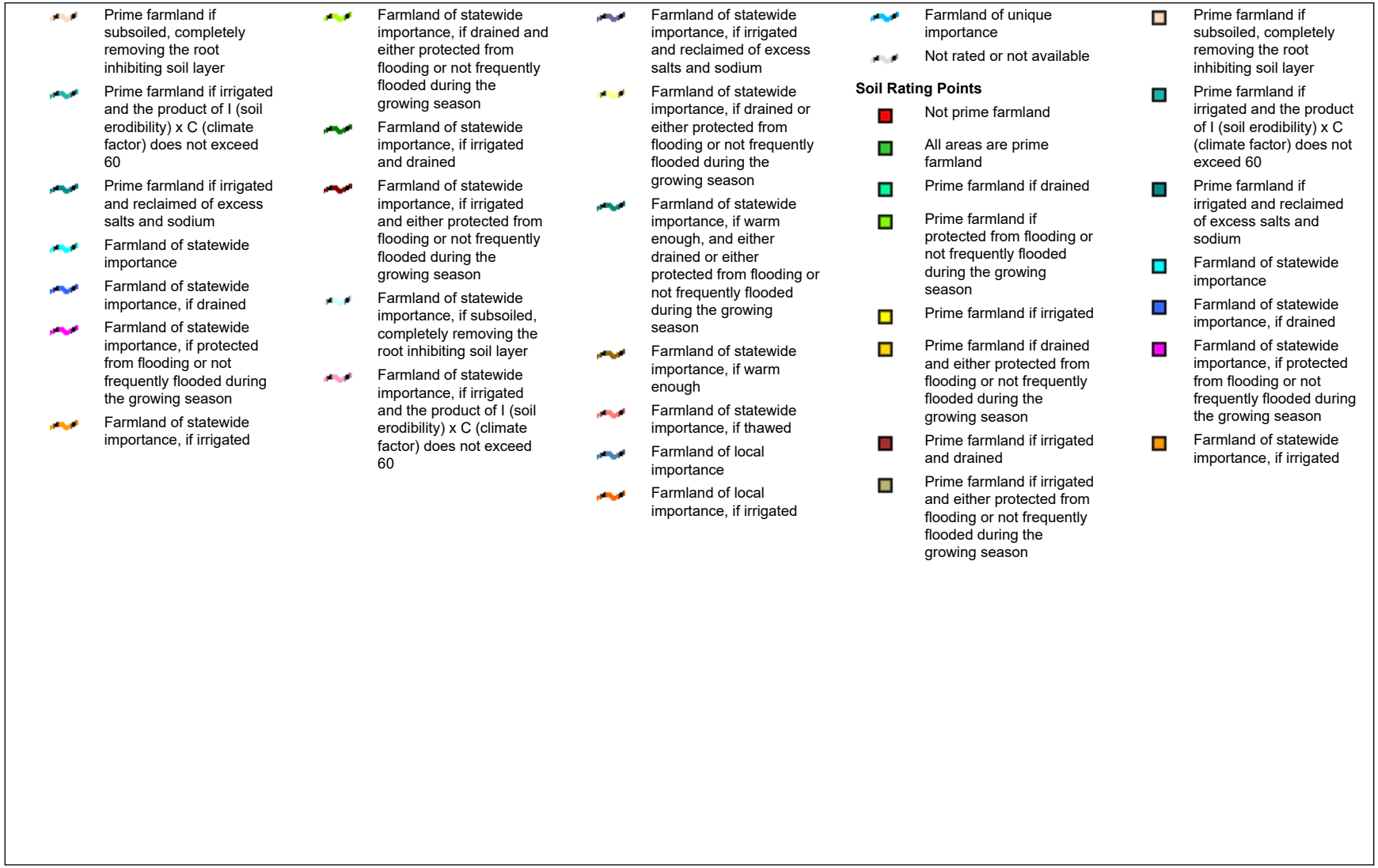
Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated
- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season


Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated
Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated and drained
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Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
Farmland of unique importance
Not rated or not available
Soil Rating Points
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
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Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated

- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Osage County, Oklahoma
Survey Area Data: Version 22, Aug 27, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 11, 2022—Jul 11, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
6	Catoosa-Shidler-Lula complex, 1 to 3 percent slopes	Not prime farmland	3.0	37.5%
13	Lucien-Coyle complex, 3 to 8 percent slopes	Not prime farmland	0.1	1.3%
23	Foraker-Shidler complex, 12 to 25 percent slopes	Not prime farmland	3.3	40.9%
54	Shidler silty clay loam, 1 to 5 percent slopes	Not prime farmland	1.6	20.2%
62	Westsum-Shidler-Apperson complex, 3 to 12 percent slopes	Not prime farmland	0.0	0.1%
Totals for Area of Interest			**8.1**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Farmland Classification—Osage County, Oklahoma
(100)

Map Scale: 1:1,880 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 25 50 100 150

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated
- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
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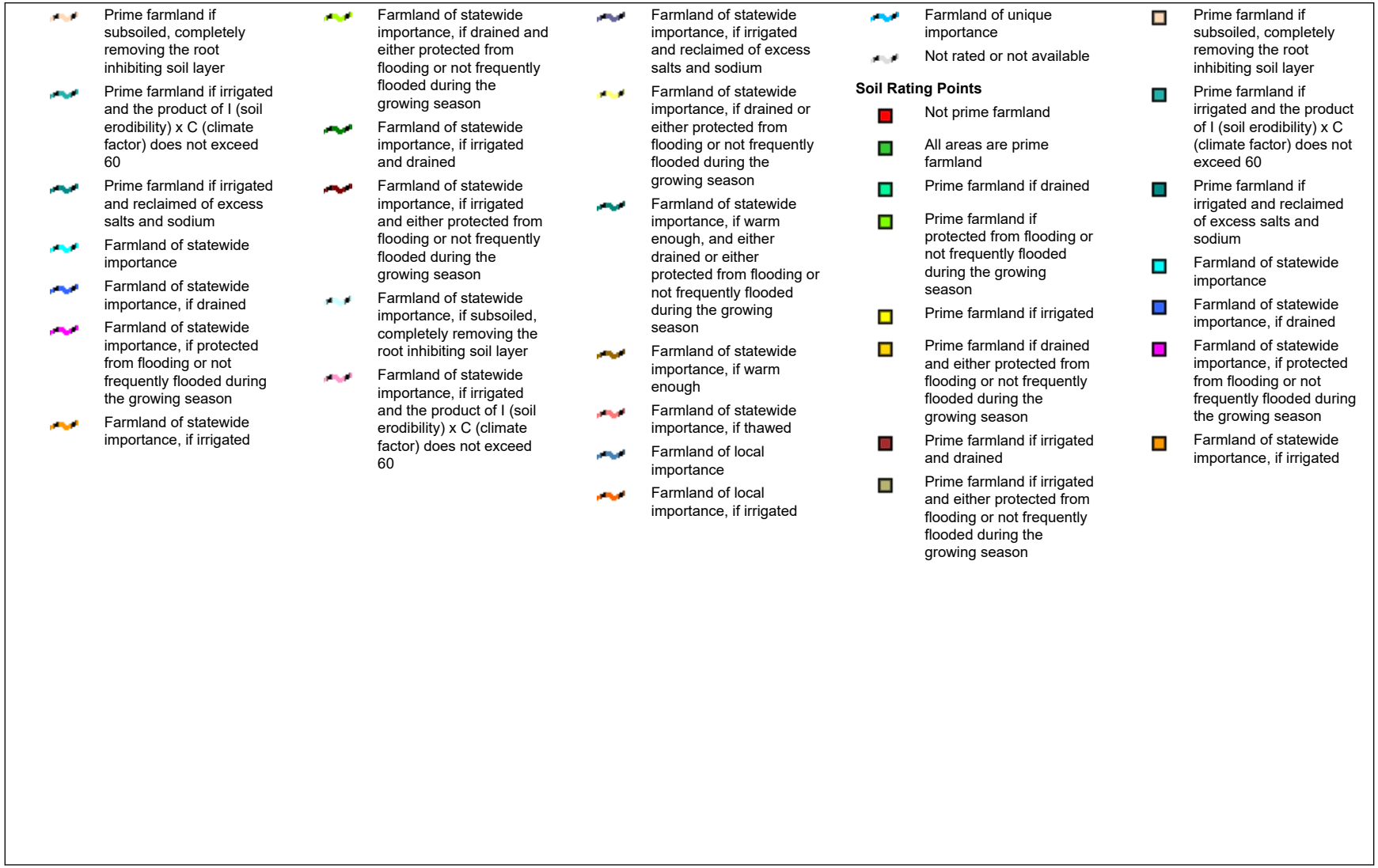
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season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Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
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Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
Farmland of unique importance
Not rated or not available
Soil Rating Points
Not prime farmland
All areas are prime farmland
Prime farmland if drained
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Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated

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- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Osage County, Oklahoma
Survey Area Data: Version 22, Aug 27, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 11, 2022—Jul 11, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
51	Prue loam, 3 to 5 percent slopes	All areas are prime farmland	1.9	100.0%
Totals for Area of Interest			**1.9**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

APPENDIX C-2

THREATENED AND ENDANGERED SPECIES LIST FROM USFWS IPaC SYSTEM

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
Phone: (918) 581-7458 Fax: (918) 581-7467

In Reply Refer To: 08/27/2025 18:12:36 UTC
Project Code: 2025-0140580
Project Name: Tallgrass Resources B-12, B-13, B-15 and B-16 wells

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
(918) 581-7458

PROJECT SUMMARY

Project Code: 2025-0140580
Project Name: Tallgrass Resources B-12, B-13, B-15 and B-16 wells
Project Type: Oil&Gas Extraction - Onshore
Project Description: Installation of four oil and gas wells with associated access road and utility corridors.
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.67110245,-96.40123316861826,14z

Counties: Osage County, Oklahoma

ENDANGERED SPECIES ACT SPECIES

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Rufa Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

INSECTS

NAME	STATUS
American Burying Beetle *Nicrophorus americanus* Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/66	Threatened
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Western Regal Fritillary *Argynnis idalia occidentalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/12017	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information

on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

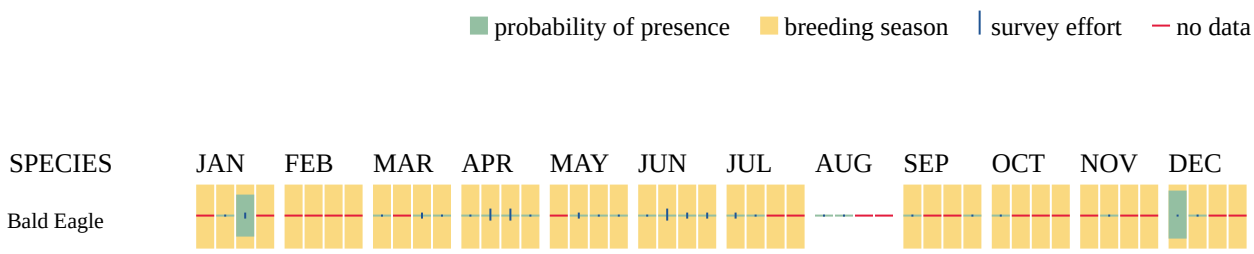
Probability of Presence (▪)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (▪)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Non-BCC
Vulnerable

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25

NAME	BREEDING SEASON
Henslow's Sparrow *Centronyx henslowii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941	Breeds elsewhere
Prairie Loggerhead Shrike *Lanius ludovicianus excubitorides* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8833	Breeds Feb 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

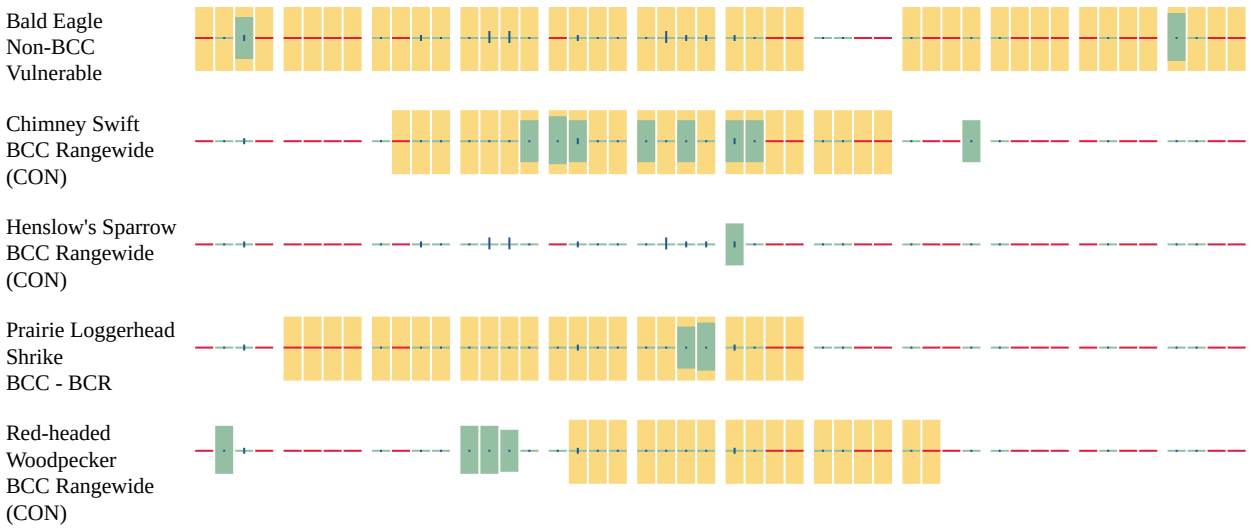
Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

■ probability of presence ■ breeding season | survey effort – no data

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- R4SBC

IPAC USER CONTACT INFORMATION

Agency: BEACON Environmental Assistance Corporation
Name: Andy Middick
Address: 225 Lilac Drive Suite 120
City: Edmond
State: OK
Zip: 73034
Email amiddick@beaconcorp.com
Phone: 4053308688

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Bureau of Indian Affairs

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
Phone: (918) 581-7458 Fax: (918) 581-7467

In Reply Refer To: 08/27/2025 20:37:22 UTC
Project Code: 2025-0141802
Project Name: Tallgrass Resources 100 well

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

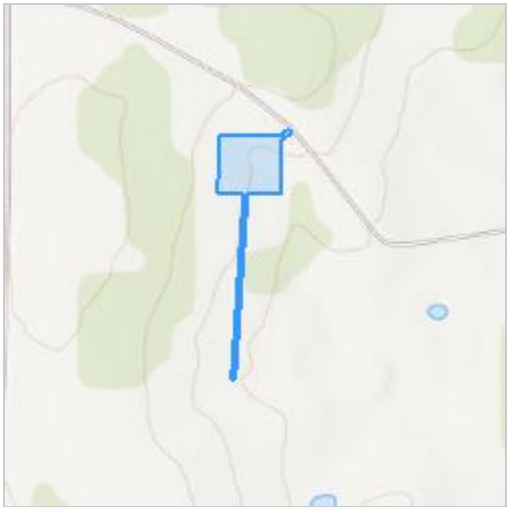
Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
(918) 581-7458

PROJECT SUMMARY

Project Code: 2025-0141802
Project Name: Tallgrass Resources 100 well
Project Type: Oil&Gas Extraction - Onshore
Project Description: Installation of one oil and gas well, with an associated access road and utility corridor.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.526014149999995,-96.30518617295922,14z



Counties: Osage County, Oklahoma

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

BIRDS

NAME	STATUS
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Rufa Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

INSECTS

NAME	STATUS
American Burying Beetle *Nicrophorus americanus* Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/66	Threatened
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act (MBTA). Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their nests, should follow appropriate regulations and implement required avoidance and minimization measures, as described in the various links on this page.

The data in this location indicates that no eagles have been observed in this area. This does not mean eagles are not present in your project area, especially if the area is difficult to survey. Please review the 'Steps to Take When No Results Are Returned' section of the Supplemental Information on Migratory Birds and Eagles document to determine if your project is in a poorly surveyed area. If it is, you may need to rely on other resources to determine if eagles may be present (e.g. your local FWS field office, state surveys, your own surveys).

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO FWS MIGRATORY BIRDS OF CONCERN WITHIN THE VICINITY OF YOUR PROJECT AREA.

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

IPAC USER CONTACT INFORMATION

Agency: BEACON Environmental Assistance Corporation
Name: Andy Middick
Address: 225 Lilac Drive Suite 120
City: Edmond
State: OK
Zip: 73034
Email amiddick@beaconcorp.com
Phone: 4053308688

APPENDIX C-3

ABB 4(d) CONSISTENCY VERIFICATION LETTER

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
Phone: (918) 581-7458 Fax: (918) 581-7467

In Reply Refer To: 08/27/2025 18:09:59 UTC
Project code: 2025-0140580
Project Name: Tallgrass Resources B-12, B-13, B-15 and B-16 wells

Subject: Verification letter for 'Tallgrass Resources B-12, B-13, B-15 and B-16 wells' project under the October 15, 2020, Programmatic Biological Opinion on Final 4(d) Rule for the American burying beetle and Activities Excepted from Take Prohibitions (50 CFR § 17.47(d), Federal Register Citation 85 FR 65241).

Dear Andy Middick:

The U.S. Fish and Wildlife Service (Service) received on **August 27, 2025** your effect determination(s) for the 'Tallgrass Resources B-12, B-13, B-15 and B-16 wells' (the Action) using the American burying beetle (*Nicrophorus americanus*) determination key within the Information for Planning and Consultation (IPaC) system.

This determination key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's October 15, 2020, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from incidental "take"[1] prohibitions applicable to the American burying beetle under the Endangered Species Act of 1973 (Act) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the American burying beetle; however, any incidental take that may occur as a result of the Action is not prohibited under the Act Section 4(d) rule adopted for this species at 50 CFR §17.47(d). **Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under Act Section 7(a)(2) with respect to the American burying beetle.**

Please report any changes to the information about the Action that you submitted in IPaC, the results of any American burying beetle surveys conducted in the Action area, and any dead, injured, or sick American burying beetles that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with Act Section 7(a)(2) only for the American burying beetle.

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[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct (Act, Section 3(19)).

This letter covers only the American burying beetle. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Monarch Butterfly *Danaus plexippus* Proposed Threatened
- Piping Plover *Charadrius melodus* Threatened
- Rufa Red Knot *Calidris canutus rufa* Threatened
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered
- Western Regal Fritillary *Argynnis idalia occidentalis* Proposed Threatened

If your project may affect additional listed species, you must evaluate additional DKeys for other species, or submit a request for consultation for the additional species to your local Ecological Services Field Office.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Tallgrass Resources B-12, B-13, B-15 and B-16 wells

2. Description

The following description was provided for the project 'Tallgrass Resources B-12, B-13, B-15 and B-16 wells':

> Installation of four oil and gas wells with associated access road and utility corridors.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.67110245,-96.40123316861826,14z

QUALIFICATION INTERVIEW

1. Does the proposed action involve **wind or solar energy**?

   No

2. Is the action authorized, funded, or being carried out by a Federal agency?

   Yes

3. Have you determined that the proposed action will have “no effect” on the American burying beetle? (If you are unsure select "No")

   No

4. Will your activity **purposefully take** American burying beetles?

   No

5. Is your project wholly inside the 4d rule Analysis Area? For areas of your project occurring inside the Analysis Area (New England, Northern Plains, Southern Plains), your project may qualify for exemptions. For areas of your project occurring outside the Analysis Area, all incidental take is exempted according to the ABB 4d Rule.

   Automatically answered
   Yes

6. Is American burying beetle suitable habitat present within the action area?

   Yes

7. Will suitable habitat be affected by the proposed action? Suitable habitat may be impacted if the action involves soil disturbance, use of vehicles or heavy equipment, artificial lighting, vegetation removal, use of herbicides, pesticides, other hazardous chemicals.

   Yes

PROJECT QUESTIONNAIRE

Please select the activity that best matches your proposed action.

7. Soil disturbance related to oil and gas development

If you chose 13 above, please describe below. If you did not choose 13 above, please type "0".

0

Estimate the total acres of suitable American burying beetle habitat that may be affected.

8.63

Please estimate the total number of acres of **temporary impacts** to American burying beetle habitat. See definitions

6.46

Please estimate the total number of acres of **permanent impacts** to American burying beetle habitat. See definitions

2.17

IPAC USER CONTACT INFORMATION

Agency: BEACON Environmental Assistance Corporation
Name: Andy Middick
Address: 225 Lilac Drive Suite 120
City: Edmond
State: OK
Zip: 73034
Email amiddick@beaconcorp.com
Phone: 4053308688

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Bureau of Indian Affairs

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
Phone: (918) 581-7458 Fax: (918) 581-7467

In Reply Refer To: 08/27/2025 20:38:49 UTC
Project code: 2025-0141802
Project Name: Tallgrass Resources 100 well

Subject: Verification letter for 'Tallgrass Resources 100 well' project under the October 15, 2020, Programmatic Biological Opinion on Final 4(d) Rule for the American burying beetle and Activities Excepted from Take Prohibitions (50 CFR § 17.47(d), Federal Register Citation 85 FR 65241).

Dear Andy Middick:

The U.S. Fish and Wildlife Service (Service) received on **August 27, 2025** your effect determination(s) for the 'Tallgrass Resources 100 well' (the Action) using the American burying beetle (*Nicrophorus americanus*) determination key within the Information for Planning and Consultation (IPaC) system.

This determination key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's October 15, 2020, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from incidental "take"[1] prohibitions applicable to the American burying beetle under the Endangered Species Act of 1973 (Act) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the American burying beetle; however, any incidental take that may occur as a result of the Action is not prohibited under the Act Section 4(d) rule adopted for this species at 50 CFR §17.47(d). **Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under Act Section 7(a)(2) with respect to the American burying beetle.**

Please report any changes to the information about the Action that you submitted in IPaC, the results of any American burying beetle surveys conducted in the Action area, and any dead, injured, or sick American burying beetles that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with Act Section 7(a)(2) only for the American burying beetle.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct (Act, Section 3(19)).

This letter covers only the American burying beetle. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Monarch Butterfly *Danaus plexippus* Proposed Threatened
- Piping Plover *Charadrius melodus* Threatened
- Rufa Red Knot *Calidris canutus rufa* Threatened

If your project may affect additional listed species, you must evaluate additional DKeys for other species, or submit a request for consultation for the additional species to your local Ecological Services Field Office.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Tallgrass Resources 100 well

2. Description

The following description was provided for the project 'Tallgrass Resources 100 well':

> Installation of one oil and gas well, with an associated access road and utility corridor.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.526014149999995,-96.30518617295922,14z

QUALIFICATION INTERVIEW

1. Does the proposed action involve **wind or solar energy**?

   No

2. Is the action authorized, funded, or being carried out by a Federal agency?

   Yes

3. Have you determined that the proposed action will have “no effect” on the American burying beetle? (If you are unsure select "No")

   No

4. Will your activity **purposefully take** American burying beetles?

   No

5. Is your project wholly inside the 4d rule Analysis Area? For areas of your project occurring inside the Analysis Area (New England, Northern Plains, Southern Plains), your project may qualify for exemptions. For areas of your project occurring outside the Analysis Area, all incidental take is exempted according to the ABB 4d Rule.

   Automatically answered
   Yes

6. Is American burying beetle suitable habitat present within the action area?

   Yes

7. Will suitable habitat be affected by the proposed action? Suitable habitat may be impacted if the action involves soil disturbance, use of vehicles or heavy equipment, artificial lighting, vegetation removal, use of herbicides, pesticides, other hazardous chemicals.

   Yes

PROJECT QUESTIONNAIRE

Please select the activity that best matches your proposed action.

7. Soil disturbance related to oil and gas development

If you chose 13 above, please describe below. If you did not choose 13 above, please type "0".

0

Estimate the total acres of suitable American burying beetle habitat that may be affected.

1.90

Please estimate the total number of acres of **temporary impacts** to American burying beetle habitat. See definitions

1.62

Please estimate the total number of acres of **permanent impacts** to American burying beetle habitat. See definitions

0.28

IPAC USER CONTACT INFORMATION

Agency: BEACON Environmental Assistance Corporation
Name: Andy Middick
Address: 225 Lilac Drive Suite 120
City: Edmond
State: OK
Zip: 73034
Email amiddick@beaconcorp.com
Phone: 4053308688

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Bureau of Indian Affairs

APPENDIX C-4

SURFACE OWNER NOTIFICATION

Tallgrass RESOURCES

4200 E Skelly Dr., Suite 1000 | Tulsa, OK 74135

September 3, 2025

APAC Central
Attn: Kyle Gober
4608 S Garnett Road, Suite 600
Tulsa, OK 74146

In Re: Well #'s B-12, B-13, B-14, B-15, & B-16- Notice of Intent to Drill New Wells
SW/4 Section 1-T25N-R8E
Osage Co., OK

Dear Mr. Gober,

Tallgrass Resources LLC, ("TGR"), is the owner and operator of the Oil & Gas Lease in the SW/4 of Section 1-T25N-R8E in Osage Co., OK. We are planning to drill 5 new wells on this lease. Per the records at the courthouse in Osage County, OK, APAC Central is the surface owners of the tract of land where the above-described wells will be located. The exact surface location of the wells are as follows:

Well	**Location**
B-12	102' from East line and 1,153' from South line
B-13	710' from East line and 891' from North line
B-14	1,009' from West line and 358' from North line
B-15	1,154' from West line and 1,098 from South line
B-16	349' from West line and 1,140' from the North line

Each of the above new wells will require a new lease road to access the new well site, however only one road will be needed into each well site. Please find enclosed a map showing the location of the new wells. We will also send to APAC Central, in the very near future, by separate letter a check for $1,500.00, ($300.00 per well), for the payment for the commencement money for the drilling of these new wells. This payment will be paid in accordance with Code of Federal Regulations Title 25, Part 226.19.

If you have any questions concerning this matter or our plans for these wells, please feel free to contact me at 918.270.9927 or at dwilliams@tallgrassresources.com.

Best regards,

Don L. Williams

Don L. Williams, CPL
VP – Land

Tallgrass RESOURCES

4200 E Skelly Dr., Suite 1000 | Tulsa, OK 74135

September 3, 2025

Phillip E Kelley &
Robbie L Kelley
222 CR 2409
Barnsdall, OK 74002

In Re: Well's Jackson #100 & Jackson A #200 & #201- Notice of Intent to Drill New Wells
SE/4 & NE/4 Section 26-T24N-R9E
Osage Co., OK

Dear Mr. & Mrs. Kelley,

Tallgrass Resources LLC, ("TGR"), is the owner and operator of the Oil & Gas Lease in the ALL of Section 26-T24N-R9E in Osage Co., OK. We are planning to drill three (3) new wells on this lease. Per the records at the courthouse in Osage County, OK, you are the surface owners of the tract(s) of land where the above-described wells will be located. The exact surface location of the wells are as follows:

Well	**Location**
Jackson #100	384' from the North line and 1016' from West line of the SE/4
Jackson A #200	1413' from the South line and 1685' from the East line of the NE/4
Jackson A #201	490' from the South line and 905' from the East line of the NE/4

Each of the above new wells will require a new lease road to access the new well site, however only one road will be needed for each well site. Please find enclosed a map showing the location of the new wells. We will also send to you, in the very near future, by separate letter a check for $900.00, ($300.00 per well), for the payment for the commencement money for the drilling of these new wells. This payment will be paid in accordance with Code of Federal Regulations Title 25, Part 226.19.

If you have any questions concerning this matter or our plans for these wells, please feel free to contact me at 918.270.9927 or at dwilliams@tallgrassresources.com.

Best regards,

Don L. Williams

Don L. Williams, CPL
VP – Land

APPENDIX C-5

NHPA DOCUMENTATION

Section 106 Consultation Summary Memo

BIA Eastern Oklahoma Regional Office

Archaeologist	*Date*
Robert Wight II	10/14/25

Project Info	
ID	25-080
Name	Faulkner B Wells
Lead Tribe(s)	Osage
County	Osage
Legal	Section 1 T25N R8E
Land Status	
Project Type	Oil Well
Acreage	12.11

Consultation Summary	
Document(s) Consulted On	Cultural Survey
Date Document(s) sent to BIA	8/28/25
Date Consultation Started	9/11/25
Date Consultation Ended	10/11/25

Parties Included:

Apache, Cherokee, Cheyenne, OAS, Osage, SHPO, UKB, Wichita

Responses Received:

Party	***Response***	***Date***
Apache	No Response	
Cherokee	Concur	9/29/25
Cheyenne	No Response	
OAS	Concur	10/2/25
Osage	No Response	
SHPO	Concur	9/15/25
UKB	No Response	
Wichita	No Response	

Follow Up Consult?	☐ Yes ☒ No	*For notes and follow up to initial consultation see next page…*

First Follow Up Consultation Summary	
Consulting on/In Response to…	
Date Document(s) sent to BIA	
Date Consultation Started	
Date Consultation Ended	
Parties Included:	

Second Follow Up Consultation Summary	
Consulting on/In Response to…	
Date Document(s) sent to BIA	
Date Consultation Started	
Date Consultation Ended	
Parties Included:	

Follow Up Consultation Responses		
Party	***Response***	***Date***

Follow Up Consultation Responses		
Party	***Response***	***Date***

Closeout Summary	
All Consultations Ended	10/11/25
MOA/PA Needed/Made?	No
Notes:	

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Eastern Oklahoma Region
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

IN REPLY REFER TO:
Division of Environmental, Safety and
Cultural Resources Management

September 2, 2025

Honorable Durell Cooper III
Chairman, Apache Tribe of Oklahoma
P.O. Box 1330
Anadarko, OK 73005

Dear Chairman Cooper,

Enclosed for your review is a copy of *An Archaeological Survey of the Faulkner B Wells, Osage County, Oklahoma* (Cultural Tracking Number: 25-080). The cultural review was prepared by Cassandra Burns of Burns Consulting, LLC. and supplied to the Bureau of Indian Affairs (BIA), Eastern Oklahoma Regional Office (EORO) on August 28, 2025. The proposed project covers a 12.11-acre area of potential effect (APE) consisting of a well pad and access routes.

Tallgrass Resources LLC is proposing the placement of five oil wells in the SW/4 of Section 1, T25N, R8E. Access and utility corridors will extend into the NW and SE quarters of Section 1 as well. Surface disturbance includes well pads for each proposed well (estimated at 1.5 acres each), and seven associated corridors for the installation of power, flow lines, and access routes. These corridors are of varying lengths, but all are 15m wide, covering an estimated 4.61 acres. Total surface disturbance is estimated at 12.11 acres.

An examination of the Oklahoma Archaeological Survey site records in July 2025 revealed no previously recorded archaeological sites within the APE. Three previously recorded sites are present within one mile of the APE but are unlikely to be affected by the proposed actions. Sites 34OS983, 34OS1177, and 34OS1304 are all historic farmsteads that have yet to be evaluated for National Register of Historic Places eligibility. A field investigation was conducted August 14-15, 2025, by Cassandra Burns. The APE was pedestrian surveyed in transects spaced 15m (50 feet). Five shovel test pits measuring 30cm in diameter were excavated within each proposed well pad, and additional shovel tests were placed along the access routes in 100m increments. All field survey activities resulted in no cultural materials observed.

The EORO determines the undertaking to result in **No Historic Properties Affected**, pursuant to 36 C.F.R. § 800.4(d)(1). The EORO seeks your concurrence with the determination of effect. Please review the enclosed cultural survey report and provide the EORO with any comments.

If there are any questions, please contact Mr. Robert Wight II, Archaeologist, BIA EORO, at (918) 616-2444 or robert.wight@bia.gov.

Sincerely,
TRACIE WILLIAMSON
Digitally signed by TRACIE WILLIAMSON
Date: 2025.09.03 07:38:34 -05'00'
Acting Regional Director

Enclosure

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Eastern Oklahoma Region
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

IN REPLY REFER TO:
Division of Environmental, Safety and
Cultural Resources Management

September 2, 2025

Ms. Elizabeth Toombs
Tribal Historic Preservation Officer
Cherokee Nation
P.O. Box 948
Tahlequah, OK 74465

Dear Ms. Toombs,

Enclosed for your review is a copy of *An Archaeological Survey of the Faulkner B Wells, Osage County, Oklahoma* (Cultural Tracking Number: 25-080). The cultural review was prepared by Cassandra Burns of Burns Consulting, LLC. and supplied to the Bureau of Indian Affairs (BIA), Eastern Oklahoma Regional Office (EORO) on August 28, 2025. The proposed project covers a 12.11-acre area of potential effect (APE) consisting of a well pad and access routes.

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If there are any questions, please contact Mr. Robert Wight II, Archaeologist, BIA EORO, at (918) 616-2444 or robert.wight@bia.gov.

Sincerely,
TRACIE WILLIAMSON
Digitally signed by TRACIE WILLIAMSON
Date: 2025.09.03 07:39:03 -05'00'
Acting Regional Director

Enclosure
cc: Chuck Hoskin Jr, Principal Chief, Cherokee Nation

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Eastern Oklahoma Region
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

IN REPLY REFER TO:
Division of Environmental, Safety and
Cultural Resources Management

September 2, 2025

Mr. Max Bear
Tribal Historic Preservation Officer
Cheyenne and Arapaho Tribes, Oklahoma
P.O. Box 145
Concho, OK 73022

Dear Mr. Bear,

Enclosed for your review is a copy of *An Archaeological Survey of the Faulkner B Wells, Osage County, Oklahoma* (Cultural Tracking Number: 25-080). The cultural review was prepared by Cassandra Burns of Burns Consulting, LLC. and supplied to the Bureau of Indian Affairs (BIA), Eastern Oklahoma Regional Office (EORO) on August 28, 2025. The proposed project covers a 12.11-acre area of potential effect (APE) consisting of a well pad and access routes.

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If there are any questions, please contact Mr. Robert Wight II, Archaeologist, BIA EORO, at (918) 616-2444 or robert.wight@bia.gov.

Sincerely,
TRACIE WILLIAMSON
Digitally signed by TRACIE WILLIAMSON
Date: 2025.09.03 07:39:28 -05'00'
Acting Regional Director

Enclosure
cc: Reggie Wassana, Governor, Cheyenne and Arapaho Tribes, Oklahoma

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Eastern Oklahoma Region
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

IN REPLY REFER TO:
Division of Environmental, Safety and
Cultural Resources Management

September 2, 2025

Dr. Kary Stackelbeck
State Archaeologist
Oklahoma Archaeological Survey
111 Chesapeake St.
Norman, OK 73109-5111

Dear Dr. Stackelbeck,

Enclosed for your review is a copy of *An Archaeological Survey of the Faulkner B Wells, Osage County, Oklahoma* (Cultural Tracking Number: 25-080). The cultural review was prepared by Cassandra Burns of Burns Consulting, LLC. and supplied to the Bureau of Indian Affairs (BIA), Eastern Oklahoma Regional Office (EORO) on August 28, 2025. The proposed project covers a 12.11-acre area of potential effect (APE) consisting of a well pad and access routes.

Tallgrass Resources LLC is proposing the placement of five oil wells in the SW/4 of Section 1, T25N, R8E. Access and utility corridors will extend into the NW and SE quarters of Section 1 as well. Surface disturbance includes well pads for each proposed well (estimated at 1.5 acres each), and seven associated corridors for the installation of power, flow lines, and access routes. These corridors are of varying lengths, but all are 15m wide, covering an estimated 4.61 acres. Total surface disturbance is estimated at 12.11 acres.

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If there are any questions, please contact Mr. Robert Wight II, Archaeologist, BIA EORO, at (918) 616-2444 or robert.wight@bia.gov.

Sincerely,
TRACIE WILLIAMSON
Digitally signed by TRACIE WILLIAMSON
Date: 2025.09.03 07:39:53 -05'00'
Acting Regional Director

Enclosure
cc: Lynda Ozan, State Historic Preservation Officer, Oklahoma Historical Society

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Eastern Oklahoma Region
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

IN REPLY REFER TO:
Division of Environmental, Safety and
Cultural Resources Management

September 2, 2025

Dr. Andrea Hunter
Tribal Historic Preservation Officer
The Osage Nation
627 Grandview Avenue
Pawhuska, OK 74056

Dear Dr. Hunter,

Enclosed for your review is a copy of *An Archaeological Survey of the Faulkner B Wells, Osage County, Oklahoma* (Cultural Tracking Number: 25-080). The cultural review was prepared by Cassandra Burns of Burns Consulting, LLC. and supplied to the Bureau of Indian Affairs (BIA), Eastern Oklahoma Regional Office (EORO) on August 28, 2025. The proposed project covers a 12.11-acre area of potential effect (APE) consisting of a well pad and access routes.

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If there are any questions, please contact Mr. Robert Wight II, Archaeologist, BIA EORO, at (918) 616-2444 or robert.wight@bia.gov.

Sincerely,
TRACIE WILLIAMSON
Digitally signed by TRACIE WILLIAMSON
Date: 2025.09.03 07:40:16 -05'00'
Acting Regional Director

Enclosure
cc: Geoffrey M. Standing Bear, Principal Chief, The Osage Nation

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Eastern Oklahoma Region
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

IN REPLY REFER TO:
Division of Environmental, Safety and
Cultural Resources Management

September 2, 2025

Ms. Lynda Ozan
State Historic Preservation Officer
Oklahoma Historical Society
800 Nazih Zuhdi Drive
Oklahoma City, OK 73105

Dear Ms. Ozan,

Enclosed for your review is a copy of *An Archaeological Survey of the Faulkner B Wells, Osage County, Oklahoma* (Cultural Tracking Number: 25-080). The cultural review was prepared by Cassandra Burns of Burns Consulting, LLC. and supplied to the Bureau of Indian Affairs (BIA), Eastern Oklahoma Regional Office (EORO) on August 28, 2025. The proposed project covers a 12.11-acre area of potential effect (APE) consisting of a well pad and access routes.

Tallgrass Resources LLC is proposing the placement of five oil wells in the SW/4 of Section 1, T25N, R8E. Access and utility corridors will extend into the NW and SE quarters of Section 1 as well. Surface disturbance includes well pads for each proposed well (estimated at 1.5 acres each), and seven associated corridors for the installation of power, flow lines, and access routes. These corridors are of varying lengths, but all are 15m wide, covering an estimated 4.61 acres. Total surface disturbance is estimated at 12.11 acres.

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If there are any questions, please contact Mr. Robert Wight II, Archaeologist, BIA EORO, at (918) 616-2444 or robert.wight@bia.gov.

Sincerely,
TRACIE WILLIAMSON
Digitally signed by TRACIE WILLIAMSON
Date: 2025.09.03 07:40:41 -05'00'
Acting Regional Director

Enclosure
cc: Dr. Kary Stackelbeck, State Archaeologist, Oklahoma Archaeological Survey

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Eastern Oklahoma Region
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

IN REPLY REFER TO:
Division of Environmental, Safety and
Cultural Resources Management

September 2, 2025

Mr. Roger Cain
Tribal Historic Preservation Officer
United Keetoowah Band of Cherokee Indians in Oklahoma
18263 W. Keetoowah Circle
Tahlequah, OK 74464

Dear Mr. Cain,

Enclosed for your review is a copy of *An Archaeological Survey of the Faulkner B Wells, Osage County, Oklahoma* (Cultural Tracking Number: 25-080). The cultural review was prepared by Cassandra Burns of Burns Consulting, LLC. and supplied to the Bureau of Indian Affairs (BIA), Eastern Oklahoma Regional Office (EORO) on August 28, 2025. The proposed project covers a 12.11-acre area of potential effect (APE) consisting of a well pad and access routes.

Tallgrass Resources LLC is proposing the placement of five oil wells in the SW/4 of Section 1, T25N, R8E. Access and utility corridors will extend into the NW and SE quarters of Section 1 as well. Surface disturbance includes well pads for each proposed well (estimated at 1.5 acres each), and seven associated corridors for the installation of power, flow lines, and access routes. These corridors are of varying lengths, but all are 15m wide, covering an estimated 4.61 acres. Total surface disturbance is estimated at 12.11 acres.

An examination of the Oklahoma Archaeological Survey site records in July 2025 revealed no previously recorded archaeological sites within the APE. Three previously recorded sites are present within one mile of the APE but are unlikely to be affected by the proposed actions. Sites 34OS983, 34OS1177, and 34OS1304 are all historic farmsteads that have yet to be evaluated for National Register of Historic Places eligibility. A field investigation was conducted August 14-15, 2025, by Cassandra Burns. The APE was pedestrian surveyed in transects spaced 15m (50 feet). Five shovel test pits measuring 30cm in diameter were excavated within each proposed well pad, and additional shovel tests were placed along the access routes in 100m increments. All field survey activities resulted in no cultural materials observed.

The EORO determines the undertaking to result in **No Historic Properties Affected**, pursuant to 36 C.F.R. § 800.4(d)(1). The EORO seeks your concurrence with the determination of effect. Please review the enclosed cultural survey report and provide the EORO with any comments.

If there are any questions, please contact Mr. Robert Wight II, Archaeologist, BIA EORO, at (918) 616-2444 or robert.wight@bia.gov.

Sincerely,
TRACIE WILLIAMSON
Digitally signed by TRACIE WILLIAMSON
Date: 2025.09.03 07:41:05 -05'00'
Acting Regional Director

Enclosure
cc: Jeff Wacoche, Chief, United Keetoowah Band of Cherokee Indians in Oklahoma

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Eastern Oklahoma Region
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

IN REPLY REFER TO:
Division of Environmental, Safety and
Cultural Resources Management

September 2, 2025

Mr. Gary McAdams
Tribal Historic Preservation Officer
Wichita and Affiliated Tribes
P.O. Box 729
Anadarko, OK 73005

Dear Mr. McAdams,

Enclosed for your review is a copy of *An Archaeological Survey of the Faulkner B Wells, Osage County, Oklahoma* (Cultural Tracking Number: 25-080). The cultural review was prepared by Cassandra Burns of Burns Consulting, LLC. and supplied to the Bureau of Indian Affairs (BIA), Eastern Oklahoma Regional Office (EORO) on August 28, 2025. The proposed project covers a 12.11-acre area of potential effect (APE) consisting of a well pad and access routes.

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An examination of the Oklahoma Archaeological Survey site records in July 2025 revealed no previously recorded archaeological sites within the APE. Three previously recorded sites are present within one mile of the APE but are unlikely to be affected by the proposed actions. Sites 34OS983, 34OS1177, and 34OS1304 are all historic farmsteads that have yet to be evaluated for National Register of Historic Places eligibility. A field investigation was conducted August 14-15, 2025, by Cassandra Burns. The APE was pedestrian surveyed in transects spaced 15m (50 feet). Five shovel test pits measuring 30cm in diameter were excavated within each proposed well pad, and additional shovel tests were placed along the access routes in 100m increments. All field survey activities resulted in no cultural materials observed.

The EORO determines the undertaking to result in **No Historic Properties Affected**, pursuant to 36 C.F.R. § 800.4(d)(1). The EORO seeks your concurrence with the determination of effect. Please review the enclosed cultural survey report and provide the EORO with any comments.

If there are any questions, please contact Mr. Robert Wight II, Archaeologist, BIA EORO, at (918) 616-2444 or robert.wight@bia.gov.

Sincerely,
TRACIE WILLIAMSON
Digitally signed by TRACIE WILLIAMSON
Date: 2025.09.03 07:41:31 -05'00'
Acting Regional Director

Enclosure
cc: Amber Silverhorn-Wolfe, President, Wichita and Affiliated Tribes

ML 26-006
received
Oct. 06 2025

Oklahoma Archeological Survey

THE UNIVERSITY OF OKLAHOMA

October 2, 2025

Bureau of Indian Affairs
Eastern Oklahoma Regional Office
Attn: Tracie Williamson
Acting Regional Director
P.O. Box 8002
Muskogee, OK 74402-8002

Re: OAS FY25-2115: *An Archaeological Survey of the Faulkner B Wells.* Report by Cassandra Burns (Burns Consulting).
Legal Description: Section 1, T25N, R8E, Osage County, Oklahoma

Dear Ms. Williamson:

This agency received the above-referenced cultural resources survey report of investigations regarding the proposed Faulkner B Wells project for review and comment. From the information provided, we understand that Burns Consulting staff surveyed the 12.11-acre area on August 14-15, 2025. No sites or other resources were identified within the APE. BIA recommends a determination of *No Historic Properties Affected.*

We concur with the findings as they pertain to prehistoric archaeological resources and defer opinion on overall project effects to the State Historic Preservation Office or Tribal Historic Preservation Officer with standing.

This review has been conducted in cooperation with the State Historic Preservation Office, Oklahoma Historical Society. You must also have a letter from that office to document your consultation pursuant to Section 106 of the National Historic Preservation Act.

Sincerely,

Debra K. Green, Ph.D.
Assistant State Archaeologist

Kary L. Stackelbeck, Ph.D.
State Archaeologist

cc: SHPO

111 Chesapeake, Room 102, Norman, Oklahoma 73019-5111 PHONE: (405) 325-7211 FAX: (405) 325-7604
A UNIT OF ARTS AND SCIENCES SERVING THE PEOPLE OF OKLAHOMA

Oklahoma Historical Society
State Historic Preservation Office

September 15, 2025

Ms. Tracie Williamson
USDI BIA Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

RE: File #2260-25; BIA & Tallgrass Resources, LLC Proposed Placement of Five Oil Wells (Faulkner B Wells) in T25N-R8E-Section 1, Osage County

Dear Ms. Williamson:

We have received and reviewed the documentation submitted on the referenced project. Additionally, we have examined the information contained in the Oklahoma Landmarks Inventory (OLI) files and other materials on historic resources available in our office. We find that there are no known historic properties affected within the referenced project's area of potential effect.

In addition to our review, you must contact the Oklahoma Archeological Survey (OAS), 111 East Chesapeake, #102, Norman OK 73019-5111 (#405-325-7211, FAX #405-325-7604), to obtain a determination about the presence of precontact resources that may be eligible for the National Register of Historic Places. Should the OAS conclude that there are no precontact archaeological sites or other types of "historic properties," as defined in 36 CFR Part 800.16(l), which are eligible for inclusion in the National Register of Historic Places within the project area and that such sites are unlikely to occur, we concur with that opinion.

The OAS may conclude that an additional on-site investigation of all or part of the project impact area is necessary to determine the presence of archaeological resources. In the event that such an investigation reveals the presence of precontact archaeological sites, we will defer to the judgment of the OAS concerning whether or not any of the resources should be considered "historic properties" under the Section 106 review process. If sites dating from the post-contact period are identified during the survey or are encountered during implementation of the project, additional assessments by the State Historic Preservation Office will be necessary.

Should further correspondence pertaining to this project be necessary, please reference the above underlined file number. If you have any questions, please contact Kristina Wyckoff, Historical Archaeologist, at 405-521-6381. Thank you.

Sincerely,

Lynda Ozan
Deputy State Historic
Preservation Officer

LO:kw

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CHEROKEE NATION®

P.O. Box 948 • Tahlequah, OK 74465-0948
918-453-5000 • www.cherokee.org

Chuck Hoskin Jr.
Principal Chief
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Bryan Warner
Deputy Principal Chief
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September 29, 2025

Robert Wight II
Bureau of Indian Affairs
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

Re: 25-080, Faulkner B Wells for five oil well placements

Mr. Robert Wight II:

The Cherokee Nation (Nation) is in receipt of your correspondence about and related report for **Faulkner B Wells**, and appreciates the opportunity to provide comment upon this project. This communication is intended for government-to-government consultation with a sovereign federally recognized Tribal Nation. Information received in consultation will be deemed confidential unless explicit consent is provided by the Nation.

The Nation maintains databases and records of cultural, historic, and pre-historic resources in this area. Our Historic Preservation Office (Office) reviewed this project, cross referenced the project's legal description against our information, and found no instances where this project intersects or adjoins such resources. Thus, the Nation does not foresee this project imparting impacts to Cherokee cultural resources at this time.

However, the Nation requests that the Bureau of Indian Affairs (BIA) halt all project activities immediately and re-contact our Office for further consultation if items of cultural significance are discovered during the course of this project. Additionally, the Nation requests that the BIA conduct appropriate inquiries with other pertinent Historic Preservation Offices regarding historic and prehistoric resources not included in the Nation's databases or records.

If you require additional information or have any questions, please contact me at your convenience. Thank you for your time and attention to this matter.

Wado,

Elizabeth Toombs

Elizabeth Toombs, Tribal Historic Preservation Officer
Cherokee Nation Tribal Historic Preservation Office
elizabeth-toombs@cherokee.org
918.453.5389

Section 106 Consultation Summary Memo

BIA Eastern Oklahoma Regional Office

Archaeologist	*Date*
Robert Wight II	10/14/25

Project Info	
ID	25-080
Name	Faulkner B Wells
Lead Tribe(s)	Osage
County	Osage
Legal	Section 1 T25N R8E
Land Status	
Project Type	Oil Well
Acreage	12.11

Consultation Summary	
Document(s) Consulted On	Cultural Survey
Date Document(s) sent to BIA	8/28/25
Date Consultation Started	9/11/25
Date Consultation Ended	10/11/25

Parties Included:

Apache, Cherokee, Cheyenne, OAS, Osage, SHPO, UKB, Wichita

Responses Received:

Party	***Response***	***Date***
Apache	No Response	
Cherokee	Concur	9/29/25
Cheyenne	No Response	
OAS	Concur	10/2/25
Osage	No Response	
SHPO	Concur	9/15/25
UKB	No Response	
Wichita	No Response	

Follow Up Consult?	☐ Yes ☒ No	*For notes and follow up to initial consultation see next page…*

First Follow Up Consultation Summary	
Consulting on/In Response to…	
Date Document(s) sent to BIA	
Date Consultation Started	
Date Consultation Ended	
Parties Included:	

Second Follow Up Consultation Summary	
Consulting on/In Response to…	
Date Document(s) sent to BIA	
Date Consultation Started	
Date Consultation Ended	
Parties Included:	

Follow Up Consultation Responses		
Party	***Response***	***Date***

Follow Up Consultation Responses		
Party	***Response***	***Date***

Closeout Summary	
All Consultations Ended	10/11/25
MOA/PA Needed/Made?	No
Notes:	

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Eastern Oklahoma Region
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

IN REPLY REFER TO:
Division of Environmental, Safety and
Cultural Resources Management

September 10, 2025

Honorable Durell Cooper III
Chairman, Apache Tribe of Oklahoma
P.O. Box 1330
Anadarko, OK 73005

Dear Chairman Cooper:

Enclosed for your review is a copy of *An Archaeological Survey of the Proposed Jackson Wells, Osage County, Oklahoma* (Cultural Tracking Number: 25-083). The cultural review was prepared by Cassandra Burns of Burns Consulting, LLC. and supplied to the Bureau of Indian Affairs (BIA), Eastern Oklahoma Regional Office (EORO) on September 9, 2025. The proposed project covers an 8.25-acre area of potential effect (APE) consisting of a well pad and access routes. This survey references the 2014 Cojeen Archaeological Services, LLC (CAS) *Report on the Archeological Survey of Section 26 T24NR9E and the S/2 SW/4 Section 35 T26N R8E (720 Acres Surveyed), Osage County, Oklahoma*. It has been included in this packet.

Tallgrass Resources, LLC is proposing to drill three wells in the Wynona Oil Field, about one mile southeast of Wynona, Oklahoma, in the east half of Section 26, T24N, R9E. The entirety of Section 26 was surveyed by CAS for Short Oil Company in 2013. During this survey, three archaeological sites and 58 isolated occurrences were noted. The three sites (34OS1273, 34OS1274, and 34OS1275) date to the mid to late 20th century. Sites 34OS1274 and 34OS1275 were recorded as inventory sites and recommended ineligible for National Register of Historic Places (NRHP) listing. Site 34OS1273 was recommended ineligible under Criteria C and D, but was not assessed under Criteria A and B. Instead, an avoidance buffer was recommended. The 58 isolated occurrences are mostly oil wells or oilfield equipment. The remaining 17 isolated occurrences consist of concrete foundations, concrete and stone rubble, and historic domestic and industrial debris. The entire section, apart from an avoidance buffer around 34OS1273, was cleared for oil production.

The proposed wells involve three well pads of 1.5 acres or less (4.5 acres for three well pads), as well as seven short corridors of various lengths and 15 meters in width (3.75 acres of corridors), for a total project area of 8.25 acres. All the proposed work falls within Section 26 as surveyed by CAS and avoids the specified buffer around Site 34OS1273. The survey by CAS was conducted prior to Tallgrass Resources' ownership of the lease and did not account for a planned flow line crossing an intermittent tributary of Fourmile Creek. On August 29, 2025, Burns

Consulting examined a 30m x 15m corridor crossing the stream and found no evidence of significant cultural resources during either a pedestrian survey or two shovel tests.

The EORO determines the undertaking to result in **No Historic Properties Affected**, pursuant to 36 C.F.R. § 800.4(d)(1). The EORO seeks your concurrence with the determination of effect. Please review the enclosed cultural survey report and provide the EORO with any comments.

If there are any questions, please contact Mr. Robert Wight II, Archaeologist, BIA EORO, at (918) 616-2444 or robert.wight@bia.gov.

Sincerely,

TRACIE WILLIAMSON

Digitally signed by TRACIE WILLIAMSON
Date: 2025.09.10 09:31:49 -05'00'

Acting Regional Director

Enclosures

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Eastern Oklahoma Region
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

IN REPLY REFER TO:
Division of Environmental, Safety and
Cultural Resources Management

September 10, 2025

Ms. Elizabeth Toombs
Tribal Historic Preservation Officer
Cherokee Nation
P.O. Box 948
Tahlequah, OK 74465

Dear Ms. Toombs:

Enclosed for your review is a copy of *An Archaeological Survey of the Proposed Jackson Wells, Osage County, Oklahoma* (Cultural Tracking Number: 25-083). The cultural review was prepared by Cassandra Burns of Burns Consulting, LLC. and supplied to the Bureau of Indian Affairs (BIA), Eastern Oklahoma Regional Office (EORO) on September 9, 2025. The proposed project covers an 8.25-acre area of potential effect (APE) consisting of a well pad and access routes. This survey references the 2014 Cojeen Archaeological Services, LLC (CAS) *Report on the Archeological Survey of Section 26 T24NR9E and the S/2 SW/4 Section 35 T26N R8E (720 Acres Surveyed), Osage County, Oklahoma*. It has been included in this packet.

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The proposed wells involve three well pads of 1.5 acres or less (4.5 acres for three well pads), as well as seven short corridors of various lengths and 15 meters in width (3.75 acres of corridors), for a total project area of 8.25 acres. All the proposed work falls within Section 26 as surveyed by CAS and avoids the specified buffer around Site 34OS1273. The survey by CAS was conducted prior to Tallgrass Resources' ownership of the lease and did not account for a planned

flow line crossing an intermittent tributary of Fourmile Creek. On August 29, 2025, Burns Consulting examined a 30m x 15m corridor crossing the stream and found no evidence of significant cultural resources during either a pedestrian survey or two shovel tests.

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If there are any questions, please contact Mr. Robert Wight II, Archaeologist, BIA EORO, at (918) 616-2444 or robert.wight@bia.gov.

Sincerely,

TRACIE WILLIAMSON

Digitally signed by TRACIE WILLIAMSON
Date: 2025.09.10 09:32:23 -05'00'

Acting Regional Director

Enclosures

cc: Chuck Hoskin Jr, Principal Chief, Cherokee Nation

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Eastern Oklahoma Region
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

IN REPLY REFER TO:
Division of Environmental, Safety and
Cultural Resources Management

September 10, 2025

Mr. Max Bear
Tribal Historic Preservation Officer
Cheyenne and Arapaho Tribes, Oklahoma
P.O. Box 145
Concho, OK 73022

Dear Mr. Bear:

Enclosed for your review is a copy of *An Archaeological Survey of the Proposed Jackson Wells, Osage County, Oklahoma* (Cultural Tracking Number: 25-083). The cultural review was prepared by Cassandra Burns of Burns Consulting, LLC. and supplied to the Bureau of Indian Affairs (BIA), Eastern Oklahoma Regional Office (EORO) on September 9, 2025. The proposed project covers an 8.25-acre area of potential effect (APE) consisting of a well pad and access routes. This survey references the 2014 Cojeen Archaeological Services, LLC (CAS) *Report on the Archeological Survey of Section 26 T24NR9E and the S/2 SW/4 Section 35 T26N R8E (720 Acres Surveyed), Osage County, Oklahoma*. It has been included in this packet.

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The proposed wells involve three well pads of 1.5 acres or less (4.5 acres for three well pads), as well as seven short corridors of various lengths and 15 meters in width (3.75 acres of corridors), for a total project area of 8.25 acres. All the proposed work falls within Section 26 as surveyed by CAS and avoids the specified buffer around Site 34OS1273. The survey by CAS was conducted prior to Tallgrass Resources' ownership of the lease and did not account for a planned

flow line crossing an intermittent tributary of Fourmile Creek. On August 29, 2025, Burns Consulting examined a 30m x 15m corridor crossing the stream and found no evidence of significant cultural resources during either a pedestrian survey or two shovel tests.

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If there are any questions, please contact Mr. Robert Wight II, Archaeologist, BIA EORO, at (918) 616-2444 or robert.wight@bia.gov.

Sincerely,

TRACIE WILLIAMSON

Digitally signed by TRACIE WILLIAMSON
Date: 2025.09.10 09:32:51 -05'00'

Acting Regional Director

Enclosures

cc: Reggie Wassana, Governor, Cheyenne and Arapaho Tribes, Oklahoma

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Eastern Oklahoma Region
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

IN REPLY REFER TO:
Division of Environmental, Safety and
Cultural Resources Management

September 10, 2025

Dr. Kary Stackelbeck
State Archaeologist
Oklahoma Archaeological Survey
111 Chesapeake St.
Norman, OK 73109-5111

Dear Dr. Stackelbeck:

Enclosed for your review is a copy of *An Archaeological Survey of the Proposed Jackson Wells, Osage County, Oklahoma* (Cultural Tracking Number: 25-083). The cultural review was prepared by Cassandra Burns of Burns Consulting, LLC. and supplied to the Bureau of Indian Affairs (BIA), Eastern Oklahoma Regional Office (EORO) on September 9, 2025. The proposed project covers an 8.25-acre area of potential effect (APE) consisting of a well pad and access routes. This survey references the 2014 Cojeen Archaeological Services, LLC (CAS) *Report on the Archeological Survey of Section 26 T24NR9E and the S/2 SW/4 Section 35 T26N R8E (720 Acres Surveyed), Osage County, Oklahoma*. It has been included in this packet.

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If there are any questions, please contact Mr. Robert Wight II, Archaeologist, BIA EORO, at (918) 616-2444 or robert.wight@bia.gov.

Sincerely,

TRACIE WILLIAMSON

Digitally signed by TRACIE WILLIAMSON
Date: 2025.09.10 09:33:20 -05'00'

Acting Regional Director

Enclosures

cc: Lynda Ozan, State Historic Preservation Officer, Oklahoma Historical Society

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Eastern Oklahoma Region
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

IN REPLY REFER TO:
Division of Environmental, Safety and
Cultural Resources Management

September 10, 2025

Dr. Andrea Hunter
Tribal Historic Preservation Officer
The Osage Nation
627 Grandview Avenue
Pawhuska, OK 74056

Dear Dr. Hunter:

Enclosed for your review is a copy of *An Archaeological Survey of the Proposed Jackson Wells, Osage County, Oklahoma* (Cultural Tracking Number: 25-083). The cultural review was prepared by Cassandra Burns of Burns Consulting, LLC. and supplied to the Bureau of Indian Affairs (BIA), Eastern Oklahoma Regional Office (EORO) on September 9, 2025. The proposed project covers an 8.25-acre area of potential effect (APE) consisting of a well pad and access routes. This survey references the 2014 Cojeen Archaeological Services, LLC (CAS) *Report on the Archeological Survey of Section 26 T24NR9E and the S/2 SW/4 Section 35 T26N R8E (720 Acres Surveyed), Osage County, Oklahoma*. It has been included in this packet.

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If there are any questions, please contact Mr. Robert Wight II, Archaeologist, BIA EORO, at (918) 616-2444 or robert.wight@bia.gov.

Sincerely,

TRACIE WILLIAMSON

Digitally signed by TRACIE WILLIAMSON
Date: 2025.09.10 09:33:47 -05'00'

Acting Regional Director

Enclosures

cc: Geoffrey M. Standing Bear, Principal Chief, The Osage Nation

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Eastern Oklahoma Region
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

IN REPLY REFER TO:
Division of Environmental, Safety and
Cultural Resources Management

September 10, 2025

Ms. Lynda Ozan
State Historic Preservation Officer
Oklahoma Historical Society
800 Nazih Zuhdi Drive
Oklahoma City, OK 73105

Dear Ms. Ozan:

Enclosed for your review is a copy of *An Archaeological Survey of the Proposed Jackson Wells, Osage County, Oklahoma* (Cultural Tracking Number: 25-083). The cultural review was prepared by Cassandra Burns of Burns Consulting, LLC. and supplied to the Bureau of Indian Affairs (BIA), Eastern Oklahoma Regional Office (EORO) on September 9, 2025. The proposed project covers an 8.25-acre area of potential effect (APE) consisting of a well pad and access routes. This survey references the 2014 Cojeen Archaeological Services, LLC (CAS) *Report on the Archeological Survey of Section 26 T24NR9E and the S/2 SW/4 Section 35 T26N R8E (720 Acres Surveyed), Osage County, Oklahoma*. It has been included in this packet.

Tallgrass Resources, LLC is proposing to drill three wells in the Wynona Oil Field, about one mile southeast of Wynona, Oklahoma, in the east half of Section 26, T24N, R9E. The entirety of Section 26 was surveyed by CAS for Short Oil Company in 2013. During this survey, three archaeological sites and 58 isolated occurrences were noted. The three sites (34OS1273, 34OS1274, and 34OS1275) date to the mid to late 20th century. Sites 34OS1274 and 34OS1275 were recorded as inventory sites and recommended ineligible for National Register of Historic Places (NRHP) listing. Site 34OS1273 was recommended ineligible under Criteria C and D, but was not assessed under Criteria A and B. Instead, an avoidance buffer was recommended. The 58 isolated occurrences are mostly oil wells or oilfield equipment. The remaining 17 isolated occurrences consist of concrete foundations, concrete and stone rubble, and historic domestic and industrial debris. The entire section, apart from an avoidance buffer around 34OS1273, was cleared for oil production.

The proposed wells involve three well pads of 1.5 acres or less (4.5 acres for three well pads), as well as seven short corridors of various lengths and 15 meters in width (3.75 acres of corridors), for a total project area of 8.25 acres. All the proposed work falls within Section 26 as surveyed by CAS and avoids the specified buffer around Site 34OS1273. The survey by CAS was conducted prior to Tallgrass Resources' ownership of the lease and did not account for a planned

flow line crossing an intermittent tributary of Fourmile Creek. On August 29, 2025, Burns Consulting examined a 30m x 15m corridor crossing the stream and found no evidence of significant cultural resources during either a pedestrian survey or two shovel tests.

The EORO determines the undertaking to result in **No Historic Properties Affected**, pursuant to 36 C.F.R. § 800.4(d)(1). The EORO seeks your concurrence with the determination of effect. Please review the enclosed cultural survey report and provide the EORO with any comments.

If there are any questions, please contact Mr. Robert Wight II, Archaeologist, BIA EORO, at (918) 616-2444 or robert.wight@bia.gov.

Sincerely,

TRACIE WILLIAMSON

Digitally signed by TRACIE WILLIAMSON
Date: 2025.09.10 09:34:16 -05'00'

Acting Regional Director

Enclosures

cc: Dr. Kary Stackelbeck, State Archaeologist, Oklahoma Archaeological Survey

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Eastern Oklahoma Region
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

IN REPLY REFER TO:
Division of Environmental, Safety and
Cultural Resources Management

September 10, 2025

Mr. Roger Cain
Tribal Historic Preservation Officer
United Keetoowah Band of Cherokee Indians in Oklahoma
18263 W. Keetoowah Circle
Tahlequah, OK 74464

Dear Mr. Cain:

Enclosed for your review is a copy of *An Archaeological Survey of the Proposed Jackson Wells, Osage County, Oklahoma* (Cultural Tracking Number: 25-083). The cultural review was prepared by Cassandra Burns of Burns Consulting, LLC. and supplied to the Bureau of Indian Affairs (BIA), Eastern Oklahoma Regional Office (EORO) on September 9, 2025. The proposed project covers an 8.25-acre area of potential effect (APE) consisting of a well pad and access routes. This survey references the 2014 Cojeen Archaeological Services, LLC (CAS) *Report on the Archeological Survey of Section 26 T24NR9E and the S/2 SW/4 Section 35 T26N R8E (720 Acres Surveyed), Osage County, Oklahoma*. It has been included in this packet.

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The proposed wells involve three well pads of 1.5 acres or less (4.5 acres for three well pads), as well as seven short corridors of various lengths and 15 meters in width (3.75 acres of corridors), for a total project area of 8.25 acres. All the proposed work falls within Section 26 as surveyed by CAS and avoids the specified buffer around Site 34OS1273. The survey by CAS was conducted prior to Tallgrass Resources' ownership of the lease and did not account for a planned

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If there are any questions, please contact Mr. Robert Wight II, Archaeologist, BIA EORO, at (918) 616-2444 or robert.wight@bia.gov.

Sincerely,

TRACIE WILLIAMSON

Digitally signed by TRACIE WILLIAMSON
Date: 2025.09.10 09:34:47 -05'00'

Acting Regional Director

Enclosures

cc: Jeff Wacoche, Chief, United Keetoowah Band of Cherokee Indians in Oklahoma

United States Department of the Interior
BUREAU OF INDIAN AFFAIRS
Eastern Oklahoma Region
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

IN REPLY REFER TO:
Division of Environmental, Safety and
Cultural Resources Management

September 10, 2025

Mr. Gary McAdams
Tribal Historic Preservation Officer
Wichita and Affiliated Tribes
P.O. Box 729
Anadarko, OK 73005

Dear Mr. McAdams:

Enclosed for your review is a copy of *An Archaeological Survey of the Proposed Jackson Wells, Osage County, Oklahoma* (Cultural Tracking Number: 25-083). The cultural review was prepared by Cassandra Burns of Burns Consulting, LLC. and supplied to the Bureau of Indian Affairs (BIA), Eastern Oklahoma Regional Office (EORO) on September 9, 2025. The proposed project covers an 8.25-acre area of potential effect (APE) consisting of a well pad and access routes. This survey references the 2014 Cojeen Archaeological Services, LLC (CAS) *Report on the Archeological Survey of Section 26 T24NR9E and the S/2 SW/4 Section 35 T26N R8E (720 Acres Surveyed), Osage County, Oklahoma*. It has been included in this packet.

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flow line crossing an intermittent tributary of Fourmile Creek. On August 29, 2025, Burns Consulting examined a 30m x 15m corridor crossing the stream and found no evidence of significant cultural resources during either a pedestrian survey or two shovel tests.

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If there are any questions, please contact Mr. Robert Wight II, Archaeologist, BIA EORO, at (918) 616-2444 or robert.wight@bia.gov.

Sincerely,

TRACIE WILLIAMSON

Digitally signed by TRACIE WILLIAMSON
Date: 2025.09.10 09:35:18 -05'00'

Acting Regional Director

Enclosures

cc: Amber Silverhorn-Wolfe, President, Wichita and Affiliated Tribes

ML26-009
received
Oct. 08 2025

Oklahoma Archeological Survey

THE UNIVERSITY OF OKLAHOMA

October 3, 2025

Bureau of Indian Affairs
Eastern Oklahoma Regional Office
Attn: Tracie Williamson
Acting Regional Director
P.O. Box 8002
Muskogee, OK 74402-8002

Re: OAS FY25-2174: *An Archaeological Survey of the Proposed Jackson Wells.* Report by Cassandra Burns (Burns Consulting).
Legal Description: Section 26, T24N, R9E, Osage County, Oklahoma

Dear Ms. Williamson:

This agency received the above-referenced cultural resources survey report of investigations regarding the proposed Jackson Wells project for review and comment. From the information provided, we understand that Burns Consulting staff surveyed the 0.11-acre additional area on August 29, 2025. No sites or other resources were identified within the APE. BIA recommends a determination of *No Historic Properties Affected.*

I concur with the findings as they pertain to prehistoric archaeological resources and defer opinion on overall project effects to the State Historic Preservation Office or Tribal Historic Preservation Officer with standing.

This review has been conducted in cooperation with the State Historic Preservation Office, Oklahoma Historical Society. You must also have a letter from that office to document your consultation pursuant to Section 106 of the National Historic Preservation Act.

Sincerely,

Kary L. Stackelbeck, Ph.D.
State Archaeologist

cc: SHPO

111 Chesapeake, Room 102, Norman, Oklahoma 73019-5111 PHONE: (405) 325-7211 FAX: (405) 325-7604
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Chuck Hoskin Jr.
Principal Chief
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Bryan Warner
Deputy Principal Chief
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October 15, 2025

Robert Wight II
Bureau of Indian Affairs
P.O. Box 8002
Muskogee, OK 74402

Re: Proposed Jackson Wells, Osage County

Mr. Robert Wight II:

The Cherokee Nation (Nation) is in receipt of your correspondence about and related report for **Proposed Jackson Wells**, and appreciates the opportunity to provide comment upon this project. This communication is intended for government-to-government consultation with a sovereign federally recognized Tribal Nation. Information received in consultation will be deemed confidential unless explicit consent is provided by the Nation.

The Nation maintains databases and records of cultural, historic, and pre-historic resources in this area. Our Historic Preservation Office (Office) reviewed this project, cross referenced the project's legal description against our information, and found no instances where this project intersects or adjoins such resources. Thus, the Nation does not foresee this project imparting impacts to Cherokee cultural resources at this time.

However, the Nation requests that the Bureau of Indian Affairs halt all project activities immediately and re-contact our Office for further consultation if items of cultural significance are discovered during the course of this project. Additionally, the Nation requests that the Bureau of Indian Affairs conduct appropriate inquiries with other pertinent Historic Preservation Offices regarding historic and prehistoric resources not included in the Nation's databases or records.

If you require additional information or have any questions, please contact me at your convenience. Thank you for your time and attention to this matter.

Wado,

Elizabeth Toombs

Elizabeth Toombs, Tribal Historic Preservation Officer
Cherokee Nation Tribal Historic Preservation Office
elizabeth-toombs@cherokee.org
918.453.5389

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Chuck Hoskin Jr.
Principal Chief
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ᎤᎬᏫᏳᎯ

Bryan Warner
Deputy Principal Chief
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October 1, 2025

Tracie Williamson
United States Department of the Interior
Bureau of Indian Affairs
Eastern Oklahoma Regional Office
P.O. Box 8002
Muskogee, OK 74402-8002

Re: Wynona Oil Field Wells (25-083),
Osage County, Oklahoma

Ms. Tracie Williamson:

The Cherokee Nation (Nation) is in receipt of your correspondence about **Wynona Oil Field Wells (25-083)**, and appreciates the opportunity to provide comment upon this project.

The Nation maintains databases and records of cultural, historic, and pre-historic resources in this area. Our Historic Preservation Office (Office) reviewed this project, cross referenced the project's legal description against our information, and found no instances where this project intersects or adjoins such resources. Thus, the Nation does not foresee this project imparting impacts to Cherokee cultural resources at this time.

However, the Nation requests that the Bureau of Indian Affairs (BIA) halt all project activities immediately and re-contact our Office for further consultation if items of cultural significance are discovered during the course of this project. Additionally, the Nation requests that the BIA conduct appropriate inquiries with other pertinent Historic Preservation Offices regarding historic and prehistoric resources not included in the Nation's databases or records.

If you require additional information or have any questions, please contact me at your convenience. Thank you for your time and attention to this matter.

Wado,

Elizabeth Toombs

Elizabeth Toombs, Tribal Historic Preservation Officer
Cherokee Nation Tribal Historic Preservation Office
elizabeth-toombs@cherokee.org
918.453.5389

APPENDIX C-6

TRIBAL ENROLLMENT DATA COLLECTION

OMB Control No. 1076-0197
Expires 09/30/2021

United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, DC 20240

TRIBAL ENROLLMENT DATA COLLECTION

This is a request for updated Tribal enrollment information. This Tribal enrollment information will be consolidated at the headquarters offices in Washington, DC and used by Indian Affairs (IA) to support decisions regarding the allocation of funds and services to tribes. IA may also provide the information to other Federal agencies for their use in making fund distributions.

(Please insert requested information & sign below)

Tribe Name: EASTERN OK - Osage Nation

Tribal Enrollment Number: 22,925 as of February 1, 2021

(Please check box for concurrence)

☑ I have read the above disclaimer and agree to the use of this information for these purposes. Further, I hereby certify I am authorized by the governing body of the Tribe named above to submit the information included with this form and that it is true and correct to the best of my knowledge. I further understand that anyone who knowingly and willfully makes a false statement to the United States Government may be subject to criminal prosecution under the False Statements Accountability Act of 1996, 18 U.S.C. 1001.

Signature

4/5/21
Date

Geoffrey M. Standing Bear, Principal Chief
Printed Name & Title of Tribal Leader

APPENDIX C-7

FAULKNER LEASE TANK BATTERY SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE (SPCC) PLAN

SCO-JO ENVIRONMENTAL

The Leader In Environmental Protection & Supplies.

OPERATOR

TALLGRASS RESOURCES, LLC
4200 E. SKELLY DR., SUITE 1000
TULSA, OK 74135

FACILITY

FAULKNER LEASE
NE 1/4 SEC. 1 T-25N R-8E
OSAGE COUNTY, OK
N 036 X 40.747 W 096 X 23.400

Jon Stromberg, P.E.
Oklahoma Professional Engineer License No. 9425
Centrex Energy Consultants
7021 N.W. 63rd St.; STE. 101
Bethany, OK 73008
(405) 720-1280
P.O. BOX 895 EDMOND, OK 73083 - 405-340-5499

TABLE OF CONTENTS
SPILL PLAN & CONTINGENCY PLAN

OIL SPILL CONTINGENCY PLAN

TABLE OF CONTENTS

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE (SPCC) PLAN

OPERATOR

TALLGRASS RESOURCES, LLC
4200 E. SKELLY DR., SUITE 1000
TULSA, OK 74135

FACILITY

FAULKNER LEASE
NE 1/4 SEC. 1 T-25N R-8E
OSAGE COUNTY, OK

FOR THIS PLAN TO BE EFFECTIVE, A SPILL HISTORY FOR THIS FACILITY MUST BE ADDED BY THE OWNER / OPERATOR AND THE FOLLOWING PAGE 21 MUST BE COMPLETED FOR THIS PLAN TO BE COMPLETE AND IN ACCORDANCE WITH 40 CFR PART 112. ANY AND ALL OTHER FEDERAL, STATE, OR LOCAL LAWS WHICH MAY APPLY TO THIS FACILITY MUST BE ADDED BY THE OPERATOR IF THEY ARE MORE STRINGENT THAN 40 CFR PART 112.

MANAGEMENT APPROVAL 40 CFR 112.7

THIS PLAN HAS BEEN PREPARED FOR THE OPERATOR OF THE ABOVE MENTIONED ONSHORE FACILITY THAT PRODUCES OIL AND ASSOCIATED BY-PRODUCTS WITH MY CONSENT. I HAVE FULL AUTHORITY TO COMMIT AND WILL COMMIT THE NECESSARY MANPOWER, EQUIPMENT, AND MATERIALS NEEDED TO EXPEDITIOUSLY REMOVE AND CONTROL ANY QUANTITY OF PRODUCED OIL OR WATER THAT HAS BEEN DISCHARGED FROM THIS FACILITY. I HAVE REVIEWED THIS PLAN AND APPROVED OF ITS CONTENT.
THIS SPCC PLAN WILL BE IMPLEMENTED AS DESCRIBED.

OPERATION MANAGER _____
SIGNATURE

PRINT NAME _____ DATE _____

CERTIFICATION 40 CFR 112.3 (d)

I CERTIFY THAT I AM FAMILIAR WITH THE REQUIREMENTS OF CFR 40 PART 112, THAT I OR MY AGENTS HAVE VISITED AND EXAMINED THIS FACILITY, THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH GOOD ENGINEERING PRINCIPLES PRACTICES, DULY CONSIDERING APPLICABLE INDUSTRY STANDARDS AND THE REQUIREMENTS OF CFR 40 PART 112, AND THAT THE EPA PROCEDURES FOR REQUIRED INSPECTIONS AND TESTING HAVE BEEN ESTABLISHED AT THIS FACILITY AND THAT THIS PLAN IS ADEQUATE FOR THIS FACILITY. I HAVE PREPARED THIS PLAN BASED ON MY UNDERSTANDING OF 40 CFR PART 112. HOWEVER, THIS LAW IS SUBJECT TO FREQUENT REVISIONS AND CHANGES AND THE DIFFERENCE IN INTERPRETATIONS FROM THE EPA AND ITS AGENTS.

THAT, IF APPLICABLE, FOR A PRODUCED WATER CONTAINER SUBJECT TO §112.9(c)(6), ANY PROCEDURE TO MINIMIZE THE AMOUNT OF FREE-PHASE OIL IS DESIGNED TO REDUCE THE ACCUMULATION OF FREE-PHASE OIL AND THE PROCEDURES AND FREQUENCY FOR REQUIRED INSPECTIONS, MAINTENANCE AND TESTING HAVE BEEN ESTABLISHED AND ARE DESCRIBED IN THE PLAN.

Jon S. Stromberg

Jon Stromberg, P.E.
Oklahoma Professional Engineer License No. 9425

6/21/24
DATE

CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA CHECKLIST

N 036 X 40.747 W 096 X 23.400

FACILITY: **FAULKNER LEASE** Altitude (ft):

LOCATION: NE 1/4 SEC. 1 T-25N R-8E OSAGE COUNTY, OK

1. Does this facility transfer oil over water to or from vessels and does this facility have a total oil storage capacity greater than or equal to 42,000 gallons?

☐ Yes ☑ No

2. Does this facility have a Total Oil Storage Capacity greater than or equal to one (1) million gallons and does this facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

☐ Yes ☑ No

3. Does this facility have a Total Oil Storage Capacity greater than or equal to 1 million gallons and is this facility located at a distance (as calculated using the formula in Attachment C-III, Appendix C, 40 CFR 112 or a comparable formula) such that a discharge from this facility could cause injury to fish and wildlife & sensitive environments? (For additional descriptions of fish and wildlife & sensitive environments, see Appendices I, II III to DOC/NOAA's "Guidance For Facility & Vessel Response Environments" (Section 10, Appendix E, 40 CFR 112 for availability) & the applicable Area Contingency Plan.)

☐ Yes ☑ No

4. Does this facility have a total storage capacity greater than or equal to one (1) million gallons and is this facility located at a distance as calculated using the appropriate formula (Attachment C-III, Appendix C, 40 CFR Part 112 or a comparable formula) such that a discharge from this facility would shut down a public drinking water intake?

☐ Yes ☑ No

a. If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable formula must be attached to this form.

b. For the purpose of 40 CFR part 112, public drinking water intakes are analogous to public water systems as described in 40 CFR 143.2 [c].

5. Does this facility have a total storage capacity greater than or equal to one (1) million gallons and has this facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

☐ Yes ☑ No

CERTIFICATION:

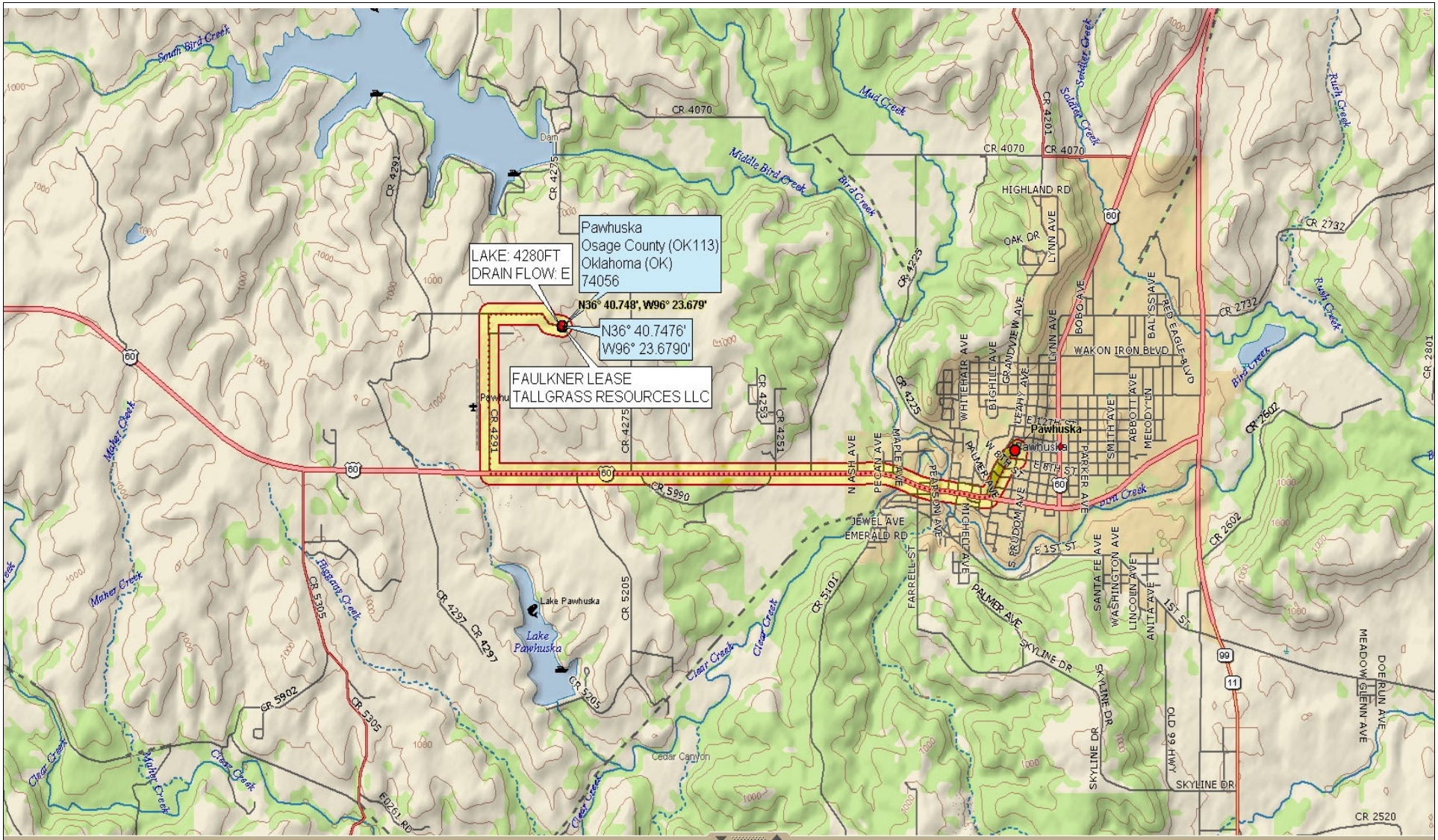
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and that based on my personal examination of this facility, I believe this information to be true, accurate and correct.

Operation Mgr. _____ Date _____

SPCC RULE CROSS-REFERENCE

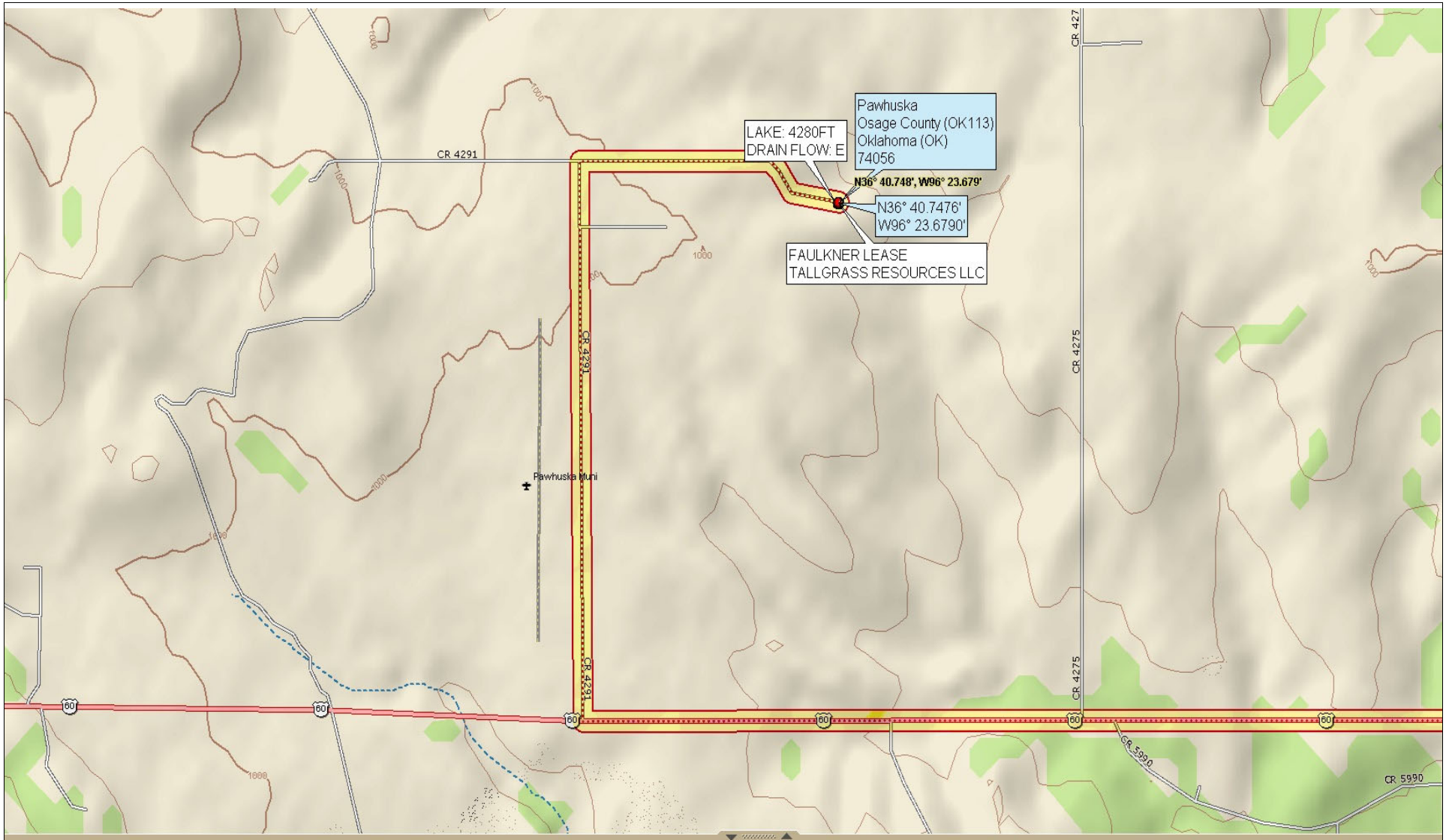
This table was prepared to assist TALLGRASS RESOURCES, LLC and the EPA in the cross-referencing of this plan with the requirements listed in the Final SPCC Rule and the equivalent requirements in the original or Old SPCC Rule.

Final SPCC Rule	Plan Section	Page(s)
112.3(d)	Professional Engineer Certification	4
112.3(e)	Location of SPCC Plan	1, 4, 10, 25
112.5	Plan Review	14-15
112.7	Management Approval	4
112.7	Cross-Reference with SPCC Rule	6
112.7(a)(3)	Facility Directions Map	7
	Facility Diagram	9
	Operator / Company Information	1, 4, 10, 25
	Onshore Production Facility Information	10-11
	Secondary Containment Calculations	12
	Potential Discharge Amounts Sheet	13
	Site Operational Process Description	15
112.7 and 112.7(a)(4)	Discharge Discovery and Reporting-Discharge Notification	Contingency C9
112.7(a)(5)	Spill Mitigation Procedures / Discovery & Response	Contingency C2-C3
112.7(b)	Potential Discharge Volume	13
112.7(c)	Containment and Diversionary Structures	9, 12, 17-18
112.7(d)	Practicability of Secondary Containment	18
	Written Commitment of manpower, equipment and materials	27
112.7(e)	Inspections, Tests, and Records-Facility Inspection Checklists	Attachments A10-A15
112.7(f)	Training, and Discharge Prevention Procedures	Attachments A5-A8
112.7(i)	Brittle Facture Evaluation	20
112.7(j)	Conformance with Applicable State and Local Requirements	20
112.9(b)	Oil Production Facility Drainage/Record of Dike Drainage	20-23, Attachments A15
112.9(c)(1)	Production Equipment	9, 11
112.9(c)(2)	Secondary Containment for Bulk Storage Containers	9, 12
112.9(c)(3)	Inspections, Tests, and Records – Inspection Checklist	Attachments A10-A15
112.9(c)(4)	Bulk Storage Containers and Overflow Prevention	Attachment A17-A18
112.9(D)(1)	Transfer Operation and Saltwater Disposal System	20-23
112.9(d)(3)	Flow line Maintenance Program	22-23



N36° 40748' to Pawhuska : 5.46 mi : 0:13:21

Turn Time	Turn Dist	Turn	Road	Exit	Finish Time	Finish Dist	Total Ti...	Total ...
		Depart N36° 40.748', W96° 23.6...	<unnamed>		0:13:21	5.46 mi	0:00:00	0.00 mi
0:03:16	0.55 mi	Turn left (S)	CR 4291		0:10:05	4.91 mi	0:03:16	0.55 mi
0:02:23	1.00 mi	Turn left (E)	US 60 (SR 11)		0:07:42	3.90 mi	0:05:39	1.55 mi
0:06:11	3.52 mi	Keep left (NNE)	Kihekah Ave		0:01:31	0.39 mi	0:11:50	5.07 mi
0:01:09	0.29 mi	Turn right (E)	E 9th St		0:00:22	0.09 mi	0:12:59	5.36 mi
0:00:10	0.04 mi	Turn left (N)	Leahy Ave		0:00:12	0.05 mi	0:13:09	5.40 mi
0:00:12	0.05 mi	Continue straight (N)	Arrive at Pawhuska		0:00:00	0.00 mi	0:13:21	5.46 mi
		Arrive at Pawhuska			0:00:00	0.00 mi	0:13:21	5.46 mi



ind | Print | Draw | GPS | **Route** | Profile | 3-D | Info | NetLink | Handheld Export

☑ N36° 40748' to Pawhuska : 5.46 mi : 0:13:21

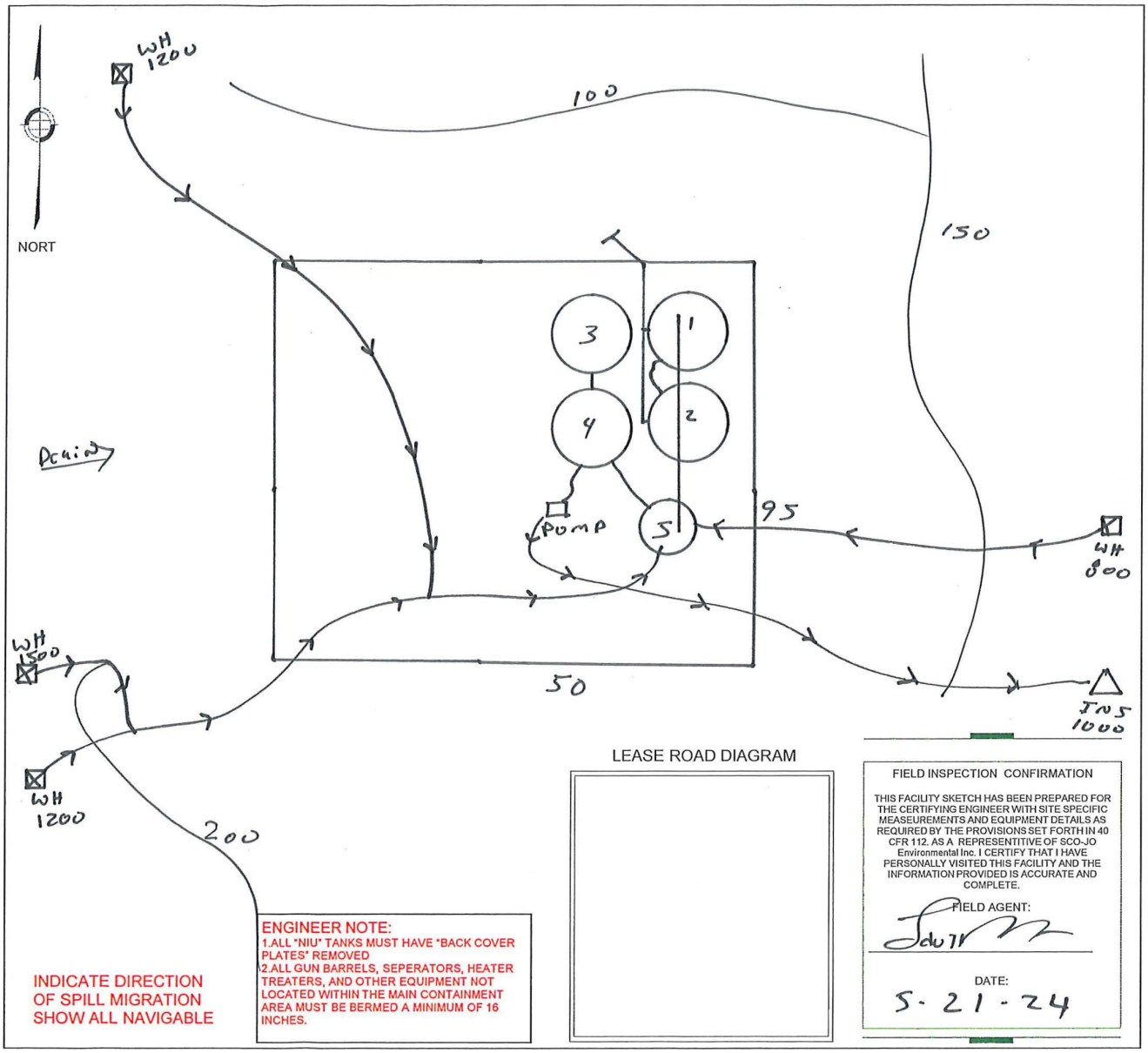
Turn Time	Turn Dist	Turn	Road	Exit	Finish Time	Finish Dist	Total Ti...	Total ...
		Depart N36° 40.748', W96° 23.6...	<unnamed>		0:13:21	5.46 mi	0:00:00	0.00 mi
0:03:16	0.55 mi	Turn left (S)	CR 4291		0:10:05	4.91 mi	0:03:16	0.55 mi
0:02:23	1.00 mi	Turn left (E)	US 60 (SR 11)		0:07:42	3.90 mi	0:05:39	1.55 mi
0:06:11	3.52 mi	Keep left (NNE)	Kihekah Ave		0:01:31	0.39 mi	0:11:50	5.07 mi
0:01:09	0.29 mi	Turn right (E)	E 9th St		0:00:22	0.09 mi	0:12:59	5.36 mi
0:00:10	0.04 mi	Turn left (N)	Leahy Ave		0:00:12	0.05 mi	0:13:09	5.40 mi
0:00:12	0.05 mi	Continue straight (N)	Arrive at Pawhuska		0:00:00	0.00 mi	0:13:21	5.46 mi
		Arrive at Pawhuska			0:00:00	0.00 mi	0:13:21	5.46 mi

SCO-JO

The Leader In Environmental Protection & Supplies.

Operator Name	TALLGRASS RESOURCES LLC	Facility Name	faulkner lease

Facility Diagram



SCO-JO

The Leader In Environmental Protection & Supplies.

Operator Name	TALLGRASS RESOURCES LLC	Facility Name	FAULKNER LEASE

Facility Fixed Storage Information

Fixed Storage Number	1	2	3	4	5	6	7	8	9	10
Storage Type (Oil, SW, GB, HT, SEP)	OIL	OIL	SW	SW	GB					
Manufacturer										
Diameter	12	12	12	12	8					
Height	10	10	10	10	15					
Total Capacity (bbls)	201	201	201	201	134	0	0	0	0	0
Serial Number										
Year Manufactured										
Bottom Thickness										
Shell Thickness										
Deck Thickness										
Welded (W), Molded (M), of Bolted (B)	W	W	M	M	M					
Steel (ST), Fiberglass (FG), or Wood (W)	ST	ST	FG	FG	FG					
Open Top (O) or Closed Top (C)	C	C	O	C	C					
Foundation for Tanks - Earth, Gravel, Sand, Cmt	GR	GR	GR	GR	GR					
Contents Transportation Method (TR, INJ, PL)	TR	TR	INJ	INJ						
R=Raised, H=Horizontal, FC=Field Constructed										

Fixed Storage Number	11	12	13	14	15	16	17	18	19	20
Storage Type (Oil, SW, GB, HT, SEP)										
Manufacturer										
Diameter										
Height										
Total Capacity (bbls)	0	0	0	0	0	0	0	0	0	0
Serial Number										
Year Manufactured										
Bottom Thickness										
Shell Thickness										
Deck Thickness										
Welded (W), Molded (M), of Bolted (B)										
Steel (ST), Fiberglass (FG), or Wood (W)										
Open Top (O) or Closed Top (C)										
Foundation for Tanks - Earth, Gravel, Sand, Cmt										
Contents Transportation Method (TR, INJ, PL)										
R=Raised, H=Horizontal, FC=Field Constructed										

General Facility Information

Average Dike Height in Inches	24	Number of Production Flowlines	4
Dike Dimensions	95 X 50	Prod. Flowlines Tot. Length-Yards	4700
Facility Condition	GOOD	Number of SWD Flowlines	1
Grade Direction	NORTH	SWD Flowlines Total Length - Yards	1000
Berm Composition	GRAVEL	SWD Flowline Direction	EAST
Topography	STEEP	Total length of All Flowlines in Yards	5700
Surrounding Soil Type	SANDY	Diameter of Flowlines in Inches	2-3 INCHES

Notes

Dike Drain Present	YES
Flowline Construction	POLY STEEL
Drain Buckets In Place	YES
Net On Open Tanks	YES
Trash Bin Outside Containment Area	NO
Electrical Inside Containment Area	YES
Bull Plugs On Load Lines	YES
Cones On Top Of Furnaces	N/A

FIELD INSPECTION CONFIRMATION
FIELD AGENT:
SCOTT LEWIS JR

DATE:
5/21/2024

FIELD ENGINEER NOTES:

GENERAL INFORMATION FOR OPERATOR / COMPANY

Operator/Company Info:	TALLGRASS RESOURCES, LLC
	4200 E. SKELLY DR., SUITE 1000
	TULSA, OK 74135
Phone:	(918) 270-9927
Authorized SPCC Representative:	SCOTT BENDER
Authorized SPCC Rep. Title:	ASSET MAN./AUTH REP/SPILL COMP/FOM
Phone:	(918) 270-9927
24 Hour Phone:	(318) 560-2595
Spill Compliance Coordinator:	SCOTT BENDER
Phone:	(918) 270-9927
24 Hour Phone:	(318) 560-2595
Regulatory Compliance Coordinator	TYLER HAROLD
Phone:	(918) 270-9927
24 Hour Phone:	(918) 607-7009
Field Operations Manager	SCOTT BENDER
Phone:	(918) 270-9927
24 Hour Phone:	(318) 560-2595
Emergency Secondary Contact:	PHILIP KELLY
Phone:	(918) 237-8445
24 Hour Phone:	

GENERAL INFORMATION FOR ONSHORE OIL PRODUCTION FACILITY

Type of Facility:	Oil Production Facility
Name of Facility	FAULKNER LEASE
Location of Facility:	
Legals/RRC:	NE 1/4 SEC. 1 T-25N R-8E
County & State:	OSAGE COUNTY, OK
GPS Latitude:	N 036 X 40.747
GPS Longitude:	W 096 X 23.400
Altitude (ft):	
Regulatory District #:	#1
Regulatory Phone:	(918) 367-3396
Date of Initial Operation:	

	Yes	No
Has facility experienced a reportable oil spill event during the twelve months prior to January 10, 1974. (effective date of 40 CFR Part 112 - If yes, include attachment.)	☐	☑

Facility's Average Daily Production:	
Oil (BOPD):	5
Produced Water (BWPD):	120

Facility Berm Dimensions:

1. Rectangle Side 1:	95	Side 2:	50	Triangle #1 Base:		Height:	
2. Rectangle Side 1:		Side 2:		Triangle #2 Base:		Height:	
3. Rectangle Side 1:		Side 2:		Triangle #3 Base:		Height:	
4. Rectangle Side 1:		Side 2:		Triangle #4 Base:		Height:	
5. Rectangle Side 1:		Side 2:		Triangle #5 Base:		Height:	
6. Rectangle Side 1:		Side 2:		Triangle #6 Base:		Height:	

Facility Berm Composition:	GRAVEL

GENERAL INFORMATION FOR ONSHORE SWD/OIL PRODUCTION FACILITY (CONT'D.)

Type of Facility: Oil Production Facility

Name of Facility FAULKNER LEASE

Location of Facility:

Legals/RRC: NE 1/4 SEC. 1 T-25N R-8E
County & State: OSAGE COUNTY, OK
GPS Latitude: N 036 X 40.747
GPS Longitude: W 096 X 23.400
Altitude (ft):
Regulatory District #: #1
Regulatory Phone: (918) 367-3396

Facility Vessel Information Note: Tank 1 is the largest vessel in the diked area.

Tank Number	1	2	3	4	5					
Use of tank -Oil, SW, GB, SEP	OIL	OIL	SW	SW	GB					
Manufacturer										
Nominal Capacity (BBL.)	201	201	201	201	134					
Nominal Capacity (Cu. Ft.)	1131	1131	1131	1131	754					
Nominal Capacity (Gallons)	8460	8460	8460	8460	5640					
Nominal Diameter (ft.)	12	12	12	12	8					
Nominal Height (ft.)	10	10	10	10	15					
Serial Number										
Year Manufactured										
Bottom Thickness (in.)										
Shell Thickness (in.)										
Deck Thickness (in.)										
Type - Welded, Bolted, Molded*	W	W	M	M	M					
Material - Steel, Fiberglass, Wood*	ST	ST	F	F	F					
Top - Closed, Open*	C	C	O	C	C					
Foundation - Earth, Gravel, CMT*	GR	GR	GR	GR	GR					
Oil Transported - TR, INJ, PL*	TR	TR	INJ	INJ						
Tank Raised and/or Horizontal*										

Tank Number										
Use of tank -Oil, SW, GB, SEP										
Manufacturer										
Nominal Capacity (BBL.)										
Nominal Capacity (Cu. Ft.)										
Nominal Capacity (Gallons)										
Nominal Diameter (ft.)										
Nominal Height (ft.)										
Serial Number										
Year Manufactured										
Bottom Thickness (in.)										
Shell Thickness (in.)										
Deck Thickness (in.)										
Type - Welded, Bolted, Molded*										
Material - Steel, Fiberglass, Wood*										
Top - Closed, Open*										
Foundation - Earth, Gravel, CMT*										
Oil Transported - TR, INJ, PL*										
Tank Raised and/or Horizontal*										

Legend:

* Tank Use: OIL, SW - Salt Water, GB - Gun Barrell, HT - Heater Treater, SEP - Separator, LH - Line Healther, NIU - Not In Use, ABD - Abandonded CON - Condensate

Type: W - Welded, M - Molded, B - Bolted
Materials: S - Steel, FG - Fiberglass, WD - Wood
Top: C - Closed, O - Open

Foundation: E - Earth, G - Gravel, CMT - Cement, WD - Wood, ST - Steel
Oil Transported: TR - Truck, INJ - Injection, PL - Pipeline
Misc: R - Raised, R-H - Raised and Horizontal, FWKO - Free Water Knock Out

FACILITY SECONDARY CONTAINMENT CALCULATIONS & BERM RECOMMENDATIONS WORKSHEET

Facility Name: FAULKNER LEASE
County & State: OSAGE COUNTY, OK
Diked Area: 1

GPS Latitude: N 036 X 40.747
GPS Longitude: W 096 X 23.400
Altitude (ft):

Tl. Catch Basin Volume (Cu.Ft.):

	Length, Ft.	Width, Ft.	Height, Ft.	Total (Cubic Ft.)
Catch Basin # 1 -				0
Catch Basin # 2 -				0
Grand Total of Volume of Catch Basin(s) area =				**0**

Total Area Taken Up By Vessels (Sq. Ft.) (Note: All calculations are measured from the bottom of the tanks.)

	Diameter	Height	Square Ft.
Vessel #1	12	10	113.1
Vessel #2	12	10	113.1
Vessel #3	12	10	113.1
Vessel #4	12	10	113.1
Vessel #5	8	15	50.27
Vessel #6			
Vessel #7			
Vessel #8			
Vessel #9			
Vessel #10			
(Selected Dike) Total Vessel Area in =			**503**

	Diameter	Height	Square Ft.
Vessel #11			
Vessel #12			
Vessel #13			
Vessel #14			
Vessel #15			
Vessel #16			
Vessel #17			
Vessel #18			
Vessel #19			
Vessel #20			
Total Area Taken Up By All Vessels =			**502.65**

Total Area in Berm (Sq. Ft.):

	Side 1	Side 2	Area (SqFt)
1. Rectangle	95	50	4750
2. Rectangle			0
3. Rectangle			0
4. Rectangle			0
5. Rectangle			0
6. Rectangle			0
(Selected Dike) Total Area in Berm (Sq. Ft.) =			4750

	Side 1	Side 2	Area (SqFt)
1. Triangle			0
2. Triangle			0
3. Triangle			0
4. Triangle			0
5. Triangle			0
6. Triangle			0
Total Area in Berm (Sq. Ft.) =			4750

Note: *Height of triangle is measured from the point on a side that forms a right angle to the apex of the triangle.

Total Available Area inside Berm for Containment (Sq. Ft.):

Total Area of Vessels:	503	Square Ft.
Area of Largest Vessel:	113	Square Ft.
Height of Largest Vessel:	10	Ft.
Vessel Occupied Area:	390	Square Ft.

Total Area Inside Berm:	4750	Square Ft.
Minus Vessel Occupied Area:	390	Square Ft.
Total Available Area in Berm=	**4360**	**Square Ft.**

Total Diked Capacity Required by 40 CFR Part 112 (Cubic Ft.):

24 Hr. Oil Prod.	5	Volume of Largest Tank	201	BBL X	5.615 Ft. 3 per Bbl	1131	Cubic Ft.
24 Hr. PW Prod.	120	Total 24 Hr. Oil Productio	5	BBL X	5.615 Ft. 3 per Bbl	28	Cubic Ft.
					Minus 1/2 Catch Basin(s) volume	0	Cubic Ft.
					Total Diked Capacity Required by 40 CFR Part 112 =	**1159**	**Cubic Ft.**

Berm Height Formulas, Calculations, and Recommended Berm Heights-Formula's A & B:

FORMULA "A" (((Capacity of largest tank) + 24 hrs. of production , ft3.) X 12 / Diked Area - Vessel Occupied Area) + Rainfall + Freeboard

Diked Capacity-Formula A =	**1159**	**FORMULA "A" - RECOMMENED BERM HEIGHT =**	**13.2**	**Inches**

FORMULA "B" ((Capacity of Largest Tank Cu. Ft) X 12/ Total Area Inside Berm - Vessel Occupied Area) + Rainfall

Diked Capacity-Formula B =	**1131**	**FORMULA "B" - MINIMUM BERM HEIGHT =**	**10.1**	**Inches**

ENGINEER REMARKS: Produced Water is not considered in this spill plan.

ENGINEER REMARKS: Emergency "Auto Shut - Off System" should be in place and operational.

1) Containment dimensions are interior dimensions measured at the base of the berm.
2) All vessels with a potential spill capacity of 43 gallons or more in a 24 hr. period must be inside a secondary containment area.
3) Recommended Free Board = 3 inches. 4) 24 Hour, 25 Year rainfall event = 7 inches.
5) Alternative dimensions for secondary containment or catch basins may be used only if the capacity of the alternative secondary containment can exceed **1159** Cubic Feet to account for precipitation and freeboard.

Few facilities are built on perfectly flat surfaces. Therefore considerations and adjustments for severely sloping facilities must be made when constructing the dikes.

POTENTIAL DISCHARGE AMOUNTS SHEET

Type of Facility: Oil Production Facility
Name of Facility: FAULKNER LEASE
Location of Facility:
Legals/RRC: NE 1/4 SEC. 1 T-25N R-8E
County: OSAGE COUNTY, OK

ALL SITE VESSELS-NOMINAL CAPACITY TOTALS:	BBL.'s	Cu.Ft.	Gal.'s
	938	5278	39480

The information below summarizes the potential discharge scenario amounts per vessel for this facility per type of failure (rupture, leak). All vessels noted above are inside bermed containment area unless otherwise noted (either on Facility Drawing sheet or otherwise). Amount of spillage for leaks are estimated at 48 gallons per day.

Facility Vessel Information: **NOTE:** Tank 1 is largest vessel inside diked area.

Tank Number	1	2	3	4	5					
Use of tank - OIL, SW, GB, SEP	OIL	OIL	SW	SW	GB					
Nominal Capacity (BBL.)	201	201	201	201	134					
Nominal Capacity (Cu. Ft.)	1131	1131	1131	1131	754					
Nominal Capacity (Gallons)	8460	8460	8460	8460	5640					
FACILITY OVERFLOW AMOUNTS-PER VESSEL-BASED ON CAPACITY DUE TO:										
Rupture, lightening (Max. Vol.-Gal.):	8460	8460	8460	8460	5640					
Rupture, lightening (Max. Vol.-Gal./Hr.):	8460	8460	8460	8460	5640					
Leak (approximate-Max. Vol.-Gal.):	48	48	48	48	48					
Leak (approximate-Max. Vol.-Gal./Hr.):	0	0	0	0	0					

Tank Number										
Use of tank - OIL, PW, GB, SEP										
Nominal Capacity (BBL.)										
Nominal Capacity (Cu. Ft.)										
Nominal Capacity (Gallons)										
FACILITY OVERFLOW AMOUNTS-PER VESSEL-BASED ON CAPACITY DUE TO:										
Rupture, lightening (Max. Vol.-Gal.):										
Rupture, lightening (Max. Vol.-Gal./Hr.):										
Leak (approximate-Max. Vol.-Gal.):										
Leak (approximate-Max. Vol.-Gal./Hr.):										

AGGREGATE FACILITY OVERFLOW AMOUNTS-ALL VESSELS-BASED ON CAPACITY DUE TO:		
Rupture, lightening (Max. Vol.-Gal.):	39480	NOTE: This information summarizes the potential discharge scenario amounts for the entire facility per type of failure (rupture, leak). All vessels 1-20 listed above are inside bermed containment area unless otherwise noted. Leaks estim. at 48 gal./day per vessel.
Rupture, lightening (Max. Vol.-Gal./Hr.):	39480	
Leak (approximate-Max. Vol.-Gal.):	240	
Leak (approximate-Max. Vol.-Gal./Hr.):	0	

FACILITY OVERFLOW AMOUNTS-DAILY PRODUCTION-FROM:	BBL.'s	Cu.Ft.	Gal.'s	Gal/Hr.	NOTE: These production amounts can be added to the above amounts to get an aggregate total per vessel of a potential leak for a given scenario. The Gal/Hr. figure is not necessarily how much will leak per hour.
Oil Vessels-Produced Oil:	5	28	210	9	
Water Vessels-Produced Water:	120	674	210	210	
Produced Oil & Water (HT, Sep., etc.):	125	702	420	219	

FACILITY OVERFLOW AMOUNTS FROM FLOWLINES:	BBL.'s	Cu.Ft.	Gal.'s	Gal/Hr.	NOTE: Flowlines Piping discharge on all storage tanks and Heater Treater/Separator/Gun Barrel vessels is estimated at 1/2 day's production.
Flowlines & Piping-Storage Tanks:	65	365	2730	114	
Pinhole leak:	1	6	42	21	
Flowlines & Piping-Wells:	65	365	2730	114	
Pinhole leak:	1	6	42	21	

FACILITY OVERFLOW AMOUNTS FROM TRANSFERS LOADING OPERATIONS:	BBL.'s	Cu.Ft.	Gal.'s	Gal/Hr.	NOTE: Tank truck-Overtopping figures are estimated based on one days production or 100 barrels, whichever is lower. All Gal/Hr. figures are totals based on the assumption that load leaks occur outside any containment.
Transport Truck Loading Hose:	2	11	84	84	
Offload Line-Connection leak:	1	6	42	42	
Tank Truck-Overtopping while Loading:	100	562	4200	4200	
Transfer Valve-Rupture, Valve leak:	1	6	42	42	

Miscellaneous Notes: 1 - The site-specific topography and distance of flow of the lost fluids is shown on the Topographical Map on Page 7 of this plan.

Berm information, including size, capacity, and recommended height is found on page 12. Berm composition is noted near the bottom of page 10 of this plan.

APPLICABLE FEDERAL REGULATIONS

Section 112.1(b) NON TRANSPORTATION RELATED FACILITIES

Section 112.1(b) applies to owners or operators of non-transportation related onshore and offshore facilities engaged in drilling, production, gathering, storing, processing, refining, transferring, distributing or consuming oil and oil products. Due to their location, these facilities could reasonably be expected to discharge oil into, or upon, navigable waters and/or commercially used waters of the United States in quantities that may be harmful.

Section 112.3 REQUIREMENTS TO PREPARE A SPILL PLAN & LOCATION OF SPILL PLAN

This Spill Prevention, Control, and Countermeasure (SPCC) Plan for this onshore oil production facility is prepared and implemented as required by U.S. Environmental Protection Agency (U.S. EPA) regulations contained in Title 40, Code of Federal Regulations, Part 112 (40 CFR Part 112). The FAULKNER LEASE Lease is a non-transportation related facility subject to SPCC regulations, and due to the facility's location, it could reasonably be expected to discharge oil upon, or into navigable waters of the United States, and the total aboveground storage capacity of the facility exceeds 1,320 gallons (considering all containers with an individual capacity of 55 gallons or more).

In accordance with 40 CFR Part 112.3(e), and because the facility is normally unmanned (not manned for at least 4 hours a day), a complete copy of this SPCC plan is maintained at the home office of TALLGRASS RESOURCES, LLC For site-specific information on this address, see the Cover Sheet on Page 1, or General Information for Operator/Company Sheet on Page 10 of this plan.

Section 112.4 AMENDMENTS

This SPCC plan must be submitted to the U.S. EPA Regional Supervisor and the State agency governing over the oil industry in charge of oil pollution control, in conjunction with other information specified in 40 CFR Part 112.4 if the facility discharges more than 1,000 gallons of oil into open navigable waters of the United States or adjoining shorelines in a single occurrence or the facility discharges more than 42 gallons of oil in each of two events within any 12 month period.

The Discharge Information for the above occurrence(s) must be reported to the U.S. EPA Regional Administrator and the State agency governing over the oil industry in charge of oil pollution control if either of the above occurrences have taken place. The report must include the following information: Name of Facility; Name(s) of the owner/operator of facility; Location of facility; Maximum storage capacity and normal daily throughput; A description of all corrective actions and countermeasures taken, including all equipment repairs and replacements; An adequate description of the facility, including diagrams of locations of tanks; The cause(s) of the discharge, including a failure analysis of the system and subsystems that failed; Additional preventative measures, either considered or implemented, to minimize the possibility of reoccurring; and Any other information that the Regional Supervisor may request. For site-specific information, see the Spill Mitigation Procedures on Page 24, and the Spill Notification Names and Phone Numbers List on Page 25. Also see the Discharge Notification Procedures, Discharge Notification Summary, and Response Procedures sheets in the attached Contingency Plan, Pages C2 - C6.

Section 112.5 PLAN REVIEW

TALLGRASS RESOURCES, LLC periodically reviews and evaluates this SPCC plan for any change in the facility design, construction, operation, or maintenance that materially affects the facility's potential for an oil discharge. This Plan must also be amended to include more effective prevention and control technology, if that technology will significantly reduce the probability of a discharge occurring and has been proven to work in the field. TALLGRASS RESOURCES, LLC reviews this SPCC plan at least once every five years. Revisions to the plan, if any are needed, are made within six months of this five-year review.

TALLGRASS RESOURCES, LLC will implement any amendment(s) as soon as possible, but not later than six months following preparation of any amendment(s). A registered Professional Engineer certifies any technical amendment to the Plan, as described above, in accordance with 40 CFR 112.3. Scheduled five year reviews and Plan amendments for the FAULKNER LEASE are to be recorded and put with this plan. Unless a technical or administrative change prompts an earlier review, the next scheduled review of this Plan must occur no later than five years from the date of Management's approval of this plan. For site-specific information on this, see "SPCC Plan Compliance Inspection Review Page" on Page A11 in Miscellaneous Attachments.

Section 112.7(a) SITE OPERATIONAL PROCESS DESCRIPTION

The FAULKNER LEASE stores or produces crude oil, gas condensate, natural gas, water or any combination of the aforementioned during the course of normal daily operations. WHEN THIS PLAN IS FOR A SALTWATER DISPOSAL SYSTEM, THE WATER ENTERS THE FACILITY VIA PIPELINE OR TRUCK (OR BOTH). THERE IS GENERALLY SOME OIL CARRYOVER IN THE DELIVERED WATER. Therefore, an SPCC Plan is required. Often, the oil will be recovered using the same gravitational techniques used at production facilities with the recovered oil being delivered to an oil purchaser by truck or pipeline. The water is then injected through an approved Salt Water Disposal well into a geologically compatible and water receptive formation. When this plan is for a production facility, the produced fluids reach ground level via a wellbore and continue through a wellhead and continue to the tank battery via enclosed pipeline. In either case, this facility is comprised of a series of high pressure, as well as low pressure and non-pressurized vessels and tanks. The arriving emulsion is processed, whereby produced water is separated from the oil/condensate, and gas is separated from all fluids.

A production facility separates gas via gravitational separation procedures and sends it either to a gas sales line or vents it into stock tanks. Separation of the oil and water is achieved by gravitational settling and drainage of the lighter oil by positioning the oil exit line above the oil/water interface. Oil is displaced as more fluid enters the separator from the well, then moves to an oil storage tank within the tank battery through aboveground and/or underground piping, and is ultimately delivered to an oil purchaser by truck or pipeline. When the water level becomes high enough in the separator, it trips a dump valve thereby displacing the water through flowlines to a water storage tank within the tank battery. The water is then transported to a water injection well where it is returned to a geologically compatible and water reception formation. Below are paragraphs describing individual vessels and how they operate:

Separators, Heater Treaters, Free Water Knockouts (FWKO) - When the water level is high enough in the separator, it trips a dump valve and the water and water-oil emulsion is displaced to the heater where additional time and/or heat, finish the separation process. Again, the oil is removed from the heater by placing the oil exit lines above the oil-water interface and the water is transferred to the water tank. The water is then transported to a water injection well where it is returned to a geologically compatible and water receptive formation.

Gun Barrel - All gas is separated via gravitational procedures and the gas is delivered to the gas sales line. After the gas has been separated from the liquids, separation of the oil and water is accomplished by gravitational settling and the drainage of the lighter oil by placing the oil exit line above the water-oil contact. The oil is displaced as more liquid enters the gun barrel and flows to the oil storage tank within the battery via aboveground and/or buried flowlines. The oil will be delivered to an oil purchaser by truck. When the water level is high enough, it flows over the water leg to the water storage tank via flowlines. The water is then transported to an SWD facility where it will be injected into an approved SWD well and returned to a geologically compatible and water receptive formation.

A single tank (Stores both oil and water) - All gas is separated via gravitational procedures and the gas is delivered to the gas sales line. After the gas has been separated from the liquids, the liquids are transferred to the storage tank. The oil and water will separate in the tank with the lighter oil floating on the water. The pumper shall gage the tank daily, and whenever a load of oil or water has accumulated, the water shall be drawn off the bottom and transferred to an SWD facility where it will be injected into an approved SWD well and returned to a geologically compatible and water receptive formation. The oil will be delivered to an oil purchaser by truck.

Based on the description above, the basic on-site processes, whether for a saltwater disposal or a production facility, are extremely simple. The techniques are mature and well known, and the equipment has few moving parts. Leaks and spillage can and sometimes do occur resulting in some contamination of the surrounding area, but with good operational procedures and routine maintenance, the extent of any contamination at this site can be kept to an absolute minimum.

For site-specific information on the layout of this facility, including information on berm size(s) and composition, individual vessel size, type, and information, facility layout, topography immediately around the facility, legal/RRC location, and site-specific facility notes (if any), see the Facility Drawing sheet on Page 9. For site-specific information and driving directions to this facility, see the Map of Facility and Driving Directions to Facility on Page 7, and the Lease Road Directions to Facility section on 9, lower right. For site-specific information on recommended berm heights that include volumes for largest vessel, production, rainfall amount (7 inches for a 24-hour, 25 year rainfall event), and freeboard (3 inches), see the Secondary Containment Calculations on Page 12.

Section 112.7(b) POTENTIAL FOR A SPILL TO MIGRATE FROM THE DIKED AREA

As mentioned above, releases inside the battery would be confined to the area contained by the secondary containment and there should not be any release into the environment. However, the potential will always exist for a reportable release due to a leak, break or other failure to valves, fittings, lines, connections, vessels and tanks. Sabotage and environmental disasters also cannot be ruled out. Once outside the secondary containment area, oil will travel the course of least resistance, generally down slope. One cannot totally plan for such releases, but must be prepared to deal with each should it occur. The range of possible releases runs from minor spills or leaks to loss of all products from within the secondary containment areas and into the environment. To see a site-specific scenario of the Topographical flow of spilled fluids and their path to navigable water(s), see the Topographical Map on Page 7 of this Plan. To see a site-specific scenario for a Potential Discharge Volume Analysis, please refer to the Potential Discharge Sheet on Page 13. For specific procedures on who to contact in case of a spill, see the Spill Notification Names and Phone Numbers List on Page 26 and also in the Discharge Notification Procedures in attached Contingency Plan, Page C9. For specific procedures on how to mitigate and/or contain a spill, see Spill Discovery and Response, Part II of the attached Contingency Plan, Pages C2 - C6. If necessary, use the Record of Dike Drainage, Page A16 of Miscellaneous Attachments.

Worst Case Scenario - In the worst case scenario all of the tanks and vessels would be full of oil or saltwater. After a long and continuous rain, the secondary containment area would be full and surrounding soils saturated with rainwater. Nearby waterways would be at flood levels and all of the tanks would rupture (this is highly unlikely, but possible) and the liquid breaches the secondary containment system. Under this worst case scenario, we would also expect 24 hours of production to be released before being discovered. Under this scenario, the liquids would most likely migrate in the direction indicated on the Facility Drawing, Page 9. Immediate action according to the “Spill Discovery and Response,” Part II, Pages C2 - C6 in attached Contingency Plan would be implemented. Diversionary berms, dams and booms can be placed down slope from the facility.Containment depressions and ponds can be constructed to catch and hold releases until such time as they can be picked up and placed back into storage vessels. Contaminated earth shall be dealt with in accordance with State and Federal regulations.

Most Likely Scenario - A release to the environment outside the secondary confinement area would most likely come from the number of pipes, valves and fitting joints required to transport the liquid from the well pumps to the tank battery and from the tank battery to the transport. Except for transfer to the transport, these concerns are alleviated by frequent routine and conscientious inspections of all such potential failure areas, and the timely repairs of any malfunctioning equipment. For site-specific records of inspections, see the Record of Annual Inspection and Maintenance Report sheet located in the Miscellaneous Attachments, Page A10.

Section 112.7 (c) Secondary Containment

Should the FAULKNER LEASE produce liquids in measurable quantities, there shall be secondary containment of sufficient length, breadth and height so as to be capable of holding the maximum content of the largest storage tank within the facility, plus the expected rainfall from a 25-year, 24-hour rainfall event and still allow for at least three inches of free board for 24 hours of production. If tank ullage or freeboard is insufficient, then auto shutdown systems shall be installed. Said berm or dike shall be constructed so as to be impermeable to crude oil, sandy soils are NOT acceptable. Walls of the secondary containment area shall be of earth, steel, concrete, or solid masonry, designed to be liquid-tight and to withstand a full hydrostatic head. Earthen walls 3 feet or more in height shall have a flat section at the top not less than 2 feet wide. The slope of an earthen wall shall be consistent with the angle of repose of the material of which the wall is constructed. The walls of the secondary containment area shall be restricted to an average height of 6 feet above interior grade. There should be no reasonable concern for the release of oil into the environment by overflow from the secondary containment area. For site-specific information of berm information and composition, see the Existing Berm Height section near the bottom of the Facility Drawing Sheet on Page 9, and also the Facility's Berm Composition section at the bottom of Page 10.

Flowlines – Secondary containment for the flowlines will be active rather than passive. The fact that the flow rate from the flowlines is very low, the flowlines are buried, and the facility including the flowlines are inspected daily and support the use/applicability of active secondary containment.

When company personnel are aware of the flowline leak, they will IMMEDIATELY begin operations to contain the leak preventing any release to surface water, cleanup the leak, and remediate the impacted area. The following actions as required and applicable will be performed:

1. Shut-in well.

2. Using shovels or backhoes, a trench or pit will be dug down-slope to contain any free flowing produced fluid.

3. All collected fluid will be picked up with a vacuum truck. Quantities too small to pick up with a vacuum truck will be picked up with absorbents and/or pads.

4. All impacted soil will be collected and/or remediated in accordance with applicable State and Federal requirements. Impacted soil may be collected into drums and moved to a remediation site if required. If the amount of soil is small enough, it may be remediated in place.

5. The flowlines will be repaired and pressure tested (poly pipe and fiber glass 50 pounds; steel pipe to 100 pounds), and the results of the testing will be included in the SPCC Plan and retained for a minimum of 3 years. We would SUGGEST that the records be retained for the life of the facility.

Should the secondary containment be in the form of a catch basin, the catch basin shall be lined with geo-membrane liner or compacted clay so as to be impermeable. For site-specific information on catch basin(s) (if any), see the Total Catch Basin Volume section near the top of Page 12.

No loose, combustible material, empty or full drum or barrel, shall be permitted within 75 feet the secondary containment area.

Transport Loading Area / Oil Transfer via Truck. It has been determined for the FAULKNER LEASE that the secondary containment provisions for tank car and tank truck loading racks found in 40 CFR 112.7 (h) do not apply due to the fact that there is no loading rack located at this facility. The transport loading area is as integral a part of your facility as any other area, and special care and training needs to be taken to ensure that proper loading procedures are followed by on-site personnel so that there is no loss of fluid back into the environment. The transport loading area should be surrounded by a minimum of an 8 inch dike that contains a minimum of 6 Sq. feet of area, or utilize drain buckets. Management should make other provisions to prepare for a spill such as having on hand the necessary equipment to cleanup any spill.

A release into the environment outside the secondary containment would most likely occur from the pipes, valves, fittings and connections that transport the oil emulsion, oil and lease saltwater from the wellhead, through the separation equipment and on to the storage tanks. Regular inspections should preclude any loss from this source in that repairs can be made prior to any total failure of this equipment.

There is also a chance oil could be released when it is being transferred from the storage tanks to the purchaser outside the secondary containment wall, via transport truck. When custody is being transferred by truck, there are people present to monitor the transfer, thus, the likelihood of a spill is diminished. Should one occur, its size should be small, as someone will be present to shut-in operations immediately. Truck transfer may occur outside the secondary confinement area and could occasionally suffer a minor leak as hoses are disconnected. If the collection point falls outside the walls of the facility, a catch basin shall be used underneath the connection to catch any leaks or drips. This catch basin shall be emptied back into the oil storage tanks or the contents disposed of properly.

To safely transfer liquids via truck, first, make sure that the vehicle tank is properly vented before starting to load or unload. If you are not certain that the trailer is properly vented, you must contact your supervisor and request permission to open the trailer dome before starting to load or unload.

Transport Loading/Unloading procedures – To load or unload from storage tank truck, first, attach a ground cable or bonding clamp to trailer. Use wheel chocks or other similar barriers to prevent premature departure. Inspect all equipment to be used in transfer operation (hoses, valves, etc.). Hook up load hose and open all appropriate valves from storage tank to trailer entry. Disengage the clutch and place the pump in load position and release the clutch slowly. Adjust the throttle to the proper engine RPM. When trailer is loaded to appropriate level, slow the engine speed. Close the valve to the storage tank. Loosen loading hose to allow enough air to drain the loading hose dry, ensuring that drips from the hose drain into the spill bucket at the loading area. Disconnect loading hose completely, close the load valve, plug and fasten it securely. Close the belly valve on the trailer. Disconnect the ground cable. Remove all wheel chocks. Promptly cleanup any spilled oil. Inspect the lowermost drains and valves of the vehicle for discharges/leaks and ensure that they are tightened, adjusted, or replaced as needed to prevent discharges while vehicle is in transit. For site-specific information on the location of the tank truck loading area, see the location of the loadlines on the Facility Drawing Sheet on Page 9. You can also find the immediate topography of the terrain on the same page. For the path to navigable water (due to spillage), see the Topographical Map on Page 7.

Section 112.7(d) Demonstration of Practicability

Management determined that the use of containment and diversionary structures, or readily available equipment to prevent discharge oil from reaching navigable waters, is practicable and effective for this facility for all structures, equipment, and vessels inside bermed area to meet the requirements of 40 CFR Part 112. Because secondary containment for flowlines or wellheads outside the tank battery is impracticable, TALLGRASS RESOURCES, LLC has provided with this plan, additional elements required under 40 CFR 112.7(d), including a written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful, and an Oil Spill Contingency Plan following the provisions of 40 CFR 109, found in Pages C1 – C10.

Section 112.7(e) Inspections, Tests, and Records

The program established in this SPCC Plan for regular inspection of all oil storage tanks and related production and transfer equipment should follow the American Petroleum Institute's Recommended Practice for Setting Maintenance, Inspection, Operation, and Repair of Tanks in Production Service (API RP 12R1, Fifth Edition, August 1997). Visual inspections consist of a complete walkthrough of the facility equipment and property to check for any damage or leakage, discolored soils, excessive accumulation of water in diked areas, and effluent discharges from the oil/produced water separators (including heater treaters, gun barrels, etc.). The inspections also make sure that the dike drain valves (if applicable) are closed, secure, and not leaking. The inspections also involve visually inspecting all aboveground valves and pipelines and noting the general condition of items such as transfer hoses, flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, pumping well pumping rod stuffing boxes, bleeder and gauge valves, locking of valves, and metal surfaces.

All safety devices are tested regularly by a third party inspector or qualified personnel. The tests are recorded and the results are maintained with this Plan at the company's field office. Testing of the safety devices is conducted in accordance with guidelines API RP-14C published by the American Petroleum Institute, or in accordance with instructions from the device's manufacturer. Written test procedures are kept at the offices of the third party testing company or qualified personnel, and are available upon request.

The checklist provided in the Miscellaneous Attachments, Page A10, is used during regularly scheduled inspections. The regularly scheduled annual inspections are preformed in accordance with written procedures. Written inspection procedures and regularly scheduled inspections are signed by the person inspecting the facility and maintained in the office for 3 years.

Section 112.7(f) PERSONNEL TRAINING AND SPILL PREVENTION PROCEDURES

All personnel who are expected to work around the FAULKNER LEASE or who could be reasonably expected to come into operational contact with this facility (including contract personnel) shall be instructed in the operation and maintenance of the equipment utilized. This instruction shall include how to report spills, pollution control laws, and to prevent oil discharges. All personnel who could be reasonably expected to come into operational contact with this facility shall be briefed at least annually, on the operations and maintenance of this facility. Emphasis shall be on any major changes in operations, past spill incidents, safety concerns, changes in rules and regulations that may affect this facility and this SPCC Plan. Trainings shall occur more often than annually should the need arise, as evidenced by a major spill or release, major change in operations, newly discovered safety violations, or a change in the rules and regulations governing this operation. All facility personnel handling hazardous wastes must have received both the initial 40-hour, and annual 8-hour refresher training in the Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) of the Occupational Safety and Health Administration (OSHA). This training is included as part of the initial training received by all field personnel. Training records and certificates are kept at the field office. FAULKNER LEASE

For site-specific information on documentation of these trainings, see the associated forms and guidelines on Pages A5-A8 in the Miscellaneous Attachments section.

Section 112.7(i) BRITTLE FRACTURE EVALUATION (FIELD CONSTRUCTED TANKS)

If any of the tanks at this facility are field-constructed, and undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge, or has had a discharge or failure due to brittle fracture or other catastrophe, evaluate the container for risk of discharge or failure due to brittle fracture or other catastrophe, and as necessary, take appropriate action.

Section 112.7(j) COMPLIANCE TO APPLICABLE GUIDELINES

This SPCC plan is designed to meet standards in 40 CFR Part 112 ONLY and may not conform to any Federal, State, local, and/or other regulations, laws, or requirements. It is the management's responsibility to ensure that this plan is in conformance with all other applicable Federal, State, local, and/or other regulations, laws, and requirements, and that it conforms to the most stringent applicable requirements. Any and all other Federal, State, local, and/or other requirements that apply to this facility must be added by the owner/operator for this SPCC plan to be in complete compliance with all applicable laws and requirements.

Section 112.9 OIL PRODUCTION / SWD FACILITY DRAINAGE

Drains leading from all secondary containment areas, if any, are to be kept closed through the use of a positive closure valve and bull plug. Before attempting to drain rainwater from within the contained area, the water should be visually inspected for the presence of oils, grease, or chemicals. Should any of these be found, as evidenced by "rainbow sheen" on the water surface or larger oil presence, the oils shall be picked up via a vacuum truck. The liquids picked up shall be either placed into the produced water tank for later disposal, or immediately taken to an authorized disposal well.

Evaporation is the preferred method of eliminating water from inside the secondary containment area. However, there are times when drainage is the only economical means at hand. Where no danger exists to surrounding waters, drainage can be used. Whenever it is to be used, the pumper shall first visually inspect the waters for the presence of oils, and then ascertain the volume of water to be drained. After having done this he/she shall call in to his/her supervisor to obtain permission to drain the area. Only after receiving permission shall the area be allowed to drain. The pumper shall annotate on the weekly gauge report the date and time he/she drained the area, the approximate amount drained, and who was called for permission. If oils were present he/she shall annotate who provided the vacuum truck that picked up the fluids.

Should company personnel discover any ditches, drainage facilities, oil traps, ponds, creeks, sumps, skimmers, or other item holding oils, those oils shall be picked up using a vacuum truck. Such likely places for accumulation of oils shall be checked on a regular basis, especially if standing water is present on or near the lease. "Regular basis" shall be considered to mean any time that the pumper feels there may be a chance oils could migrate away from the facility or wellhead area. If an accumulation of oil has caused soils to be contaminated, the soil shall be either remediated on-site or removed to a proper disposal facility.

Equalizing lines and Container Capacity – The maximum volume of fluid stored shall be no greater than the base of the required equalizer piping between tanks. No tank or series of tanks shall be allowed to fill above the top of the required equalizer piping. When oil starts to run from one tank to another via the equalizer-piping tank, valves shall be switched so that the full tank is bypassed and produced fluids shall go to an empty tank (40 CFR 112.13(a)(4)(2)). The full tank shall be emptied via pipeline or truck, depending on the type of operation at the moment. For one or more oil tank(s) and one or more produced water tank(s), the maximum volume of fluid stored shall be no greater than the base of the equalizer piping between tanks. No tank, or series of tanks, shall be allowed to fill above the top of the equalizer piping (2 or more tanks) or approximately 80% of the tanks capacity (one oil or one produced water tank). When oil starts to run from one tank to another via the required equalizer piping, tank valves shall be switched so that the full tank is bypassed and produced fluids shall go to an empty tank.

The full tank shall be emptied via either pipeline or truck, depending on the type of operation at the moment. Operator will maintain sufficient available volume at all times for a minimum of one day's operation. Should less than one day's production volume be available, production operations shall be shut-in until such time as sufficient tank volume is regained; normally a minimum of one storage tank. For a single tank (stores both oil and water), the maximum volume of liquid stored shall be no more than approximately 80% of the tank's capacity. When the fluid level reaches approximately 80% of the tank's capacity, arrangements will be made to empty the tank. The water will first, be drawn off and delivered to an approved SWD facility, and the oil will then be drawn off and delivered to an oil purchaser. Operator will maintain, at all times, sufficient volume for one day's operation (40 CFR 112.13(a) (4) (1)). Should less than one day's production volume be available, production operations will be shut-in until such time that sufficient tank volume is regained; normally a minimum of one storage tank. For site-specific information on equalization lines, types and capacities of tanks, see the facility drawing and tank information on the Facility Drawing Sheet on Page 9.

Tank and Flowline Construction - The principal method of containment of crude oil and liquids is the lines, vessels and storage tanks used to process and store the produced liquids. The pipes are constructed to ASTM or ANSI standards, except for some of the pipes that may be made of PVC or polyethylene. All of these products are manufactured to ASTM, ANSI, or other industry accepted standards. All oil storage tanks are constructed of bolted steel, welded steel or molded fiberglass and are constructed in accordance with API, ASTM. or other industry standards. Before being set in place, all steel tanks are primed and painted to help prevent rust and corrosion, and to facilitate the visual inspection for leaks. The tanks are set either on natural ground or gravel and are vented into the atmosphere. Fluid levels are checked during each regularly scheduled visit to the facility using a strap gauge. Vent lines should terminate inside the secondary containment area and pointing down toward the ground.

Lease produced-water tanks are constructed of either bolted fiberglass, molded fiberglass or are of the same construction as the oil storage tanks. Some tanks have open tops to allow visual inspection of their contents. Open top tanks shall be netted. For site-specific information on tank construction, see the Tank Information section near the top of the Facility Drawing Sheet on Page 9 and on the General Information for an Onshore SWD/Oil Production Facility Sheet on Page 11.

The most probable cause of spills will be from corrosion of vessels and lines. There is also a possibility of accidental releases due to mechanical injury to vessels and lines, but proper attention to detail when working around this facility should preclude such accidents. Neither of these types of spills should result in large volume spills, in that the lines contain only small volumes of crude oil and all vessels are contained inside secondary containment area.

The FAULKNER LEASE shall be inspected during each regularly scheduled visit by the pumper, and at least annually by the field supervisor, for any evidence of leaks from malfunctioning valves. All leaks are to be repaired promptly and the repairs noted in the pumper's weekly gauge report, or on the "Record of Inspections and Maintenance Report" found in Miscellaneous Attachments on Page A10. Special emphasis shall be placed on valves used in the transfer of custody of oil and saltwater.

Off-loading Valves - All off-loading valves on oil and water tanks shall be bull-plugged, placed in the closed position and if warranted, shall be locked. If the valves cannot be locked in the closed position, they shall be closed and their handles removed. If there is any indication the valves leak, they shall be either replaced or repaired as necessary. It is STRONGLY RECOMMENDED that a drain bucket be placed under each valve to catch any leak or spill and that this pan be emptied as necessary to preclude it from spilling or discharging oil into the environment. Said pans shall have some means of preventing cattle or other animals from attempting to drink from these pans, as well as some means of keeping rainfall from accumulating in the pans and lifting oil out onto the ground.

Transfer Pumps - Any pump used to transfer oils or water inside or outside of the battery area shall be checked for proper operations. Packing, lubrication of rods, and venting of fluids shall be inspected. If any oil has spilled or leaked out, it shall be cleaned up promptly.

Compressors / Other Lease Equipment - A sump or drip pan shall accumulate all drippings from equipment, such as compressors and gearboxes wherever possible, and returned to the tank battery for proper disposal or recycling. In no case shall it be intentionally allowed to leave the location and enter into standing water.

Flowline Maintenance - The FAULKNER LEASE shall be inspected during each regularly scheduled visit by the pumper and annually by the field inspector for signs of flowline failure. The aboveground flowlines shall be walked and visually inspected for signs of leaking oil or produced fluids. Buried flowlines shall be pressure tested yearly to the maximum expected working pressure, or to the pressure set on the first receiving vessel's pressure relief valve setting. All flowlines buried after August 16, 2002 shall be wrapped or have appropriate cathodic protection. A closed valve may be placed between the intake of the first vessel and the test truck to preclude rupturing the seal on the pressure relief valve, so long as this valve is open and handle removed during the course of daily operations. The pressure relief valve shall be inspected at the same time the flowline is tested to look for signs that it is not in good working order. All flowlines which surface inside the secondary containment area should remain aboveground and properly painted. All structures supporting pipes are designed to minimize corrosion and not be abrasive to the pipes they are supporting. All structures supporting pipes should allow for pipe expansion and contraction.

Tank Examination Methods and Procedures – The FAULKNER LEASE shall be inspected during each regularly scheduled visit to the facility by the pumper. The schedule is determined based on the corrosion rate; with the first inspection performed no more than 15 years after the tank construction. The field supervisor will inspect the facility at least annually for visual indications of leaks, deteriorating equipment, eroding dikes, etc. All leaks shall be repaired when found if it is within the capabilities of the finder. If more extensive repairs are necessary, a roustabout crew shall be called in to effect repairs as quickly as possible. The field supervisor's inspection shall be recorded on the attached inspection sheet and filed with this Plan for a period of three years. Repairs are noted on the pumper's weekly gauge report and/or on the roustabout's field ticket.

The following has been identified by industry statistics and experience as potential areas for leaks or spills. The pumper shall make certain that these critical areas are inspected at adequate intervals. In order to prevent possible oil spills, it shall be the responsibility of the operator to check or assign the field supervisor the task of ensuring the following are inspected:

General walk around of the production facility and grounds - The walk around shall include the identification of any spilled oil, produced water or chemicals on the lease proper, to include the tank battery area, the well head, lease roads and bar ditches, loading areas, pipeline Right-Of-Way and low standing areas that could accumulate oil, water and other fluids. Any sign of contamination shall be removed immediately to a proper disposal facility, and the soil remediated in a proper manner.

The sight glass on any vessel - The inspection shall include checking the sight glass or glasses of treatment vessels to ensure fluid levels are at their proper setting. Improper levels may signal vessel malfunction, plugging of flowlines, or other facility problem.

Inspection of the secondary containment walls and drain valves (if any) - The inspection shall include checking the secondary containment walls for signs of erosion or failure, especially at points where off-site fluids could enter into the contained area. Standing fluids inside the contained area shall be checked for signs of oil or oil sheen. Fluids so contaminated, shall be picked up for disposal if it appears likely that they could leave the confined area.

Any drain valves shall be closed and bull plugged at all times unless water is in the process of being drained from the contained area. Before allowing the contained area to be drained, the pumper shall first, visually check the water for signs of free oil or chemicals. If any is present, the fluids shall not be allowed outside of the contained area. A vacuum truck shall be used to remove the fluids to a proper disposal facility. If the waters are clear and clean, the pumper shall approximate how many barrels are to be drained, and permission shall be obtained from the immediate supervisor before opening the drain(s). A note shall be entered into the weekly gauge report, or in the "Record of Dike Drainage" found in the Miscellaneous Attachments on Page A16, as to the date, time and approximate amount of the release. Produced water shall not be drained; instead, it will be picked up and taken to a proper disposal facility.

Section 112.10 SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN REQUIREMENTS FOR ONSHORE DRILLING AND WORKOVER FACILITIES

When moving mobile equipment onto the facility for any purpose, position or locate mobile drilling or workover equipment so as to prevent a discharge as described in Section 112.1(b). During the course of drilling operations, a blowout preventer (BOP) assembly and well control system shall be installed and tested for the pressures necessary to ensure good working order, before drilling below the last casing string. Casing strings shall be cemented into the ground as per the directions of the State's regulatory body's Rules and Regulations. This blowout prevention assembly shall be capable of controlling any expected wellhead pressure.

During the course of workover operations of existing wells, blowout prevention (BOP) assembly appropriate for the work shall be used, be it for tubing, or sucker rod work. The assembly shall be in good working order and shall be capable of controlling any expected wellhead pressure. Diversion of fluids or gases shall be directed to either the tank battery facility or to tankage designed for the job at hand. Should fluids be diverted to tankage that is not part of the tank battery facility, this tankage shall be watched by competent personnel to ensure no fluids escape due to overflow, flowline leaks or tank failure. Competent personnel shall mean individuals who have undergone appropriate training and are physically fit to perform the tasks at hand.

FINAL NOTE

These are the basic training procedures, inspection points and operational procedures for an onshore oil production facility. This is not all-encompassing and shall not be taken as the final word on spill prevention. This can be accomplished by: reading and implementing the information in this Spill Plan (SPCC); Contingency Plan; and the Miscellaneous Attachments section in the front of this binder — and by reading and implementing the Record Keeping, Inspections, and Training policies and procedures, which are found in this plan. It is the responsibility of the operator and all personnel employed by TALLGRASS RESOURCES, LLC to oversee and ensure the safe and efficient operations of the lease and its equipment. All Oil handling employees shall be familiar with normal lease operations, safety factors, and spill prevention before being allowed onto the lease. We do SUGGEST training all your contract pumpers.

SPILL MITIGATION PROCEDURES

Below is a general outline of a Spill Mitigation Procedure for a spill. To see an in-depth Facility Response Procedure for a spill, see "Spill Discovery and Response," Pages C2 – C6 of the attached Contingency Plan.

1. Determine the source of the leak.
2. Shut-off the sources of the leak if it can be done safely!
3. Take any possible action needed to contain the spill.
4. Notify the Spill Coordinator (Foreman) immediately! Do not call the media! The home office shall do this. Only they are authorized to make statements concerning any release of oil or saltwater. Be polite, but firm as to this policy.
5. Call service companies for needed assistance, such as vacuum trucks, dirt contractors and roustabout crews.
6. Remove and dispose of spilled free liquids with approved methods.
7. Use Spagsorb or other approved materials to soak up any remaining liquids.
8. Remove or remediate in an approved manner contaminated soils, waters, equipment, etc.
9. Notify all applicable agencies (Spill Coordinator/Regulatory Compliance Coordinator).
10. Document the spill. Include dates, times, and all conversations with parties present.
11. Complete the Spill Report Form and submit it to the Spill Coordinator detailing the cause of the spill, measures utilized to contain the spill, and the damage, if any. Be sure to include the following:

    Company

    a. Date
    b. Facility Name
    c. Facility Location
    d. County and State
    e. Description of facility from which the spill occurred.
    f. Type of hydrocarbon or liquid spilled
    g. Date and time of spill
    h. Date and time the spill was reported to outside agencies
    i. Total quantity spilled
    j. Quantity recovered
    k. Did spill affect any body of water, bar ditch, natural gull, creek or river?
    l. Describe the effects of spill (wildlife, vegetation, fish, water, etc.)
    m. Cause of spill
    n. Explain containment and cleanup measures taken

    Spill Coordinator

    o. Explain success of cleanup efforts.
    p. Did representative of outside agencies visit the scene?
    q. Which agencies?
    r. Did any agencies take an active role in the containment of cleanup?
    s. Estimate of total cleanup costs.
    t. Additional comments (was media present, public officials, other parties, etc.)

12. File a formal report with the regulatory agencies (Spill Coordinator/Emergency Response Coordinator)

SPILL NOTIFICATION NAMES AND PHONE NUMBERS LIST

Facility Name:	FAULKNER LEASE OSAGE COUNTY, OK	
Name of Operator:	TALLGRASS RESOURCES, LLC (918) 270-9927	During Business Hours
Spill Compliance Coordinator (SCC): They can be reached at:	SCOTT BENDER (918) 270-9927 (318) 560-2595	During Business Hours After Business Hours
Regulatory Compliance Coordinator (RCC): They can be reached at:	TYLER HAROLD (918) 270-9927 (918) 607-7009	During Business Hours After Business Hours
Field Operations Manager (FOM): They can be reached at:	SCOTT BENDER (918) 270-9927 (318) 560-2595	During Business Hours After Business Hours
In the event that they cannot be reached, call: They can be reached at:	PHILIP KELLY (918) 237-8445	During Business Hours After Business Hours

TO REPORT SPILLS:
24 HR. LINE - NATIONAL RESPONSE CENTER 800-424-8802

MINIMUM SPILL NOTIFICATION REQUIREMENTS (to EPA Regional Administrator Within 60 days)

1) **Whenever a facility has discharged more than 24 barrels/1000 gal. In a single incident; or**
2) **Whenever a facility has had two (2) discharges in a 12-month period of 1 barrel / 43 gallons or more.**

CONFIRM EITHER OF THESE OCCURRENCES BY PLACING AN (X) IN THE FOLLOWING BLANK _____

HARMFUL DISCHARGES INTO NAVIGABLE WATERS OF THE UNITED STATES OR ADJOINING SHORELINES HAVE NO MINIMUM AND MUST BE REPORTED AS SOON AS POSSIBLE.

Written Reports shall be required of all witnesses and most respondents to the release.

AGENCIES TO CONTACT:

State Regulatory Agency:	Oklahoma Corporation Commission	
	District:	**#1**
	Phone Number:	**(918) 367-3396**
Federal-EPA Region 6	**Spill Response Number:**	**(866) 372-7745**
National Response Center (as substitute for EPA Number-should be your first call)		**(800) 424-8802 (24hr.)**
US Army Corps of Engineers:		(202) 272-0001 (24hr.)

FILL OUT THE "Spill Submission Form " Pages A8-A10 in Miscellanous Attachments For Reporting To EPA PRIOR TO CONTACTING ANY AGENCIES.

ADDITIONAL CONTACT LIST

First Call – as many as possible	Phone Number
Local Emergency Planning Committee	See Contingency Pg. C8, Appenfix A
Fire Department	See Contingency Pg. C8, Appenfix A
Police Department	See Contingency Pg. C8, Appenfix A
County Sheriff's Department	See Contingency Pg. C8, Appenfix A
State Highway Patrol	See Contingency Pg. C9, Appenfix B
State Department of Public Safety	See Contingency Pg. C9, Appenfix B
Local Ambulance	See Contingency Pg. C8, Appenfix A
Local Hospital	See Contingency Pg. C8, Appenfix A
State Department of Environment Quality	See Contingency Pg. C9, Appenfix B
State Department of Wildlife Conservation	See Contingency Pg. C9, Appenfix B

Report Spills!
(800) 424-8802
24-Hour Phone
National Response Center

Environmental Services

SCO-JO Environmental
P.O. BOX 895
EDMOND, OK 73083
(405)340-5499

Alternate Environmental Services

Backhoe/Dozer/Heavy Equipment

Vacuum Truck/Tankers/Frac Tanks

Alternate Vacuum Trucks/Tanks/etc.

Roustabout Crews

This Additional Contact List must be completed for the SPCC Plan to be complete. Please do not put "911" for any of the above agencies.

Written Commitment of Manpower, Equipment and Materials

In addition to implementing the preventive measures described in this Plan, TALLGRASS RESOURCES, LLC will also in the event of a discharge specifically:

In the event of a discharge:

- Make available all trained field personnel to perform response actions.
- Obtain assistance from additional employees of Pumper.
- Collaborate fully with local, state and federal authorities on response and cleanup operations.
- Maintain all on-site spill control equipment described in this Plan and in the attached Oil Spill Contingency Plan. The equipment is estimated to contain oil spills of up to 500 gallons.
- Maintain all communications equipment in operation condition at all times.
- Ensure that staging areas to be used in the event of a discharge to the creek are accessible by field vehicles.
- Review the adequacy of on-site and third-party response capacity with pre-established response/clean-up contractors on an annual basis and update response/cleanup contractor list as necessary.
- Maintain formal agreements/contracts with response and cleanup contractors who will provide assistance in responding to an oil discharge and/or completing cleanup (see contract agreements maintained separately at the Owner/Operator's office and lists of associated equipment and response contractor personnel capabilities).

Authorized Facility Representative: _____

Signature: _____

Title: _____

SCO-JO

The Leader In Environmental Protection & Supplies.

Facility Information Form

Facility Name & RRC# if located in Texas: FAULKNER LEASE

Operator Name: TALLGRASS RESOURCES LLC

County & State of Facility: OSAGE COUNTY, OKLAHOMA

Legal Location (Include 1/4 section as in Oklahoma or RRC# as in Texas): NE 1/4 SEC. 1 T-25N R-8E

Latitude:	N 36.67912	Longitude:	W 96.394654
Elevation:	961		

Is this a 24 hour monitored facility? NO

Are there any emergency shutdown devises in place & Operational? NO

For facilities located in states other than OK name the State Regulatory Agency: OCC

Regulatory District Name: DIST. #1 Regulatory District Phone Number: 918-367-3396

Date of Initial Production:

Current Daily Oil Production (BOPD): 5 Current Daily Gas Production (MCF): 0

Current Daily Saltwater Production (BOSWPD): 120

Pumper's Name: DAVID STANFORD

Pumper's Mobile Phone Number: 918-625-2255

Pumper's Home or 24hr. Phone Number:

Lock Information (I.E. Combination or Code):

Please fill out the Driving Directions Section Below:

Begin at Junction of: _____ and _____

Go: N S E W _____ miles, _____

Then Go: N S E W _____ miles, _____

Then Go: N S E W _____ miles, _____

Then Go: N S E W _____ miles, _____

Then Go: N S E W _____ miles into facility _____

I certify that the information above is accurate and complete and will be used without verification by a registered professional engineer (P.E.) for the creation of a Spill Prevention, Control, and Countermeasure Plan (SPCC) for the above referenced company. I agree that the field agent has permission to correct any verbal and/or written directions to above referenced facility as necessary.

Name of Person completing this form (Print): SCOTT LEWIS JR

Signature:

Date: 5/21/2024

PART I

INTRODUCTION

1.1 PURPOSE AND SCOPE

This Oil Spill Contingency Plan is prepared in accordance with 40 CFR 112.7(d) to address areas of the facility where secondary containment is impracticable, as documented in the facility Spill Prevention, Control and Countermeasure (SPCC) Plan.

The purpose of this Oil Spill "Contingency Plan" is to define procedures and tactics for responding to discharges of oil into navigable waters or adjoining shorelines of the United States, originating more specifically from flowlines at TALLGRASS RESOURCES, LLC - FAULKNER LEASE storage facility. The Contingency Plan is implemented whenever a discharge of oil has reached or threatens navigable waters and/or adjoining shorelines.

The objective of procedures described in the Contingency Plan is to protect the public, TALLGRASS RESOURCES, LLC personnel and other responders during oil discharges. In addition, the Plan is intended to minimize damage to the environment, natural resources, and facility installations from a discharge of oil. This Contingency Plan complements the prevention and control measures presented in the facility's SPCC Plan by addressing areas of the facility that have inadequate secondary containment and impacts that may result from a discharge from these areas. The FAULKNER LEASE implements a detailed flowline maintenance program to prevent leaks from the primary system (in this case, piping). Areas lacking adequate containment at the FAULKNER LEASE include the flowlines that run between the extraction wells and the tank battery area and between the tank battery area and the saltwater disposal area.

This Contingency Plan follows the content and organization of 40 CFR part 109 and describes the distribution of responsibilities and basic procedures for responding to an oil discharge and performing cleanup operations.

1.2 RESOURCES AT RISK

FAULKNER LEASE is located at GPS Latitude: N 036 X 40.747; GPS Longitude: W 096 X 23.400. The Facility Drawing , Map of Facility and Driving Directions to facility included in the SPCC Plan on Page 7 and 9, indicate the location of the oil extraction, production and storage areas, and also identify nearby navigable waters. Soil type at facility is SANDY. Ground cover at the facility consists of low lying vegetation. The natural topography of the land is of STEEP grade in an NORTH direction.

5 flowlines (which contain oil) at the facility lack adequate secondary containment (see Facility Drawing Page 9 of SPCC Plan):

- Production Flowlines: The 4 flowline(s) from production wells to the storage facility at maximum, are approximately 4700 yds. long. These run underground within the Lease Unit Boundary as described by the OK Oil and Gas regulatory body. See Facility Drawing on Page 9 of SPCC Plan for the closest point of a flowline to navigable waters.
- SWD Flowline(s). The 1 The flowline(s) between the tank battery and the saltwater disposal(s) are approximately 1000 yds. long. It runs in an EAST direction.

TALLGRASS RESOURCES, LLC will coordinate with the OSAGE COUNTY fire and/or police depts. To provide the appropriate warnings in the event of a discharge that could affect public health and safety.

1.3 RISK ASSESSMENT

The facility is comprised of approximately 5700 yds. Of 2-3 INCHES in. diameter flowlines. The Majority of the flowlines are located underground. The flowlines do not have secondary containment, since such containment is impracticable at this facility (see discussion on impracticability of secondary containment in the facility's SPCC Plan).

The total daily production rate at the facility varies, but can reach as much as 5 gallons of crude oil and 120 gallons of produced water. For planning purposes, the worst-case discharge is the volume of oil within the flowline plus 24 hours of production, or 1,560 gallons.

(Note: worst-case flowline volume 1000 gallons)

Over a 24 hr. period, the oil could travel approximately 2 miles. Reference Facility Drawing on Page 9 of the facility SPCC Plan to calculate the estimated arrival to the nearest navigable waters.

1.4 RESPONSE STRATEGY

TALLGRASS RESOURCES, LLC personnel and contractors are equipped and trained to respond to certain "minor discharges" confined within the facility. Minor discharges can generally be described as those where the quantity of product discharged is small, the discharged material can be easily stopped and controlled, the discharge is localized, and the product is not likely to seep into groundwater, or reach surface water or adjoining shorelines. Procedures for responding to these minor discharges are covered in the SPCC Plan.

This Contingency Plan addresses all discharge incidents, including those that affect navigable waters, or during which the oil cannot be safely controlled by facility personnel and confined within the boundaries of the facility. Response to such incidents may necessitate the assistance of outside contractors or other responders to prevent imminent impact to navigable waters.

PART II

SPILL DISCOVERY AND RESPONSE

2.1 DISTRIBUTION OF RESPONSIBILITIES

TALLGRASS RESOURCES, LLC the primary responsibility for providing the initial response to oil discharge incidents originating from its facility. To accomplish this, TALLGRASS RESOURCES, LLC has designated the Field Operations Mgr., SCOTT BENDER as the qualified oil discharge Response Coordinator (RC) in the event of an oil discharge.

- The RC plays a central coordinating role in any emergency situation as illustrated in the emergency organization chart in Figure 2-1, Page C3.
- The RC has the authority to commit the necessary services and equipment to respond to the discharge and to request assistance from OSAGE COUNTY , fire and/or police depts., contractors or other responders as appropriate.
- The RC will direct notifications and initial response actions in accordance with training and capabilities. In the event of a fire or emergency situation that threatens the health and safety of those present at the site, the RC will direct evacuations and contact the fire and police depts.

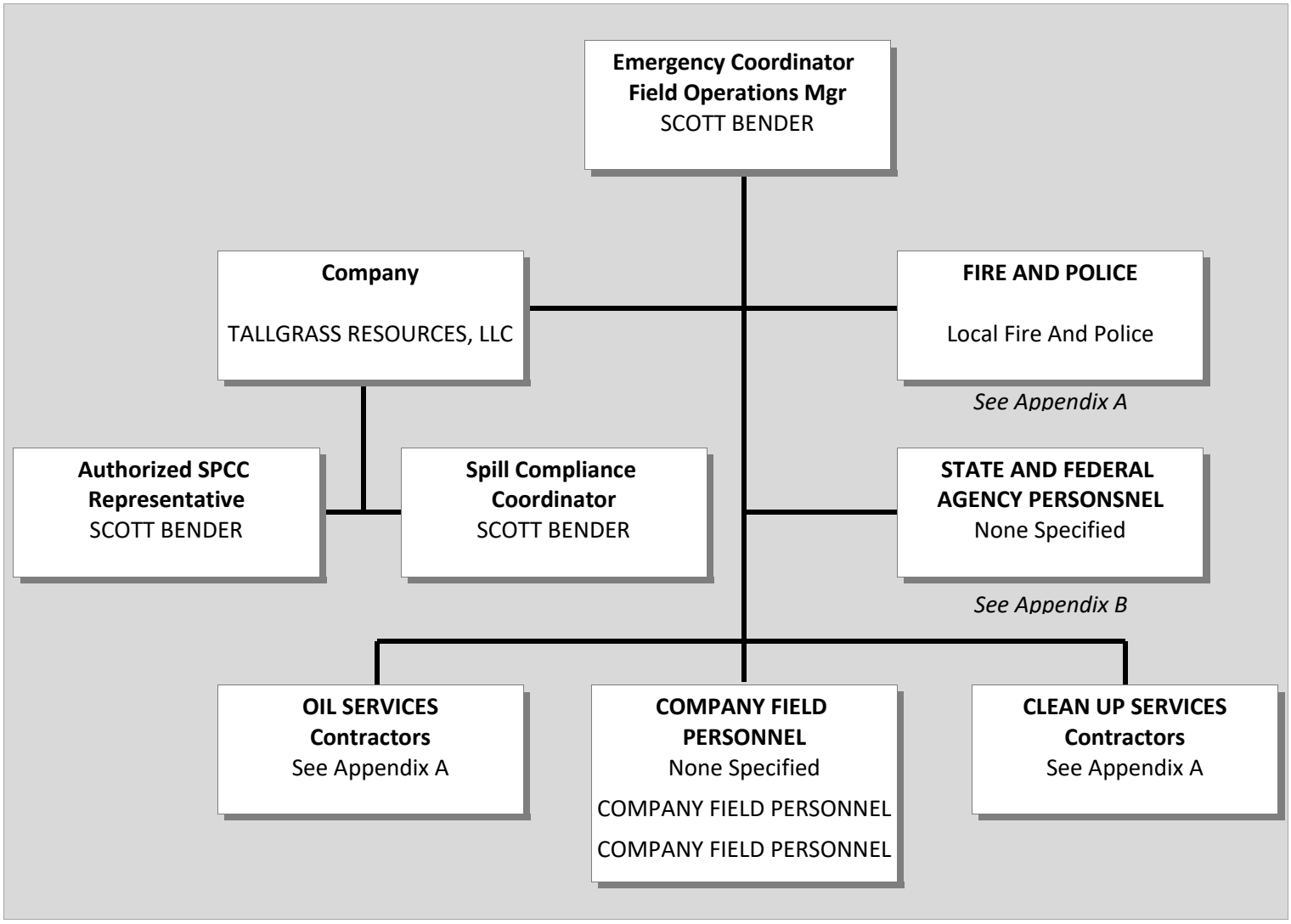
In the event of an emergency involving outside response agencies, the RC's primary responsibility is to provide information regarding the characteristics of the materials and equipment involved and to provide access to TALLGRASS RESOURCES, LLC resources as requested. The RC shall also take necessary measures to control the flow of people, emergency equipment and supplies, and obtain the support of the Local Fire and Police as needed to maintain control of the site. These controls may be necessary to minimize injuries and confusion.

Finally, the RC serves as the coordinator for radio communications by acquiring all essential information and ensuring clear communication of information to emergency response personnel. The RC has access to reference material at the field office, either as printed material or on computer files that can further assist the response activities.

Whenever circumstances permit, the RC transmits assessments and recommendations to TALLGRASS RESOURCES, LLC Senior Management for direction. Senior Management is contacted in the following order: (1) Regional Director of Operations; (2) Vice-President of Operations.

In the event that the Field Operations Manager is not available, the responsibility and authority for initiating a response to a discharge rests with the most senior TALLGRASS RESOURCES, LLC employee on site at the time the discharge is discovered (Crew Lead), or with the contractor Field Supervisor (or next person in command) if contractor personnel are the only personnel on site.

Figure 2-1: Distribution of response authority and communication:



2.2 RESPONSE ACTIVITIES

In the event of a discharge, the first priority is to stop the product flow and to shut off all ignition sources, followed by the containment, control, and mitigation of the discharge. This Contingency Plan breaks down actions to be performed to respond to an oil discharge into different phases described in greater detail in the checklists below.

2.2.1 Discharge Discovery and Source Control:

Minor Discharge: A minor discharge (i.e., small volume leak from flowlines or other equipment) will be discovered by TALLGRASS RESOURCES, LLC facility personnel or by contractor personnel during scheduled daily or monthly visits to the facility. Aboveground flowlines are visually inspected formally once a month during the normal inspection rounds.

Major Discharge: A more severe and sudden discharge will trigger the automatic shut down of the pumping units and will affect oil production. The impact will be detected during the daily visit to the production area by TALLGRASS RESOURCES, LLC or contractor field personnel. The maximum amount of time until a major discharge is detected can be up to 24 hrs.

Notifications to the National Response Center, OK authorities, and OSAGE COUNTY LEPC must occur immediately upon discovery of reportable discharges.

COMPLETED	ACTIONS
	Immediately report the discharge to the RC, providing the following information: > Exact location > Materials involved > Quantity involved > Topographic and environmental conditions > Circumstances that may hinder response > Injuries – if any
	Turn off all sources of ignition.
	Turn off lift pumps that charge or provide flow to the flowline.
	Locate the flowline break.
	If safe to do so, isolate the affected section of piping by closing off the closest valves upstream and downstream from the break.

2.2.2 Assessment and Notifications:

COMPLETED	ACTIONS
	Investigate the discharge to assess actual or potential threat to human health or the environment: > Location of discharge relative to receiving water bodies > Quantity of spilled materials > Ambient conditions (temperature; rain) > Other contributing factors such as fire or explosion hazards > Sensitive receptors downstream
	Request outside assistance from local emergency responders as needed.
	Evaluate the need to evacuate facility and evacuate employees as needed.
	Notify the fire/police departments and OSAGE COUNTY LEPC to assess whether community evacuation is needed. Oil Services Company LEPC to assess whether community evacuation is needed.
	Notify immediately: > 911 > National Response Center > Response Contractor(s) > State authorities
	Communicate with neighboring property owners regarding the discharge and actions taken to mitigate the damage.
	Determine whether the oil reaches or threatens to reach navigable waters.

2.2.3 Control and Recovery:

The RC directs the initial control of the oil flow by TALLGRASS RESOURCES, LLC , Oil services and contractors. (See 3.1 below for oil services and contractors) The actions taken will depend on whether the oil has reached water or is still on land. All effort will be made to prevent oil from reaching water.

If the oil has not yet reached water:

COMPLETED	ACTIONS
	Deploy sand bags and absorbent socks down gradient from the oil, or erect temporary barriers such as trenches or mounds to prevent the oil from flowing towards navigable waters.
	Implement land-based response actions (countermeasure) such as digging temporary containment pits, ponds, or curbs to prevent the flow of oil into the river.
	Deploy absorbent sock and sorbent materials along the shoreline to prevent oil from entering waters.

If the oil has reached water:

COMPLETED	ACTIONS
	Contact cleanup contractor(s). (See 3.1 below for oil services and contractors)
	Deploy floating booms immediately downstream from the release point.
	Control oil flow on the ground by placing absorbent socks and other sorbent material or physical barriers (e.g., “kitty litter,” sandbags, earthen berm, trenches) across the oil flow path.
	Deploy additional floating booms across the whole width of the creek at the next access point downstream from the release point. Access points and staging areas along the shoreline are identified on Figure C-1 of this Contingency Plan.
	Deploy absorbent sock and sorbent materials along the shoreline to prevent oil from entering waters.

2.2.4 Disposal of Recovered Product and Contaminated Response Material:

The RC ensures that all contaminated materials classified as hazardous waste are disposed of in accordance with all applicable solid and hazardous waste regulations.

COMPLETED	ACTIONS
	Place anyrecovered product that can be recycled into the gun barrel tank to be separated and recycled.
	Dispose of recovered product not suitable for on-site recycling with the rest of the waste collected during the response efforts.
	Collect all debris in properly labeled waste containers (impervious bags, drums, or buckets).
	Dispose of contaminated material in accordance with all applicable solid and hazardous waste regulations using a licensed waste hauler and disposal facility, after appropriately characterizing the material for collection and disposal.
	Dispose of all contaminated response material within 2 weeks of the discharge.

2.2.5 Termination

The RC ensures that cleanup has been completed and that the contaminated area has been treated or mitigated according to the applicable regulations and local, State and Federal cleanup action levels. The RC collaborates with the local, State and Federal authorities regarding the assessment of damages.

COMPLETED	ACTIONS
	Ensure that all repairs to the defective equipment or flowline section have been completed.
	Review circumstances that led to the discharge and take all necessary precautions to prevent a recurrence.
	Evaluate the effectiveness of the response activities and make adjustments as necessary to response procedures and personnel training.
	Carry out personnel and contractor debriefings as necessary to emphasize prevention measures or to communicate changes in operations or response procedures.
	Submit any required follow-up reports to the authorities. **As defined in 40CFR 112.1 (b), In the case where the discharge was greater than 1,000 gallons, or there was a second discharge of 42 gallons or more within any 12 mo. Period; the RC is responsible for submitting the required information within 60 days to the EPA Regional Administrator following the procedures outlined in Appendix B.** **Within 30 days of the discharge, the RC will convene an incident critique including all appropriate persons that responded to the spill. The goal of the incident critique is to discuss lessons learned, the efficacy of the Contingency Plan and its implementation, and coordination of the plan/RC, and other State and local plans.** **Within 60 days of the critique, the Contingency Plan will be updated as needed to incorporate the results, findings, and suggestions developed during the critique.**

2.3 DISCHARGE NOTIFICATION

Instructions and phone numbers for reporting a discharge to the National Response Center and other Federal, State and local authorities are provided in Appendix B to this Plan. Any discharge to water must be reported immediately to the National Response Center. The Response Coordinator must ensure that details of the discharge are recorded on the Discharge Notification Form provided on page C10

If the discharge qualifies under 40 CFR part 112 (see Appendix B for circumstances), the RC is responsible for ensuring that all pertinent information is provided to the EPA Regional Administrator.

PART III

RESPONSE RESOURCES AND PREPAREDNESS ACTIVITIES

3.1 EQUIPMENT, SUPPLIES, SERVICES, AND MANPOWER

Spill kits, if applicable, are provided and stored in a storage facility at the production site that is accessible by both TALLGRASS RESOURCES, LLC and oil services contractor(s) personnel. Response equipment and material present at the site include:

QUANTITY	EQUIPMENT AND MATERIALS
1	Spill Kit, When Required

This material is sufficient to respond to most minor discharges occurring at the facility and to initially contain a major discharge while waiting for additional materials, responders or outside contractors. The inventory is verified on a monthly basis during the scheduled facility inspection by designated personnel, and is replenished as needed.

Additional material and equipment is kept at TALLGRASS RESOURCES, LLC district field office. The additional materials are listed below, including all necessary communication equipment to coordinate response activities such as: cell phones, etc. The location serves as the response operation center during a response.

TALLGRASS RESOURCES, LLC has 4 employee(s) trained and available to respond to an oil discharge. TALLGRASS RESOURCES, LLC personnel may be assisted by additional employees from the facility's oil service contractors. All employees are familiar with the facility's layout, location of spill response equipment, staging areas, and response strategies, as well as the SPCC and Contingency Plans. Employees have received training in the deployment of response material and handling of hazardous waste (HAZWOPER), and have attended the required refresher courses.

To respond to larger discharges and ensure the removal and disposal of cleanup debris, courses. TALLGRASS RESOURCES, LLC has established agreements with specialized cleanup contractors (See Appendix A) acting as the primary response/cleanup contractor. These contractors have immediate access to all equipment and materials, including mechanical recovery equipment for use on water and/or land. Each contractor has sufficient response equipment to contain and recover the maximum possible discharge. Contractors are able to respond within # of ____ hours of receiving a verbal request from the RC.

3.2 COMMUNICATIONS AND CONTROL

A central coordination center will be set up at the Field office in the event of a discharge, and is equipped with fixed and mobile communication equipment to ensure continuous communication with TALLGRASS RESOURCES, LLC and all responders

Communications equipment includes:

QUANTITY	EQUIPMENT

The RC is responsible for communicating the status of the response operations and for sharing relevant information with involved parties, including local, State and Federal authorities.

In the event that local and State authorities, or a Federal On Site Coordinator (OSC) assumes Incident Command, the RC will function as the facility representative in the Unified Command structure.

3.3 TRAINING EXERCISES AND UPDATING PROCEDURES

TALLGRASS RESOURCES, LLC has established and maintains an ongoing training program to ensure that responding personnel to oil discharges are properly trained and that all necessary equipment is available to them. The program includes on-the-job training on the proper deployment of response equipment. The RC is responsible for implementing and evaluating employee preparedness training.

Following a response to an oil discharge, the RC will evaluate the actions taken and identify procedural areas where improvements are needed. The RC will conduct a briefing with field personnel, contractors and local emergency responders to discuss lessons learned, and will integrate the outcome of the discussion in subsequent SPCC briefings and employee training seminars. As necessary, the RC will amend this Contingency Plan and/or the SPCC Plan, to reflect changes made to the facility equipment and procedures.

APPENDIX A

Emergency Contacts

TALLGRASS RESOURCES, LLC is responsible for all local information below

Facility Operations:

NAME	TITLE	PHONE #	ADDRESS

Local Emergency Responders:

Agency	Name	PHONE #	ADDRESS
Fire		911 or Local #	
Police		911 or Local #	
OSAGE COUNTY LEPC			
Hospital			

Cleanup Contractors:

Environmental Services

SCO-JO Environmental
P.O. BOX 895
EDMOND, OK 73083
(405)340-5499

Alternate Environmental Services

Backhoe/Dozer/Heavy Equipment

Vacuum Truck/Tankers/Frac Tanks

Alternate Vacuum Trucks/Tanks/etc.

Roustabout Crews

APPENDIX B

Discharge Notification Procedures

Any discharge to water must be reported immediately to the National Response Center.
Circumstances, instructions and phone numbers for reporting a discharge to the National Response Center and other Federal, State and local agencies, and other affected parties, are provided below. They are also posted at the facility in the storage shed containing the discharge response equipment.

FIELD OPERATIONS MGR.	**SCOTT BENDER**	**(918) 270-9927**
EMERGENCY RESPONDERS	**SEE APPENDIX A**	**AND / OR 911**

FEDERAL AGENCIES	PHONE #	CIRCUMSTANCES	WHEN TO NOTIFY
Nat'l Response Center	(800) 424-8802	Discharge reaching navigable waters	Immediately (verbal)
Federal-EPA Region 6	(866) 372-7745		Immediately (verbal)
Federal-EPA Region 6 Admin.	(866) 372-7745	Discharge 1,000 gallons or more; or 2nd discharge of 42 gallons or more over 12 mo. Period.	Written notification within 60 days (See sec. 2.1 of this plan.).

FEDERAL AGENCIES	PHONE #	CIRCUMSTANCES	WHEN TO NOTIFY
State Highway Patrol State Department of Transportation	(405) 425-2424 (405) 521-2011	*Injury requiring hospitalization or fatality *Fire, explosion or other impact that could affect public safety *Release exceeding 24 hr. reportable quantity *Impact to areas beyond the facility's confines	Immediately (verbal) Written notification within 5 working days
Hazardous Materials Hotline	(800) 424-9346	Discharges that pose emergency conditions regardless of the volume discharged.	Within 1 hr. (verbal) Written notification within 7 working days

The person reporting the discharge must provide the following information:

- Name, location, organization and phone #
- Name and address of owner/operator
- Date and time of incident
- Location of incident
- Source and cause of discharge
- Types of materials discharged
- Total quantity of materials discharged
- Quantity discharged to navigable waters or adjoining shorelines
- Danger or threat posed by the release or discharge
- Description of all affected media (e.g., water, soil, etc.)
- Number and types of injuries and damages
- Weather conditions
- Actions used to stop, remove and mitigate effects of the discharge
- Whether an evacuation is needed
- Name of individuals and/or organizations contacted
- Any other information that may help emergency responders

Whenever the facility discharges more than 1,000 gallons of oil in a single event, or discharges more than 42 gallons of oil in each of two discharge incidents within a 12 mo. period, the manager of Field Operations must provide the following information to the EPA's Regional Administrator within 60 days:

- Name of the facility
- Name of owner/operator
- Location of facility
- Maximum storage or handling capacity and normal daily throughput
- Corrective actions and countermeasures taken, including a description of equipment repairs and replacements
- Description of facility, including maps, flow diagrams, and topographical maps
- Cause of the discharge(s) to navigable waters, including a failure analysis of the system and subsystems in which the failure occurred
- Additional preventive measures taken or contemplated to minimize recurrence
- Other pertinent information requested by the Regional Administrator.

RECORD OF INCIDENT NOTIFICATIONS			
FEDERAL AGENCIES CONTACTED	**NAME OF PERSON CONTACTED**	**TYPE OF INCIDENT** (Discharge; evacuation; injury; fatality(ies)	**DATE/TIME/COMMENTS**

APPENDIX C-8

JACKSON LEASE TANK BATTERY SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE (SPCC) PLAN

SCO-JO ENVIRONMENTAL

The Leader In Environmental Protection & Supplies.

OPERATOR

TALLGRASS RESOURCES, LLC
4200 E. SKELLY DR., SUITE 1000
TULSA, OK 74135

FACILITY

JACKSON / JACKSON 'A' LEASE
NW 1/4 SEC. 26 T-24N R-9E
OSAGE COUNTY, OK
N 036 X 31.810 W 096 X 18.790

Jon Stromberg, P.E.
Oklahoma Professional Engineer License No. 9425
Centrex Energy Consultants
7021 N.W. 63rd St.; STE. 101
Bethany, OK 73008
(405) 720-1280
P.O. BOX 895 EDMOND, OK 73083 - 405-340-5499

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SPILL PLAN & CONTINGENCY PLAN

OIL SPILL CONTINGENCY PLAN

TABLE OF CONTENTS

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE (SPCC) PLAN

OPERATOR

TALLGRASS RESOURCES, LLC
4200 E. SKELLY DR., SUITE 1000
TULSA, OK 74135

FACILITY

JACKSON / JACKSON 'A' LEASE
NW 1/4 SEC. 26 T-24N R-9E
OSAGE COUNTY, OK

FOR THIS PLAN TO BE EFFECTIVE, A SPILL HISTORY FOR THIS FACILITY MUST BE ADDED BY THE OWNER / OPERATOR AND THE FOLLOWING PAGE 21 MUST BE COMPLETED FOR THIS PLAN TO BE COMPLETE AND IN ACCORDANCE WITH 40 CFR PART 112. ANY AND ALL OTHER FEDERAL, STATE, OR LOCAL LAWS WHICH MAY APPLY TO THIS FACILITY MUST BE ADDED BY THE OPERATOR IF THEY ARE MORE STRINGENT THAN 40 CFR PART 112.

MANAGEMENT APPROVAL 40 CFR 112.7

THIS PLAN HAS BEEN PREPARED FOR THE OPERATOR OF THE ABOVE MENTIONED ONSHORE FACILITY THAT PRODUCES OIL AND ASSOCIATED BY-PRODUCTS WITH MY CONSENT. I HAVE FULL AUTHORITY TO COMMIT AND WILL COMMIT THE NECESSARY MANPOWER, EQUIPMENT, AND MATERIALS NEEDED TO EXPEDITIOUSLY REMOVE AND CONTROL ANY QUANTITY OF PRODUCED OIL OR WATER THAT HAS BEEN DISCHARGED FROM THIS FACILITY. I HAVE REVIEWED THIS PLAN AND APPROVED OF ITS CONTENT.
THIS SPCC PLAN WILL BE IMPLEMENTED AS DESCRIBED.

OPERATION MANAGER _____
SIGNATURE

PRINT NAME _____ DATE _____

CERTIFICATION 40 CFR 112.3 (d)

I CERTIFY THAT I AM FAMILIAR WITH THE REQUIREMENTS OF CFR 40 PART 112, THAT I OR MY AGENTS HAVE VISITED AND EXAMINED THIS FACILITY, THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH GOOD ENGINEERING PRINCIPLES PRACTICES, DULY CONSIDERING APPLICABLE INDUSTRY STANDARDS AND THE REQUIREMENTS OF CFR 40 PART 112, AND THAT THE EPA PROCEDURES FOR REQUIRED INSPECTIONS AND TESTING HAVE BEEN ESTABLISHED AT THIS FACILITY AND THAT THIS PLAN IS ADEQUATE FOR THIS FACILITY. I HAVE PREPARED THIS PLAN BASED ON MY UNDERSTANDING OF 40 CFR PART 112. HOWEVER, THIS LAW IS SUBJECT TO FREQUENT REVISIONS AND CHANGES AND THE DIFFERENCE IN INTERPRETATIONS FROM THE EPA AND ITS AGENTS.

THAT, IF APPLICABLE, FOR A PRODUCED WATER CONTAINER SUBJECT TO §112.9(c)(6), ANY PROCEDURE TO MINIMIZE THE AMOUNT OF FREE-PHASE OIL IS DESIGNED TO REDUCE THE ACCUMULATION OF FREE-PHASE OIL AND THE PROCEDURES AND FREQUENCY FOR REQUIRED INSPECTIONS, MAINTENANCE AND TESTING HAVE BEEN ESTABLISHED AND ARE DESCRIBED IN THE PLAN.

Jon Stromberg

Jon Stromberg, P.E.
Oklahoma Professional Engineer License No. 9425

5/21/24
DATE

CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA CHECKLIST

N 036 X 31.810 W 096 X 18.790

FACILITY: **JACKSON / JACKSON 'A' LEASE** Altitude (ft):

LOCATION: NW 1/4 SEC. 26 T-24N R-9E OSAGE COUNTY, OK

1. Does this facility transfer oil over water to or from vessels and does this facility have a total oil storage capacity greater than or equal to 42,000 gallons?

   ☐ Yes ☑ No

2. Does this facility have a Total Oil Storage Capacity greater than or equal to one (1) million gallons and does this facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

   ☐ Yes ☑ No

3. Does this facility have a Total Oil Storage Capacity greater than or equal to 1 million gallons and is this facility located at a distance (as calculated using the formula in Attachment C-III, Appendix C, 40 CFR 112 or a comparable formula) such that a discharge from this facility could cause injury to fish and wildlife & sensitive environments? (For additional descriptions of fish and wildlife & sensitive environments, see Appendices I, II III to DOC/NOAA's "Guidance For Facility & Vessel Response Environments" (Section 10, Appendix E, 40 CFR 112 for availability) & the applicable Area Contingency Plan.)

   ☐ Yes ☑ No

4. Does this facility have a total storage capacity greater than or equal to one (1) million gallons and is this facility located at a distance as calculated using the appropriate formula (Attachment C-III, Appendix C, 40 CFR Part 112 or a comparable formula) such that a discharge from this facility would shut down a public drinking water intake?

   ☐ Yes ☑ No

   a. If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable formula must be attached to this form.

   b. For the purpose of 40 CFR part 112, public drinking water intakes are analogous to public water systems as described in 40 CFR 143.2 [c].

5. Does this facility have a total storage capacity greater than or equal to one (1) million gallons and has this facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

   ☐ Yes ☑ No

CERTIFICATION:

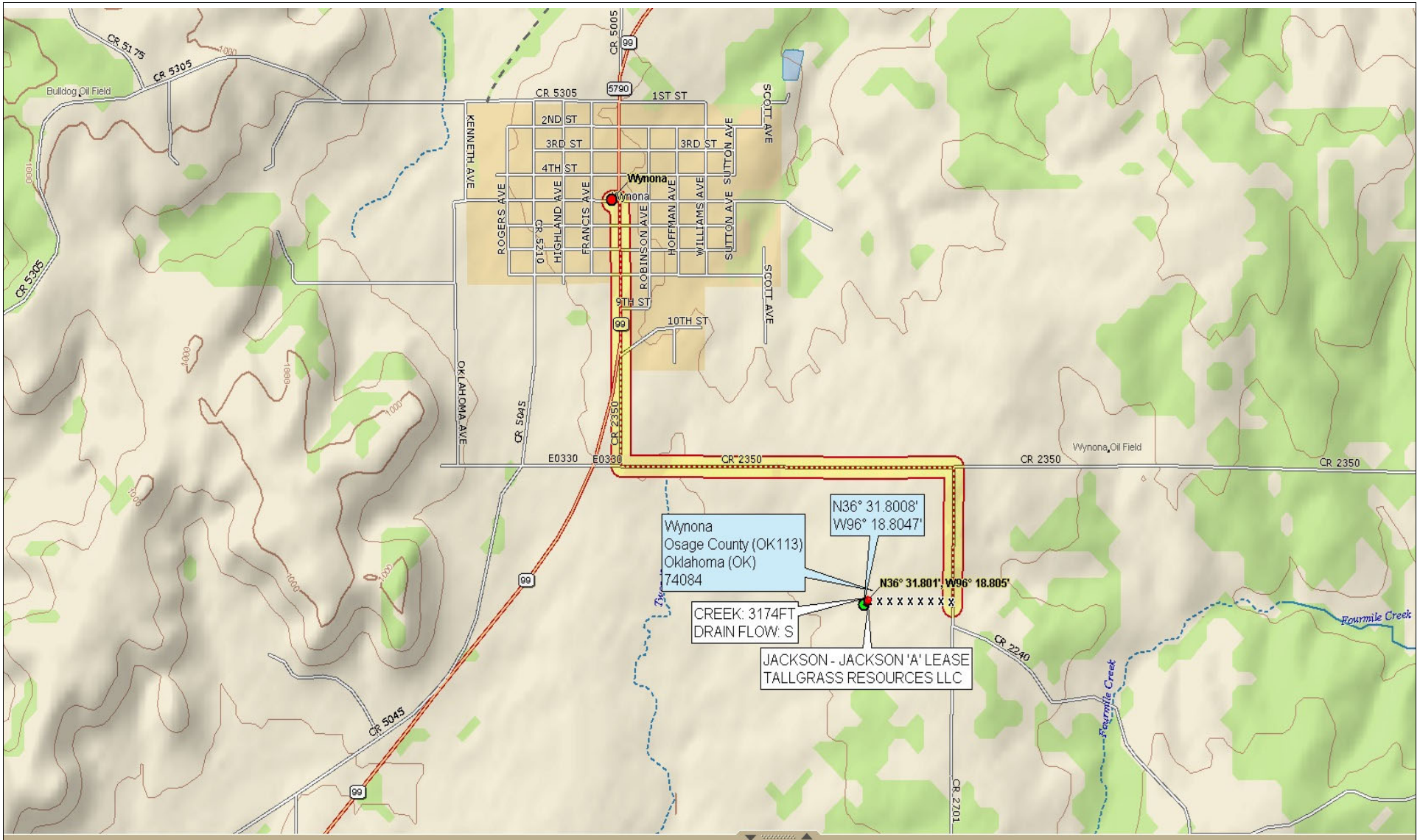
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and that based on my personal examination of this facility, I believe this information to be true, accurate and correct.

Operation Mgr. _____ Date _____

SPCC RULE CROSS-REFERENCE

This table was prepared to assist TALLGRASS RESOURCES, LLC and the EPA in the cross-referencing of this plan with the requirements listed in the Final SPCC Rule and the equivalent requirements in the original or Old SPCC Rule.

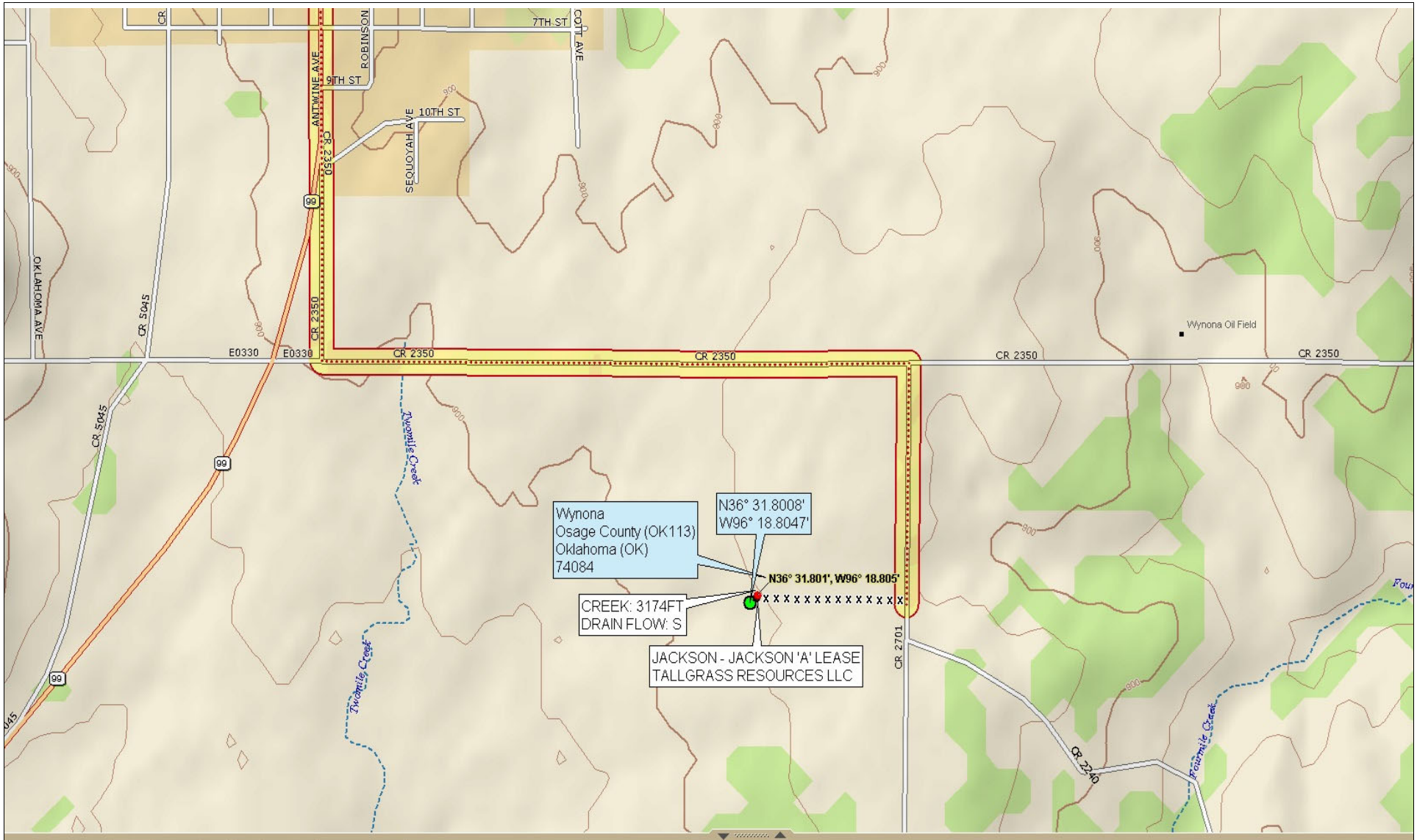
Final SPCC Rule	Plan Section	Page(s)
112.3(d)	Professional Engineer Certification	4
112.3(e)	Location of SPCC Plan	1, 4, 10, 25
112.5	Plan Review	14-15
112.7	Management Approval	4
112.7	Cross-Reference with SPCC Rule	6
112.7(a)(3)	Facility Directions Map	7
	Facility Diagram	9
	Operator / Company Information	1, 4, 10, 25
	Onshore Production Facility Information	10-11
	Secondary Containment Calculations	12
	Potential Discharge Amounts Sheet	13
	Site Operational Process Description	15
112.7 and 112.7(a)(4)	Discharge Discovery and Reporting-Discharge Notification	Contingency C9
112.7(a)(5)	Spill Mitigation Procedures / Discovery & Response	Contingency C2-C3
112.7(b)	Potential Discharge Volume	13
112.7(c)	Containment and Diversionary Structures	9, 12, 17-18
112.7(d)	Practicability of Secondary Containment	18
	Written Commitment of manpower, equipment and materials	27
112.7(e)	Inspections, Tests, and Records-Facility Inspection Checklists	Attachments A10-A15
112.7(f)	Training, and Discharge Prevention Procedures	Attachments A5-A8
112.7(i)	Brittle Facture Evaluation	20
112.7(j)	Conformance with Applicable State and Local Requirements	20
112.9(b)	Oil Production Facility Drainage/Record of Dike Drainage	20-23, Attachments A15
112.9(c)(1)	Production Equipment	9, 11
112.9(c)(2)	Secondary Containment for Bulk Storage Containers	9, 12
112.9(c)(3)	Inspections, Tests, and Records – Inspection Checklist	Attachments A10-A15
112.9(c)(4)	Bulk Storage Containers and Overflow Prevention	Attachment A17-A18
112.9(D)(1)	Transfer Operation and Saltwater Disposal System	20-23
112.9(d)(3)	Flow line Maintenance Program	22-23



Find | Print | Draw | GPS | **Route** | Profile | 3-D | Info | NetLink | Handheld Export

N36° 31801' to Wynona : 2.14 mi : 0:04:48

Turn Time	Turn Dist	Turn	Road	Exit	Finish Time	Finish Dist	Total Ti...	Total ...
		Depart N36° 31.801', W96° 18.8...	CR 2701		0:04:48	2.14 mi	0:00:00	0.00 mi
0:00:54	0.38 mi	Turn left (W)	CR 2350 (E0330)		0:03:54	1.76 mi	0:00:54	0.38 mi
0:02:24	1.01 mi	Turn right (N)	CR 2350		0:01:30	0.75 mi	0:03:18	1.39 mi
0:00:50	0.35 mi	Keep right (N)	SR 99 (Antwine Ave)		0:00:40	0.40 mi	0:04:08	1.75 mi
0:00:37	0.37 mi	Turn left (W)	Osage St		0:00:03	0.02 mi	0:04:45	2.12 mi
0:00:03	0.02 mi	Continue straight (W)	Arrive at Wynona		0:00:00	0.00 mi	0:04:48	2.14 mi
		Arrive at Wynona			0:00:00	0.00 mi	0:04:48	2.14 mi



Print | Draw | GPS | **Route** | Profile | 3-D | Info | NetLink | Handheld Export

N36° 31801' to Wynona : 2.14 mi : 0:04:48

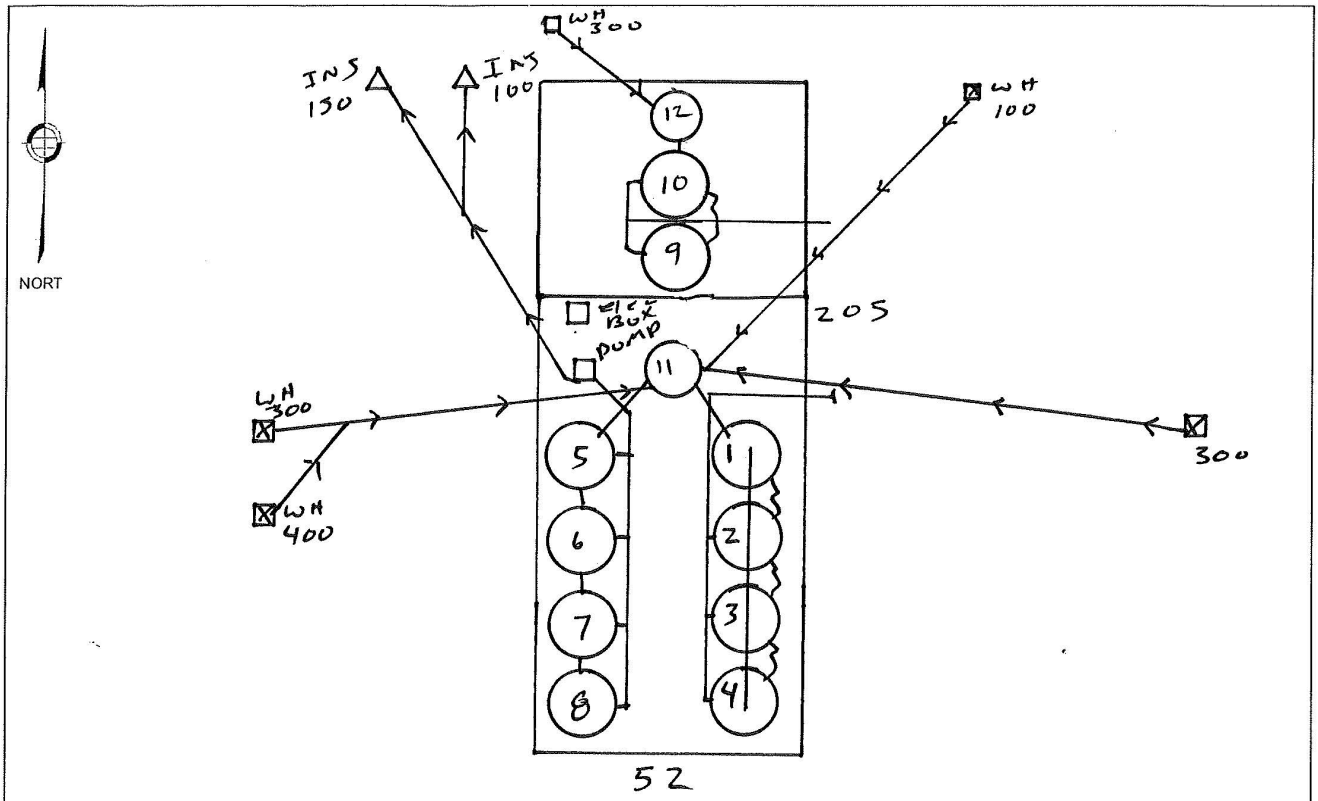
Turn Time	Turn Dist	Turn	Road	Exit	Finish Time	Finish Dist	Total Ti...	Total ...
		Depart N36° 31.801', W96° 18.8...	CR 2701		0:04:48	2.14 mi	0:00:00	0.00 mi
0:00:54	0.38 mi	Turn left (W)	CR 2350 (E0330)		0:03:54	1.76 mi	0:00:54	0.38 mi
0:02:24	1.01 mi	Turn right (N)	CR 2350		0:01:30	0.75 mi	0:03:18	1.39 mi
0:00:50	0.35 mi	Keep right (N)	SR 99 (Antwine Ave)		0:00:40	0.40 mi	0:04:08	1.75 mi
0:00:37	0.37 mi	Turn left (W)	Osage St		0:00:03	0.02 mi	0:04:45	2.12 mi
0:00:03	0.02 mi	Continue straight (W)	Arrive at Wynona		0:00:00	0.00 mi	0:04:48	2.14 mi
		Arrive at Wynona			0:00:00	0.00 mi	0:04:48	2.14 mi

SCO-JO

The Leader In Environmental Protection & Supplies.

Operator Name	TALLGRASS RESOURCES LLC	Facility Name	JUCKSON / JUCKSONA

Facility Diagram



LEASE ROAD DIAGRAM

FIELD INSPECTION CONFIRMATION

THIS FACILITY SKETCH HAS BEEN PREPARED FOR THE CERTIFYING ENGINEER WITH SITE SPECIFIC MEASUREMENTS AND EQUIPMENT DETAILS AS REQUIRED BY THE PROVISIONS SET FORTH IN 40 CFR 112. AS A REPRESENTITIVE OF SCO-JO Environmental Inc. I CERTIFY THAT I HAVE PERSONALLY VISITED THIS FACILITY AND THE INFORMATION PROVIDED IS ACCURATE AND COMPLETE.

FIELD AGENT:

DATE: 5-21-24

ENGINEER NOTE:
1.ALL "NIU" TANKS MUST HAVE "BACK COVER PLATES" REMOVED
2.ALL GUN BARRELS, SEPERATORS, HEATER TREATERS, AND OTHER EQUIPMENT NOT LOCATED WITHIN THE MAIN CONTAINMENT AREA MUST BE BERMED A MINIMUM OF 16 INCHES.

INDICATE DIRECTION OF SPILL MIGRATION SHOW ALL NAVIGABLE

SCO-JO

The Leader In Environmental Protection & Supplies.

Operator Name	TALLGRASS RESOURCES LLC	Facility Name	JACKSON / JACKSON A LEASE

Facility Fixed Storage Information

Fixed Storage Number	1	2	3	4	5	6	7	8	9	10
Storage Type (Oil, SW, GB, HT, SEP)	OIL	OIL	OIL	OIL	SW	SW	SW	SW	OIL	OIL
Manufacturer										
Diameter	12	12	12	12	12	12	12	12	12	12
Height	10	10	10	10	10	10	10	10	10	10
Total Capacity (bbls)	201	201	201	201	201	201	201	201	201	201
Serial Number										
Year Manufactured										
Bottom Thickness										
Shell Thickness										
Deck Thickness										
Welded (W), Molded (M), of Bolted (B)	W	W	W	W	M	M	M	M	W	W
Steel (ST), Fiberglass (FG), or Wood (W)	S	ST	ST	ST	FG	FG	FG	FG	ST	ST
Open Top (O) or Closed Top (C)	C	C	C	C	C	C	C	C	C	C
Foundation for Tanks - Earth, Gravel, Sand, Cmt	GR	GR	GR	GR	GR	GR	GR	GR	GR	GR
Contents Transportation Method (TR, INJ, PL)	TR	TR	TR	TR	INJ	INJ	INJ	INJ	TR	TR
R=Raised, H=Horizontal, FC=Field Constructed										

Fixed Storage Number	11	12	13	14	15	16	17	18	19	20
Storage Type (Oil, SW, GB, HT, SEP)	GB	GB								
Manufacturer										
Diameter	8	8								
Height	15	15								
Total Capacity (bbls)	0	0	0	0	0	0	0	0	0	0
Serial Number										
Year Manufactured										
Bottom Thickness										
Shell Thickness										
Deck Thickness										
Welded (W), Molded (M), of Bolted (B)	M	M								
Steel (ST), Fiberglass (FG), or Wood (W)	FG	FG								
Open Top (O) or Closed Top (C)	C	C								
Foundation for Tanks - Earth, Gravel, Sand, Cmt	E	E								
Contents Transportation Method (TR, INJ, PL)										
R=Raised, H=Horizontal, FC=Field Constructed										

General Facility Information

Average Dike Height in Inches	12	Number of Production Flowlines	5
Dike Dimensions	205 X 52	Prod. Flowlines Tot. Length-Yards	1400
Facility Condition	GOOD	Number of SWD Flowlines	1
Grade Direction	SOUTH	SWD Flowlines Total Length - Yards	250
Berm Composition	GRAVEL	SWD Flowline Direction	NORTH
Topography	MODRATE	Total length of All Flowlines in Yards	1650
Surrounding Soil Type	CLAY	Diameter of Flowlines in Inches	2-3 INCHES

Notes

Dike Drain Present	YES
Flowline Construction	POLY / STEEL
Drain Buckets In Place	YES
Net On Open Tanks	YES
Trash Bin Outside Containment Area	NO
Electrical Inside Containment Area	YES
Bull Plugs On Load Lines	YES
Cones On Top Of Furnaces	N/A

FIELD INSPECTION CONFIRMATION
FIELD AGENT:
SCOTT LEWIS JR

DATE:
5/21/2024

FIELD ENGINEER NOTES:

GENERAL INFORMATION FOR OPERATOR / COMPANY

Operator/Company Info:	TALLGRASS RESOURCES, LLC
	4200 E. SKELLY DR., SUITE 1000
	TULSA, OK 74135
Phone:	(918) 270-9927
Authorized SPCC Representative:	SCOTT BENDER
Authorized SPCC Rep. Title:	ASSET MAN./AUTH REP/SPILL COMP/FOM
Phone:	(918) 270-9927
24 Hour Phone:	(318) 560-2595
Spill Compliance Coordinator:	SCOTT BENDER
Phone:	(918) 270-9927
24 Hour Phone:	(318) 560-2595
Regulatory Compliance Coordinator	TYLER HAROLD
Phone:	(918) 270-9927
24 Hour Phone:	(918) 607-7009
Field Operations Manager	SCOTT BENDER
Phone:	(918) 270-9927
24 Hour Phone:	(318) 560-2595
Emergency Secondary Contact:	PHILIP KELLY
Phone:	(918) 237-8445
24 Hour Phone:	

GENERAL INFORMATION FOR ONSHORE OIL PRODUCTION FACILITY

Type of Facility:	Oil Production Facility
Name of Facility	JACKSON / JACKSON 'A' LEASE
Location of Facility:	
Legals/RRC:	NW 1/4 SEC. 26 T-24N R-9E
County & State:	OSAGE COUNTY, OK
GPS Latitude:	N 036 X 31.810
GPS Longitude:	W 096 X 18.790
Altitude (ft):	
Regulatory District #:	#1
Regulatory Phone:	(918) 367-3396
Date of Initial Operation:	

	Yes	No
Has facility experienced a reportable oil spill event during the twelve months prior to January 10, 1974. (effective date of 40 CFR Part 112 - If yes, include attachment.)	☐	☑

Facility's Average Daily Production:	
Oil (BOPD):	27
Produced Water (BWPD):	620

Facility Berm Dimensions:

1. Rectangle Side 1:	205	Side 2:	52	Triangle #1 Base:		Height:	
2. Rectangle Side 1:		Side 2:		Triangle #2 Base:		Height:	
3. Rectangle Side 1:		Side 2:		Triangle #3 Base:		Height:	
4. Rectangle Side 1:		Side 2:		Triangle #4 Base:		Height:	
5. Rectangle Side 1:		Side 2:		Triangle #5 Base:		Height:	
6. Rectangle Side 1:		Side 2:		Triangle #6 Base:		Height:	

Facility Berm Composition:	GRAVEL

GENERAL INFORMATION FOR ONSHORE SWD/OIL PRODUCTION FACILITY (CONT'D.)

Type of Facility: Oil Production Facility

Name of Facility JACKSON / JACKSON 'A' LEASE

Location of Facility:

Legals/RRC: NW 1/4 SEC. 26 T-24N R-9E
County & State: OSAGE COUNTY, OK
GPS Latitude: N 036 X 31.810
GPS Longitude: W 096 X 18.790
Altitude (ft):
Regulatory District #: #1
Regulatory Phone: (918) 367-3396

Facility Vessel Information Note: Tank 1 is the largest vessel in the diked area.

Tank Number	1	2	3	4	5	6	7	8	9	10
Use of tank -Oil, SW, GB, SEP	OIL	OIL	OIL	OIL	SW	SW	SW	SW	OIL	OIL
Manufacturer										
Nominal Capacity (BBL.)	201	201	201	201	201	201	201	201	201	201
Nominal Capacity (Cu. Ft.)	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131
Nominal Capacity (Gallons)	8460	8460	8460	8460	8460	8460	8460	8460	8460	8460
Nominal Diameter (ft.)	12	12	12	12	12	12	12	12	12	12
Nominal Height (ft.)	10	10	10	10	10	10	10	10	10	10
Serial Number										
Year Manufactured										
Bottom Thickness (in.)										
Shell Thickness (in.)										
Deck Thickness (in.)										
Type - Welded, Bolted, Molded*	W	W	W	W	M	M	M	M	W	W
Material - Steel, Fiberglass, Wood*	ST	ST	ST	ST	F	F	F	F	ST	ST
Top - Closed, Open*	C	C	C	C	C	C	C	C	C	C
Foundation - Earth, Gravel, CMT*	GR	GR	GR	GR	GR	GR	GR	GR	GR	GR
Oil Transported - TR, INJ, PL*	TR	TR	TR	TR	INJ	INJ	INJ	INJ	TR	TR
Tank Raised and/or Horizontal*										

Tank Number	11	12								
Use of tank -Oil, SW, GB, SEP	GB	GB								
Manufacturer										
Nominal Capacity (BBL.)	134	134								
Nominal Capacity (Cu. Ft.)	754	754								
Nominal Capacity (Gallons)	5640	5640								
Nominal Diameter (ft.)	8	8								
Nominal Height (ft.)	15	15								
Serial Number										
Year Manufactured										
Bottom Thickness (in.)										
Shell Thickness (in.)										
Deck Thickness (in.)										
Type - Welded, Bolted, Molded*	M	M								
Material - Steel, Fiberglass, Wood*	F	F								
Top - Closed, Open*	C	C								
Foundation - Earth, Gravel, CMT*	E	E								
Oil Transported - TR, INJ, PL*										
Tank Raised and/or Horizontal*										

Legend:

* Tank Use: OIL, SW - Salt Water, GB - Gun Barrell, HT - Heater Treater, SEP - Separator, LH - Line Healther, NIU - Not In Use, ABD - Abandonded CON - Condensate

Type: W - Welded, M - Molded, B - Bolted
Materials: S - Steel, FG - Fiberglass, WD - Wood
Top: C - Closed, O - Open

Foundation: E - Earth, G - Gravel, CMT - Cement, WD - Wood, ST - Steel
Oil Transported: TR - Truck, INJ - Injection, PL - Pipeline
Misc: R - Raised, R-H - Raised and Horizontal, FWKO - Free Water Knock Out

FACILITY SECONDARY CONTAINMENT CALCULATIONS & BERM RECOMMENDATIONS WORKSHEET

Facility Name: JACKSON / JACKSON 'A' LEASE
County & State: OSAGE COUNTY, OK
Diked Area: 1

GPS Latitude: N 036 X 31.810
GPS Longitude: W 096 X 18.790
Altitude (ft):

Tl. Catch Basin Volume (Cu.Ft.):

	Length, Ft.	Width, Ft.	Height, Ft.	Total (Cubic Ft.)
Catch Basin # 1 -				0
Catch Basin # 2 -				0
Grand Total of Volume of Catch Basin(s) area =				**0**

Total Area Taken Up By Vessels (Sq. Ft.) (Note: All calculations are measured from the bottom of the tanks.)

	Diameter	Height	Square Ft.
Vessel #1	12	10	113.1
Vessel #2	12	10	113.1
Vessel #3	12	10	113.1
Vessel #4	12	10	113.1
Vessel #5	12	10	113.1
Vessel #6	12	10	113.1
Vessel #7	12	10	113.1
Vessel #8	12	10	113.1
Vessel #9	12	10	113.1
Vessel #10	12	10	113.1
(Selected Dike) Total Vessel Area in =			**1232**

	Diameter	Height	Square Ft.
Vessel #11	8	15	50.27
Vessel #12	8	15	50.27
Vessel #13			
Vessel #14			
Vessel #15			
Vessel #16			
Vessel #17			
Vessel #18			
Vessel #19			
Vessel #20			
Total Area Taken Up By All Vessels =			**1231.5**

Total Area in Berm (Sq. Ft.):

	Side 1	Side 2	Area (SqFt)
1. Rectangle	205	52	10660
2. Rectangle			0
3. Rectangle			0
4. Rectangle			0
5. Rectangle			0
6. Rectangle			0
(Selected Dike) Total Area in Berm (Sq. Ft.) =			10660

	Side 1	Side 2	Area (SqFt)
1. Triangle			0
2. Triangle			0
3. Triangle			0
4. Triangle			0
5. Triangle			0
6. Triangle			0
Total Area in Berm (Sq. Ft.) =			10660

Note: *Height of triangle is measured from the point on a side that forms a right angle to the apex of the triangle.

Total Available Area inside Berm for Containment (Sq. Ft.):

Total Area of Vessels:	1232	Square Ft.
Area of Largest Vessel:	113	Square Ft.
Height of Largest Vessel:	10	Ft.
Vessel Occupied Area:	1118	Square Ft.

Total Area Inside Berm:	10660	Square Ft.
Minus Vessel Occupied Area:	1118	Square Ft.
Total Available Area in Berm=	**9542**	**Square Ft.**

Total Diked Capacity Required by 40 CFR Part 112 (Cubic Ft.):

24 Hr. Oil Prod.	27	Volume of Largest Tank	201	BBL X	5.615 Ft. 3 per Bbl	1131	Cubic Ft.
24 Hr. PW Prod.	620	Total 24 Hr. Oil Productio	27	BBL X	5.615 Ft. 3 per Bbl	152	Cubic Ft.
					Minus 1/2 Catch Basin(s) volume	0	Cubic Ft.
					Total Diked Capacity Required by 40 CFR Part 112 =	**1283**	**Cubic Ft.**

Berm Height Formulas, Calculations, and Recommended Berm Heights-Formula's A & B:

FORMULA "A" (((Capacity of largest tank) + 24 hrs. of production , ft3.) X 12 / Diked Area - Vessel Occupied Area) + Rainfall + Freeboard

Diked Capacity-Formula A =	**1283**	**FORMULA "A" - RECOMMENED BERM HEIGHT =**	**30**	**Inches**

FORMULA "B" ((Capacity of Largest Tank Cu. Ft) X 12/ Total Area Inside Berm - Vessel Occupied Area) + Rainfall

Diked Capacity-Formula B =	**1131**	**FORMULA "B" - MINIMUM BERM HEIGHT =**	**30**	**Inches**

ENGINEER REMARKS: Produced Water is not considered in this spill plan.

ENGINEER REMARKS: Emergency "Auto Shut - Off System" should be in place and operational.

1) Containment dimensions are interior dimensions measured at the base of the berm.
2) All vessels with a potential spill capacity of 43 gallons or more in a 24 hr. period must be inside a secondary containment area.
3) Recommended Free Board = 3 inches.
4) 24 Hour, 25 Year rainfall event = 7 inches.
5) Alternative dimensions for secondary containment or catch basins may be used only if the capacity of the alternative secondary containment can exceed **1283** Cubic Feet to account for precipitation and freeboard.

Few facilities are built on perfectly flat surfaces. Therefore considerations and adjustments for severely sloping facilities must be made when constructing the dikes.

POTENTIAL DISCHARGE AMOUNTS SHEET

Type of Facility: Oil Production Facility
Name of Facility: JACKSON / JACKSON 'A' LEASE
Location of Facility:
Legals/RRC: NW 1/4 SEC. 26 T-24N R-9E
County: OSAGE COUNTY, OK

ALL SITE VESSELS-NOMINAL CAPACITY TOTALS:	BBL.'s	Cu.Ft.	Gal.'s
	2278	12818	95880

The information below summarizes the potential discharge scenario amounts per vessel for this facility per type of failure (rupture, leak). All vessels noted above are inside bermed containment area unless otherwise noted (either on Facility Drawing sheet or otherwise). Amount of spillage for leaks are estimated at 48 gallons per day.

Facility Vessel Information: **NOTE:** Tank 1 is largest vessel inside diked area.

Tank Number	1	2	3	4	5	6	7	8	9	10
Use of tank - OIL, SW, GB, SEP	OIL	OIL	OIL	OIL	SW	SW	SW	SW	OIL	OIL
Nominal Capacity (BBL.)	201	201	201	201	201	201	201	201	201	201
Nominal Capacity (Cu. Ft.)	1131	1131	1131	1131	1131	1131	1131	1131	1131	1131
Nominal Capacity (Gallons)	8460	8460	8460	8460	8460	8460	8460	8460	8460	8460
FACILITY OVERFLOW AMOUNTS-PER VESSEL-BASED ON CAPACITY DUE TO:										
Rupture, lightening (Max. Vol.-Gal.):	8460	8460	8460	8460	8460	8460	8460	8460	8460	8460
Rupture, lightening (Max. Vol.-Gal./Hr.):	8460	8460	8460	8460	8460	8460	8460	8460	8460	8460
Leak (approximate-Max. Vol.-Gal.):	48	48	48	48	48	48	48	48	48	48
Leak (approximate-Max. Vol.-Gal./Hr.):	0	0	0	0	0	0	0	0	0	0

Tank Number	11	12								
Use of tank - OIL, PW, GB, SEP	GB	GB								
Nominal Capacity (BBL.)	134	134								
Nominal Capacity (Cu. Ft.)	754	754								
Nominal Capacity (Gallons)	5640	5640								
FACILITY OVERFLOW AMOUNTS-PER VESSEL-BASED ON CAPACITY DUE TO:										
Rupture, lightening (Max. Vol.-Gal.):	5640	5640								
Rupture, lightening (Max. Vol.-Gal./Hr.):	5640	5640								
Leak (approximate-Max. Vol.-Gal.):	48	48								
Leak (approximate-Max. Vol.-Gal./Hr.):	0	0								

AGGREGATE FACILITY OVERFLOW AMOUNTS-ALL VESSELS-BASED ON CAPACITY DUE TO:		
Rupture, lightening (Max. Vol.-Gal.):	95880	NOTE: This information summarizes the potential discharge scenario amounts for the entire facility per type of failure (rupture, leak). All vessels 1-20 listed above are inside bermed containment area unless otherwise noted. Leaks estim. at 48 gal./day per vessel.
Rupture, lightening (Max. Vol.-Gal./Hr.):	95880	
Leak (approximate-Max. Vol.-Gal.):	576	
Leak (approximate-Max. Vol.-Gal./Hr.):	0	

FACILITY OVERFLOW AMOUNTS-DAILY PRODUCTION-FROM:	BBL.'s	Cu.Ft.	Gal.'s	Gal/Hr.	NOTE: These production amounts can be added to the above amounts to get an aggregate total per vessel of a potential leak for a given scenario. The Gal/Hr. figure is not necessarily how much will leak per hour.
Oil Vessels-Produced Oil:	27	152	1134	47	
Water Vessels-Produced Water:	620	3481	1134	1085	
Produced Oil & Water (HT, Sep., etc.):	647	3633	2268	1132	

FACILITY OVERFLOW AMOUNTS FROM FLOWLINES:	BBL.'s	Cu.Ft.	Gal.'s	Gal/Hr.	NOTE: Flowlines Piping discharge on all storage tanks and Heater Treater/Separator/Gun Barrel vessels is estimated at 1/2 day's production.
Flowlines & Piping-Storage Tanks:	337	1892	14154	590	
Pinhole leak:	1	6	42	21	
Flowlines & Piping-Wells:	337	1892	14154	590	
Pinhole leak:	1	6	42	21	

FACILITY OVERFLOW AMOUNTS FROM TRANSFERS LOADING OPERATIONS:	BBL.'s	Cu.Ft.	Gal.'s	Gal/Hr.	NOTE: Tank truck-Overtopping figures are estimated based on one days production or 100 barrels, whichever is lower. All Gal/Hr. figures are totals based on the assumption that load leaks occur outside any containment.
Transport Truck Loading Hose:	2	11	84	84	
Offload Line-Connection leak:	1	6	42	42	
Tank Truck-Overtopping while Loading:	100	562	4200	4200	
Transfer Valve-Rupture, Valve leak:	1	6	42	42	

Miscellaneous Notes: 1 - The site-specific topography and distance of flow of the lost fluids is shown on the Topographical Map on Page 7 of this plan.

Berm information, including size, capacity, and recommended height is found on page 12. Berm composition is noted near the bottom of page 10 of this plan.

APPLICABLE FEDERAL REGULATIONS

Section 112.1(b) NON TRANSPORTATION RELATED FACILITIES

Section 112.1(b) applies to owners or operators of non-transportation related onshore and offshore facilities engaged in drilling, production, gathering, storing, processing, refining, transferring, distributing or consuming oil and oil products. Due to their location, these facilities could reasonably be expected to discharge oil into, or upon, navigable waters and/or commercially used waters of the United States in quantities that may be harmful.

Section 112.3 REQUIREMENTS TO PREPARE A SPILL PLAN & LOCATION OF SPILL PLAN

This Spill Prevention, Control, and Countermeasure (SPCC) Plan for this onshore oil production facility is prepared and implemented as required by U.S. Environmental Protection Agency (U.S. EPA) regulations contained in Title 40, Code of Federal Regulations, Part 112 (40 CFR Part 112). The JACKSON / JACKSON 'A' LEASE Lease is a non-transportation related facility subject to SPCC regulations, and due to the facility's location, it could reasonably be expected to discharge oil upon, or into navigable waters of the United States, and the total aboveground storage capacity of the facility exceeds 1,320 gallons (considering all containers with an individual capacity of 55 gallons or more).

In accordance with 40 CFR Part 112.3(e), and because the facility is normally unmanned (not manned for at least 4 hours a day), a complete copy of this SPCC plan is maintained at the home office of TALLGRASS RESOURCES, LLC For site-specific information on this address, see the Cover Sheet on Page 1, or General Information for Operator/Company Sheet on Page 10 of this plan.

Section 112.4 AMENDMENTS

This SPCC plan must be submitted to the U.S. EPA Regional Supervisor and the State agency governing over the oil industry in charge of oil pollution control, in conjunction with other information specified in 40 CFR Part 112.4 if the facility discharges more than 1,000 gallons of oil into open navigable waters of the United States or adjoining shorelines in a single occurrence or the facility discharges more than 42 gallons of oil in each of two events within any 12 month period.

The Discharge Information for the above occurrence(s) must be reported to the U.S. EPA Regional Administrator and the State agency governing over the oil industry in charge of oil pollution control if either of the above occurrences have taken place. The report must include the following information: Name of Facility; Name(s) of the owner/operator of facility; Location of facility; Maximum storage capacity and normal daily throughput; A description of all corrective actions and countermeasures taken, including all equipment repairs and replacements; An adequate description of the facility, including diagrams of locations of tanks; The cause(s) of the discharge, including a failure analysis of the system and subsystems that failed; Additional preventative measures, either considered or implemented, to minimize the possibility of reoccurring; and Any other information that the Regional Supervisor may request. For site-specific information, see the Spill Mitigation Procedures on Page 24, and the Spill Notification Names and Phone Numbers List on Page 25. Also see the Discharge Notification Procedures, Discharge Notification Summary, and Response Procedures sheets in the attached Contingency Plan, Pages C2 - C6.

Section 112.5 PLAN REVIEW

TALLGRASS RESOURCES, LLC periodically reviews and evaluates this SPCC plan for any change in the facility design, construction, operation, or maintenance that materially affects the facility's potential for an oil discharge. This Plan must also be amended to include more effective prevention and control technology, if that technology will significantly reduce the probability of a discharge occurring and has been proven to work in the field. TALLGRASS RESOURCES, LLC reviews this SPCC plan at least once every five years. Revisions to the plan, if any are needed, are made within six months of this five-year review.

TALLGRASS RESOURCES, LLC will implement any amendment(s) as soon as possible, but not later than six months following preparation of any amendment(s). A registered Professional Engineer certifies any technical amendment to the Plan, as described above, in accordance with 40 CFR 112.3. Scheduled five year reviews and Plan amendments for the JACKSON / JACKSON 'A' LEASE are to be recorded and put with this plan. Unless a technical or administrative change prompts an earlier review, the next scheduled review of this Plan must occur no later than five years from the date of Management's approval of this plan. For site-specific information on this, see "SPCC Plan Compliance Inspection Review Page" on Page A11 in Miscellaneous Attachments.

Section 112.7(a) SITE OPERATIONAL PROCESS DESCRIPTION

The JACKSON / JACKSON 'A' LEASE stores or produces crude oil, gas condensate, natural gas, water or any combination of the aforementioned during the course of normal daily operations. WHEN THIS PLAN IS FOR A SALTWATER DISPOSAL SYSTEM, THE WATER ENTERS THE FACILITY VIA PIPELINE OR TRUCK (OR BOTH). THERE IS GENERALLY SOME OIL CARRYOVER IN THE DELIVERED WATER. Therefore, an SPCC Plan is required. Often, the oil will be recovered using the same gravitational techniques used at production facilities with the recovered oil being delivered to an oil purchaser by truck or pipeline. The water is then injected through an approved Salt Water Disposal well into a geologically compatible and water receptive formation. When this plan is for a production facility, the produced fluids reach ground level via a wellbore and continue through a wellhead and continue to the tank battery via enclosed pipeline. In either case, this facility is comprised of a series of high pressure, as well as low pressure and non-pressurized vessels and tanks. The arriving emulsion is processed, whereby produced water is separated from the oil/condensate, and gas is separated from

A production facility separates gas via gravitational separation procedures and sends it either to a gas sales line or vents it into stock tanks. Separation of the oil and water is achieved by gravitational settling and drainage of the lighter oil by positioning the oil exit line above the oil/water interface. Oil is displaced as more fluid enters the separator from the well, then moves to an oil storage tank within the tank battery through aboveground and/or underground piping, and is ultimately delivered to an oil purchaser by truck or pipeline. When the water level becomes high enough in the separator, it trips a dump valve thereby displacing the water through flowlines to a water storage tank within the tank battery. The water is then transported to a water injection well where it is returned to a geologically compatible and water reception formation. Below are paragraphs describing individual vessels and how they operate:

Separators, Heater Treaters, Free Water Knockouts (FWKO) - When the water level is high enough in the separator, it trips a dump valve and the water and water-oil emulsion is displaced to the heater where additional time and/or heat, finish the separation process. Again, the oil is removed from the heater by placing the oil exit lines above the oil-water interface and the water is transferred to the water tank. The water is then transported to a water injection well where it is returned to a geologically compatible and water receptive formation.

Gun Barrel - All gas is separated via gravitational procedures and the gas is delivered to the gas sales line. After the gas has been separated from the liquids, separation of the oil and water is accomplished by gravitational settling and the drainage of the lighter oil by placing the oil exit line above the water-oil contact. The oil is displaced as more liquid enters the gun barrel and flows to the oil storage tank within the battery via aboveground and/or buried flowlines. The oil will be delivered to an oil purchaser by truck. When the water level is high enough, it flows over the water leg to the water storage tank via flowlines. The water is then transported to an SWD facility where it will be injected into an approved SWD well and returned to a geologically compatible and water receptive formation.

A single tank (Stores both oil and water) - All gas is separated via gravitational procedures and the gas is delivered to the gas sales line. After the gas has been separated from the liquids, the liquids are transferred to the storage tank. The oil and water will separate in the tank with the lighter oil floating on the water. The pumper shall gage the tank daily, and whenever a load of oil or water has accumulated, the water shall be drawn off the bottom and transferred to an SWD facility where it will be injected into an approved SWD well and returned to a geologically compatible and water receptive formation. The oil will be delivered to an oil purchaser by truck.

Based on the description above, the basic on-site processes, whether for a saltwater disposal or a production facility, are extremely simple. The techniques are mature and well known, and the equipment has few moving parts. Leaks and spillage can and sometimes do occur resulting in some contamination of the surrounding area, but with good operational procedures and routine maintenance, the extent of any contamination at this site can be kept to an absolute minimum.

For site-specific information on the layout of this facility, including information on berm size(s) and composition, individual vessel size, type, and information, facility layout, topography immediately around the facility, legal/RRC location, and site-specific facility notes (if any), see the Facility Drawing sheet on Page 9. For site-specific information and driving directions to this facility, see the Map of Facility and Driving Directions to Facility on Page 7, and the Lease Road Directions to Facility section on 9, lower right. For site-specific information on recommended berm heights that include volumes for largest vessel, production, rainfall amount (7 inches for a 24-hour, 25 year rainfall event), and freeboard (3 inches), see the Secondary Containment Calculations on Page 12.

Section 112.7(b) POTENTIAL FOR A SPILL TO MIGRATE FROM THE DIKED AREA

As mentioned above, releases inside the battery would be confined to the area contained by the secondary containment and there should not be any release into the environment. However, the potential will always exist for a reportable release due to a leak, break or other failure to valves, fittings, lines, connections, vessels and tanks. Sabotage and environmental disasters also cannot be ruled out. Once outside the secondary containment area, oil will travel the course of least resistance, generally down slope. One cannot totally plan for such releases, but must be prepared to deal with each should it occur. The range of possible releases runs from minor spills or leaks to loss of all products from within the secondary containment areas and into the environment. To see a site-specific scenario of the Topographical flow of spilled fluids and their path to navigable water(s), see the Topographical Map on Page 7 of this Plan. To see a site-specific scenario for a Potential Discharge Volume Analysis, please refer to the Potential Discharge Sheet on Page 13. For specific procedures on who to contact in case of a spill, see the Spill Notification Names and Phone Numbers List on Page 26 and also in the Discharge Notification Procedures in attached Contingency Plan, Page C9. For specific procedures on how to mitigate and/or contain a spill, see Spill Discovery and Response, Part II of the attached Contingency Plan, Pages C2 - C6. If necessary, use the Record of Dike Drainage, Page A16 of Miscellaneous Attachments.

Worst Case Scenario - In the worst case scenario all of the tanks and vessels would be full of oil or saltwater. After a long and continuous rain, the secondary containment area would be full and surrounding soils saturated with rainwater. Nearby waterways would be at flood levels and all of the tanks would rupture (this is highly unlikely, but possible) and the liquid breaches the secondary containment system. Under this worst case scenario, we would also expect 24 hours of production to be released before being discovered. Under this scenario, the liquids would most likely migrate in the direction indicated on the Facility Drawing, Page 9. Immediate action according to the “Spill Discovery and Response,” Part II, Pages C2 - C6 in attached Contingency Plan would be implemented. Diversionary berms, dams and booms can be placed down slope from the facility.Containment depressions and ponds can be constructed to catch and hold releases until such time as they can be picked up and placed back into storage vessels. Contaminated earth shall be dealt with in accordance with State and Federal regulations.

Most Likely Scenario - A release to the environment outside the secondary confinement area would most likely come from the number of pipes, valves and fitting joints required to transport the liquid from the well pumps to the tank battery and from the tank battery to the transport. Except for transfer to the transport, these concerns are alleviated by frequent routine and conscientious inspections of all such potential failure areas, and the timely repairs of any malfunctioning equipment. For site-specific records of inspections, see the Record of Annual Inspection and Maintenance Report sheet located in the Miscellaneous Attachments, Page A10.

Section 112.7 (c) Secondary Containment

Should the JACKSON / JACKSON 'A' LEASE produce liquids in measurable quantities, there shall be secondary containment of sufficient length, breadth and height so as to be capable of holding the maximum content of the largest storage tank within the facility, plus the expected rainfall from a 25-year, 24-hour rainfall event and still allow for at least three inches of free board for 24 hours of production. If tank ullage or freeboard is insufficient, then auto shutdown systems shall be installed. Said berm or dike shall be constructed so as to be impermeable to crude oil, sandy soils are NOT acceptable. Walls of the secondary containment area shall be of earth, steel, concrete, or solid masonry, designed to be liquid-tight and to withstand a full hydrostatic head. Earthen walls 3 feet or more in height shall have a flat section at the top not less than 2 feet wide. The slope of an earthen wall shall be consistent with the angle of repose of the material of which the wall is constructed. The walls of the secondary containment area shall be restricted to an average height of 6 feet above interior grade. There should be no reasonable concern for the release of oil into the environment by overflow from the secondary containment area. For site-specific information of berm information and composition, see the Existing Berm Height section near the bottom of the Facility Drawing Sheet on Page 9, and also the Facility's Berm Composition section at the bottom of Page 10.

Flowlines – Secondary containment for the flowlines will be active rather than passive. The fact that the flow rate from the flowlines is very low, the flowlines are buried, and the facility including the flowlines are inspected daily and support the use/applicability of active secondary containment.

When company personnel are aware of the flowline leak, they will IMMEDIATELY begin operations to contain the leak preventing any release to surface water, cleanup the leak, and remediate the impacted area. The following actions as required and applicable will be performed:

1. Shut-in well.

2. Using shovels or backhoes, a trench or pit will be dug down-slope to contain any free flowing produced fluid.

3. All collected fluid will be picked up with a vacuum truck. Quantities too small to pick up with a vacuum truck will be picked up with absorbents and/or pads.

4. All impacted soil will be collected and/or remediated in accordance with applicable State and Federal requirements. Impacted soil may be collected into drums and moved to a remediation site if required. If the amount of soil is small enough, it may be remediated in place.

5. The flowlines will be repaired and pressure tested (poly pipe and fiber glass 50 pounds; steel pipe to 100 pounds), and the results of the testing will be included in the SPCC Plan and retained for a minimum of 3 years. We would SUGGEST that the records be retained for the life of the facility.

Should the secondary containment be in the form of a catch basin, the catch basin shall be lined with geo-membrane liner or compacted clay so as to be impermeable. For site-specific information on catch basin(s) (if any), see the Total Catch Basin Volume section near the top of Page 12.

No loose, combustible material, empty or full drum or barrel, shall be permitted within 75 feet the secondary containment area.

Transport Loading Area / Oil Transfer via Truck. It has been determined for the JACKSON / JACKSON 'A' LEASE that the secondary containment provisions for tank car and tank truck loading racks found in 40 CFR 112.7 (h) do not apply due to the fact that there is no loading rack located at this facility. The transport loading area is as integral a part of your facility as any other area, and special care and training needs to be taken to ensure that proper loading procedures are followed by on-site personnel so that there is no loss of fluid back into the environment. The transport loading area should be surrounded by a minimum of an 8 inch dike that contains a minimum of 6 Sq. feet of area, or utilize drain buckets. Management should make other provisions to prepare for a spill such as having on hand the necessary equipment to cleanup any spill.

A release into the environment outside the secondary containment would most likely occur from the pipes, valves, fittings and connections that transport the oil emulsion, oil and lease saltwater from the wellhead, through the separation equipment and on to the storage tanks. Regular inspections should preclude any loss from this source in that repairs can be made prior to any total failure of this equipment.

There is also a chance oil could be released when it is being transferred from the storage tanks to the purchaser outside the secondary containment wall, via transport truck. When custody is being transferred by truck, there are people present to monitor the transfer, thus, the likelihood of a spill is diminished. Should one occur, its size should be small, as someone will be present to shut-in operations immediately. Truck transfer may occur outside the secondary confinement area and could occasionally suffer a minor leak as hoses are disconnected. If the collection point falls outside the walls of the facility, a catch basin shall be used underneath the connection to catch any leaks or drips. This catch basin shall be emptied back into the oil storage tanks or the contents disposed of properly.

To safely transfer liquids via truck, first, make sure that the vehicle tank is properly vented before starting to load or unload. If you are not certain that the trailer is properly vented, you must contact your supervisor and request permission to open the trailer dome before starting to load or unload.

Transport Loading/Unloading procedures – To load or unload from storage tank truck, first, attach a ground cable or bonding clamp to trailer. Use wheel chocks or other similar barriers to prevent premature departure. Inspect all equipment to be used in transfer operation (hoses, valves, etc.). Hook up load hose and open all appropriate valves from storage tank to trailer entry. Disengage the clutch and place the pump in load position and release the clutch slowly. Adjust the throttle to the proper engine RPM. When trailer is loaded to appropriate level, slow the engine speed. Close the valve to the storage tank. Loosen loading hose to allow enough air to drain the loading hose dry, ensuring that drips from the hose drain into the spill bucket at the loading area. Disconnect loading hose completely, close the load valve, plug and fasten it securely. Close the belly valve on the trailer. Disconnect the ground cable. Remove all wheel chocks. Promptly cleanup any spilled oil. Inspect the lowermost drains and valves of the vehicle for discharges/leaks and ensure that they are tightened, adjusted, or replaced as needed to prevent discharges while vehicle is in transit. For site-specific information on the location of the tank truck loading area, see the location of the loadlines on the Facility Drawing Sheet on Page 9. You can also find the immediate topography of the terrain on the same page. For the path to navigable water (due to spillage), see the Topographical Map on Page 7.

Section 112.7(d) Demonstration of Practicability

Management determined that the use of containment and diversionary structures, or readily available equipment to prevent discharge oil from reaching navigable waters, is practicable and effective for this facility for all structures, equipment, and vessels inside bermed area to meet the requirements of 40 CFR Part 112. Because secondary containment for flowlines or wellheads outside the tank battery is impracticable, TALLGRASS RESOURCES, LLC has provided with this plan, additional elements required under 40 CFR 112.7(d), including a written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful, and an Oil Spill Contingency Plan following the provisions of 40 CFR 109, found in Pages C1 – C10.

Section 112.7(e) Inspections, Tests, and Records

The program established in this SPCC Plan for regular inspection of all oil storage tanks and related production and transfer equipment should follow the American Petroleum Institute's Recommended Practice for Setting Maintenance, Inspection, Operation, and Repair of Tanks in Production Service (API RP 12R1, Fifth Edition, August 1997). Visual inspections consist of a complete walkthrough of the facility equipment and property to check for any damage or leakage, discolored soils, excessive accumulation of water in diked areas, and effluent discharges from the oil/produced water separators (including heater treaters, gun barrels, etc.). The inspections also make sure that the dike drain valves (if applicable) are closed, secure, and not leaking. The inspections also involve visually inspecting all aboveground valves and pipelines and noting the general condition of items such as transfer hoses, flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, pumping well pumping rod stuffing boxes, bleeder and gauge valves, locking of valves, and metal surfaces.

All safety devices are tested regularly by a third party inspector or qualified personnel. The tests are recorded and the results are maintained with this Plan at the company's field office. Testing of the safety devices is conducted in accordance with guidelines API RP-14C published by the American Petroleum Institute, or in accordance with instructions from the device's manufacturer. Written test procedures are kept at the offices of the third party testing company or qualified personnel, and are available upon request.

The checklist provided in the Miscellaneous Attachments, Page A10, is used during regularly scheduled inspections. The regularly scheduled annual inspections are preformed in accordance with written procedures. Written inspection procedures and regularly scheduled inspections are signed by the person inspecting the facility and maintained in the office for 3 years.

Section 112.7(f) PERSONNEL TRAINING AND SPILL PREVENTION PROCEDURES

All personnel who are expected to work around the JACKSON / JACKSON 'A' LEASE or who could be reasonably expected to come into operational contact with this facility (including contract personnel) shall be instructed in the operation and maintenance of the equipment utilized. This instruction shall include how to report spills, pollution control laws, and to prevent oil discharges. All personnel who could be reasonably expected to come into operational contact with this facility shall be briefed at least annually, on the operations and maintenance of this facility. Emphasis shall be on any major changes in operations, past spill incidents, safety concerns, changes in rules and regulations that may affect this facility and this SPCC Plan. Trainings shall occur more often than annually should the need arise, as evidenced by a major spill or release, major change in operations, newly discovered safety violations, or a change in the rules and regulations governing this operation. All facility personnel handling hazardous wastes must have received both the initial 40-hour, and annual 8-hour refresher training in the Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) of the Occupational Safety and Health Administration (OSHA). This training is included as part of the initial training received by all field personnel. Training records and certificates are kept at the field office. JACKSON / JACKSON 'A' LEASE

For site-specific information on documentation of these trainings, see the associated forms and guidelines on Pages A5-A8 in the Miscellaneous Attachments section.

Section 112.7(i) BRITTLE FRACTURE EVALUATION (FIELD CONSTRUCTED TANKS)

If any of the tanks at this facility are field-constructed, and undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge, or has had a discharge or failure due to brittle fracture or other catastrophe, evaluate the container for risk of discharge or failure due to brittle fracture or other catastrophe, and as necessary, take appropriate action.

Section 112.7(j) COMPLIANCE TO APPLICABLE GUIDELINES

This SPCC plan is designed to meet standards in 40 CFR Part 112 ONLY and may not conform to any Federal, State, local, and/or other regulations, laws, or requirements. It is the management's responsibility to ensure that this plan is in conformance with all other applicable Federal, State, local, and/or other regulations, laws, and requirements, and that it conforms to the most stringent applicable requirements. Any and all other Federal, State, local, and/or other requirements that apply to this facility must be added by the owner/operator for this SPCC plan to be in complete compliance with all applicable laws and requirements.

Section 112.9 OIL PRODUCTION / SWD FACILITY DRAINAGE

Drains leading from all secondary containment areas, if any, are to be kept closed through the use of a positive closure valve and bull plug. Before attempting to drain rainwater from within the contained area, the water should be visually inspected for the presence of oils, grease, or chemicals. Should any of these be found, as evidenced by "rainbow sheen" on the water surface or larger oil presence, the oils shall be picked up via a vacuum truck. The liquids picked up shall be either placed into the produced water tank for later disposal, or immediately taken to an authorized disposal well.

Evaporation is the preferred method of eliminating water from inside the secondary containment area. However, there are times when drainage is the only economical means at hand. Where no danger exists to surrounding waters, drainage can be used. Whenever it is to be used, the pumper shall first visually inspect the waters for the presence of oils, and then ascertain the volume of water to be drained. After having done this he/she shall call in to his/her supervisor to obtain permission to drain the area. Only after receiving permission shall the area be allowed to drain. The pumper shall annotate on the weekly gauge report the date and time he/she drained the area, the approximate amount drained, and who was called for permission. If oils were present he/she shall annotate who provided the vacuum truck that picked up the fluids.

Should company personnel discover any ditches, drainage facilities, oil traps, ponds, creeks, sumps, skimmers, or other item holding oils, those oils shall be picked up using a vacuum truck. Such likely places for accumulation of oils shall be checked on a regular basis, especially if standing water is present on or near the lease. "Regular basis" shall be considered to mean any time that the pumper feels there may be a chance oils could migrate away from the facility or wellhead area. If an accumulation of oil has caused soils to be contaminated, the soil shall be either remediated on-site or removed to a proper disposal facility.

Equalizing lines and Container Capacity – The maximum volume of fluid stored shall be no greater than the base of the required equalizer piping between tanks. No tank or series of tanks shall be allowed to fill above the top of the required equalizer piping. When oil starts to run from one tank to another via the equalizer-piping tank, valves shall be switched so that the full tank is bypassed and produced fluids shall go to an empty tank (40 CFR 112.13(a)(4)(2)). The full tank shall be emptied via pipeline or truck, depending on the type of operation at the moment. For one or more oil tank(s) and one or more produced water tank(s), the maximum volume of fluid stored shall be no greater than the base of the equalizer piping between tanks. No tank, or series of tanks, shall be allowed to fill above the top of the equalizer piping (2 or more tanks) or approximately 80% of the tanks capacity (one oil or one produced water tank). When oil starts to run from one tank to another via the required equalizer piping, tank valves shall be switched so that the full tank is bypassed and produced fluids shall go to an empty tank.

The full tank shall be emptied via either pipeline or truck, depending on the type of operation at the moment. Operator will maintain sufficient available volume at all times for a minimum of one day's operation. Should less than one day's production volume be available, production operations shall be shut-in until such time as sufficient tank volume is regained; normally a minimum of one storage tank. For a single tank (stores both oil and water), the maximum volume of liquid stored shall be no more than approximately 80% of the tank's capacity. When the fluid level reaches approximately 80% of the tank's capacity, arrangements will be made to empty the tank. The water will first, be drawn off and delivered to an approved SWD facility, and the oil will then be drawn off and delivered to an oil purchaser. Operator will maintain, at all times, sufficient volume for one day's operation (40 CFR 112.13(a) (4) (1)). Should less than one day's production volume be available, production operations will be shut-in until such time that sufficient tank volume is regained; normally a minimum of one storage tank. For site-specific information on equalization lines, types and capacities of tanks, see the facility drawing and tank information on the Facility Drawing Sheet on Page 9.

Tank and Flowline Construction - The principal method of containment of crude oil and liquids is the lines, vessels and storage tanks used to process and store the produced liquids. The pipes are constructed to ASTM or ANSI standards, except for some of the pipes that may be made of PVC or polyethylene. All of these products are manufactured to ASTM, ANSI, or other industry accepted standards. All oil storage tanks are constructed of bolted steel, welded steel or molded fiberglass and are constructed in accordance with API, ASTM. or other industry standards. Before being set in place, all steel tanks are primed and painted to help prevent rust and corrosion, and to facilitate the visual inspection for leaks. The tanks are set either on natural ground or gravel and are vented into the atmosphere. Fluid levels are checked during each regularly scheduled visit to the facility using a strap gauge. Vent lines should terminate inside the secondary containment area and pointing down toward the ground.

Lease produced-water tanks are constructed of either bolted fiberglass, molded fiberglass or are of the same construction as the oil storage tanks. Some tanks have open tops to allow visual inspection of their contents. Open top tanks shall be netted. For site-specific information on tank construction, see the Tank Information section near the top of the Facility Drawing Sheet on Page 9 and on the General Information for an Onshore SWD/Oil Production Facility Sheet on Page 11.

The most probable cause of spills will be from corrosion of vessels and lines. There is also a possibility of accidental releases due to mechanical injury to vessels and lines, but proper attention to detail when working around this facility should preclude such accidents. Neither of these types of spills should result in large volume spills, in that the lines contain only small volumes of crude oil and all vessels are contained inside secondary containment area.

The JACKSON / JACKSON 'A' LEASE shall be inspected during each regularly scheduled visit by the pumper, and at least annually by the field supervisor, for any evidence of leaks from malfunctioning valves. All leaks are to be repaired promptly and the repairs noted in the pumper's weekly gauge report, or on the "Record of Inspections and Maintenance Report" found in Miscellaneous Attachments on Page A10. Special emphasis shall be placed on valves used in the transfer of custody of oil and saltwater.

Off-loading Valves - All off-loading valves on oil and water tanks shall be bull-plugged, placed in the closed position and if warranted, shall be locked. If the valves cannot be locked in the closed position, they shall be closed and their handles removed. If there is any indication the valves leak, they shall be either replaced or repaired as necessary. It is STRONGLY RECOMMENDED that a drain bucket be placed under each valve to catch any leak or spill and that this pan be emptied as necessary to preclude it from spilling or discharging oil into the environment. Said pans shall have some means of preventing cattle or other animals from attempting to drink from these pans, as well as some means of keeping rainfall from accumulating in the pans and lifting oil out onto the ground.

Transfer Pumps - Any pump used to transfer oils or water inside or outside of the battery area shall be checked for proper operations. Packing, lubrication of rods, and venting of fluids shall be inspected. If any oil has spilled or leaked out, it shall be cleaned up promptly.

Compressors / Other Lease Equipment - A sump or drip pan shall accumulate all drippings from equipment, such as compressors and gearboxes wherever possible, and returned to the tank battery for proper disposal or recycling. In no case shall it be intentionally allowed to leave the location and enter into standing water.

Flowline Maintenance - The JACKSON / JACKSON 'A' LEASE shall be inspected during each regularly scheduled visit by the pumper and annually by the field inspector for signs of flowline failure. The aboveground flowlines shall be walked and visually inspected for signs of leaking oil or produced fluids. Buried flowlines shall be pressure tested yearly to the maximum expected working pressure, or to the pressure set on the first receiving vessel's pressure relief valve setting. All flowlines buried after August 16, 2002 shall be wrapped or have appropriate cathodic protection. A closed valve may be placed between the intake of the first vessel and the test truck to preclude rupturing the seal on the pressure relief valve, so long as this valve is open and handle removed during the course of daily operations. The pressure relief valve shall be inspected at the same time the flowline is tested to look for signs that it is not in good working order. All flowlines which surface inside the secondary containment area should remain aboveground and properly painted. All structures supporting pipes are designed to minimize corrosion and not be abrasive to the pipes they are supporting. All structures supporting pipes should allow for pipe expansion and contraction.

Tank Examination Methods and Procedures – The JACKSON / JACKSON 'A' LEASE shall be inspected during each regularly scheduled visit to the facility by the pumper. The schedule is determined based on the corrosion rate; with the first inspection performed no more than 15 years after the tank construction. The field supervisor will inspect the facility at least annually for visual indications of leaks, deteriorating equipment, eroding dikes, etc. All leaks shall be repaired when found if it is within the capabilities of the finder. If more extensive repairs are necessary, a roustabout crew shall be called in to effect repairs as quickly as possible. The field supervisor's inspection shall be recorded on the attached inspection sheet and filed with this Plan for a period of three years. Repairs are noted on the pumper's weekly gauge report and/or on the roustabout's field ticket.

The following has been identified by industry statistics and experience as potential areas for leaks or spills. The pumper shall make certain that these critical areas are inspected at adequate intervals. In order to prevent possible oil spills, it shall be the responsibility of the operator to check or assign the field supervisor the task of ensuring the following are inspected:

General walk around of the production facility and grounds - The walk around shall include the identification of any spilled oil, produced water or chemicals on the lease proper, to include the tank battery area, the well head, lease roads and bar ditches, loading areas, pipeline Right-Of-Way and low standing areas that could accumulate oil, water and other fluids. Any sign of contamination shall be removed immediately to a proper disposal facility, and the soil remediated in a proper manner.

The sight glass on any vessel - The inspection shall include checking the sight glass or glasses of treatment vessels to ensure fluid levels are at their proper setting. Improper levels may signal vessel malfunction, plugging of flowlines, or other facility problem.

Inspection of the secondary containment walls and drain valves (if any) - The inspection shall include checking the secondary containment walls for signs of erosion or failure, especially at points where off-site fluids could enter into the contained area. Standing fluids inside the contained area shall be checked for signs of oil or oil sheen. Fluids so contaminated, shall be picked up for disposal if it appears likely that they could leave the confined area.

Any drain valves shall be closed and bull plugged at all times unless water is in the process of being drained from the contained area. Before allowing the contained area to be drained, the pumper shall first, visually check the water for signs of free oil or chemicals. If any is present, the fluids shall not be allowed outside of the contained area. A vacuum truck shall be used to remove the fluids to a proper disposal facility. If the waters are clear and clean, the pumper shall approximate how many barrels are to be drained, and permission shall be obtained from the immediate supervisor before opening the drain(s). A note shall be entered into the weekly gauge report, or in the "Record of Dike Drainage" found in the Miscellaneous Attachments on Page A16, as to the date, time and approximate amount of the release. Produced water shall not be drained; instead, it will be picked up and taken to a proper disposal facility.

Section 112.10 SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN REQUIREMENTS FOR ONSHORE DRILLING AND WORKOVER FACILITIES

When moving mobile equipment onto the facility for any purpose, position or locate mobile drilling or workover equipment so as to prevent a discharge as described in Section 112.1(b). During the course of drilling operations, a blowout preventer (BOP) assembly and well control system shall be installed and tested for the pressures necessary to ensure good working order, before drilling below the last casing string. Casing strings shall be cemented into the ground as per the directions of the State's regulatory body's Rules and Regulations. This blowout prevention assembly shall be capable of controlling any expected wellhead pressure.

During the course of workover operations of existing wells, blowout prevention (BOP) assembly appropriate for the work shall be used, be it for tubing, or sucker rod work. The assembly shall be in good working order and shall be capable of controlling any expected wellhead pressure. Diversion of fluids or gases shall be directed to either the tank battery facility or to tankage designed for the job at hand. Should fluids be diverted to tankage that is not part of the tank battery facility, this tankage shall be watched by competent personnel to ensure no fluids escape due to overflow, flowline leaks or tank failure. Competent personnel shall mean individuals who have undergone appropriate training and are physically fit to perform the tasks at hand.

FINAL NOTE

These are the basic training procedures, inspection points and operational procedures for an onshore oil production facility. This is not all-encompassing and shall not be taken as the final word on spill prevention. This can be accomplished by: reading and implementing the information in this Spill Plan (SPCC); Contingency Plan; and the Miscellaneous Attachments section in the front of this binder — and by reading and implementing the Record Keeping, Inspections, and Training policies and procedures, which are found in this plan. It is the responsibility of the operator and all personnel employed by TALLGRASS RESOURCES, LLC to oversee and ensure the safe and efficient operations of the lease and its equipment. All Oil handling employees shall be familiar with normal lease operations, safety factors, and spill prevention before being allowed onto the lease. We do SUGGEST training all your contract pumpers.

SPILL MITIGATION PROCEDURES

Below is a general outline of a Spill Mitigation Procedure for a spill. To see an in-depth Facility Response Procedure for a spill, see "Spill Discovery and Response," Pages C2 – C6 of the attached Contingency Plan.

1. Determine the source of the leak.
2. Shut-off the sources of the leak if it can be done safely!
3. Take any possible action needed to contain the spill.
4. Notify the Spill Coordinator (Foreman) immediately! Do not call the media! The home office shall do this. Only they are authorized to make statements concerning any release of oil or saltwater. Be polite, but firm as to this policy.
5. Call service companies for needed assistance, such as vacuum trucks, dirt contractors and roustabout crews.
6. Remove and dispose of spilled free liquids with approved methods.
7. Use Spagsorb or other approved materials to soak up any remaining liquids.
8. Remove or remediate in an approved manner contaminated soils, waters, equipment, etc.
9. Notify all applicable agencies (Spill Coordinator/Regulatory Compliance Coordinator).
10. Document the spill. Include dates, times, and all conversations with parties present.
11. Complete the Spill Report Form and submit it to the Spill Coordinator detailing the cause of the spill, measures utilized to contain the spill, and the damage, if any. Be sure to include the following:

    Company

    a. Date
    b. Facility Name
    c. Facility Location
    d. County and State
    e. Description of facility from which the spill occurred.
    f. Type of hydrocarbon or liquid spilled
    g. Date and time of spill
    h. Date and time the spill was reported to outside agencies
    i. Total quantity spilled
    j. Quantity recovered
    k. Did spill affect any body of water, bar ditch, natural gull, creek or river?
    l. Describe the effects of spill (wildlife, vegetation, fish, water, etc.)
    m. Cause of spill
    n. Explain containment and cleanup measures taken

    Spill Coordinator

    o. Explain success of cleanup efforts.
    p. Did representative of outside agencies visit the scene?
    q. Which agencies?
    r. Did any agencies take an active role in the containment of cleanup?
    s. Estimate of total cleanup costs.
    t. Additional comments (was media present, public officials, other parties, etc.)

12. File a formal report with the regulatory agencies (Spill Coordinator/Emergency Response Coordinator)

SPILL NOTIFICATION NAMES AND PHONE NUMBERS LIST

Facility Name:	JACKSON / JACKSON 'A' LEASE OSAGE COUNTY, OK	
Name of Operator:	TALLGRASS RESOURCES, LLC (918) 270-9927	During Business Hours
Spill Compliance Coordinator (SCC): They can be reached at:	SCOTT BENDER (918) 270-9927 (318) 560-2595	During Business Hours After Business Hours
Regulatory Compliance Coordinator (RCC): They can be reached at:	TYLER HAROLD (918) 270-9927 (918) 607-7009	During Business Hours After Business Hours
Field Operations Manager (FOM): They can be reached at:	SCOTT BENDER (918) 270-9927 (318) 560-2595	During Business Hours After Business Hours
In the event that they cannot be reached, call: They can be reached at:	PHILIP KELLY (918) 237-8445	During Business Hours After Business Hours

TO REPORT SPILLS:
24 HR. LINE - NATIONAL RESPONSE CENTER 800-424-8802

MINIMUM SPILL NOTIFICATION REQUIREMENTS (to EPA Regional Administrator Within 60 days)

1) **Whenever a facility has discharged more than 24 barrels/1000 gal. In a single incident; or**
2) **Whenever a facility has had two (2) discharges in a 12-month period of 1 barrel / 43 gallons or more.**

CONFIRM EITHER OF THESE OCCURRENCES BY PLACING AN (X) IN THE FOLLOWING BLANK _____

HARMFUL DISCHARGES INTO NAVIGABLE WATERS OF THE UNITED STATES OR ADJOINING SHORELINES HAVE NO MINIMUM AND MUST BE REPORTED AS SOON AS POSSIBLE.

Written Reports shall be required of all witnesses and most respondents to the release.

AGENCIES TO CONTACT:

State Regulatory Agency:	Oklahoma Corporation Commission	
	District:	**#1**
	Phone Number:	**(918) 367-3396**
Federal-EPA Region 6	**Spill Response Number:**	**(866) 372-7745**
National Response Center (as substitute for EPA Number-should be your first call)		**(800) 424-8802 (24hr.)**
US Army Corps of Engineers:		(202) 272-0001 (24hr.)

FILL OUT THE "Spill Submission Form " Pages A8-A10 in Miscellanous Attachments For Reporting To EPA PRIOR TO CONTACTING ANY AGENCIES.

ADDITIONAL CONTACT LIST

First Call – as many as possible	Phone Number
Local Emergency Planning Committee	See Contingency Pg. C8, Appenfix A
Fire Department	See Contingency Pg. C8, Appenfix A
Police Department	See Contingency Pg. C8, Appenfix A
County Sheriff's Department	See Contingency Pg. C8, Appenfix A
State Highway Patrol	See Contingency Pg. C9, Appenfix B
State Department of Public Safety	See Contingency Pg. C9, Appenfix B
Local Ambulance	See Contingency Pg. C8, Appenfix A
Local Hospital	See Contingency Pg. C8, Appenfix A
State Department of Environment Quality	See Contingency Pg. C9, Appenfix B
State Department of Wildlife Conservation	See Contingency Pg. C9, Appenfix B

Report Spills!
(800) 424-8802
24-Hour Phone
National Response Center

Environmental Services

SCO-JO Environmental
P.O. BOX 895
EDMOND, OK 73083
(405)340-5499

Alternate Environmental Services

Backhoe/Dozer/Heavy Equipment

Vacuum Truck/Tankers/Frac Tanks

Alternate Vacuum Trucks/Tanks/etc.

Roustabout Crews

This Additional Contact List must be completed for the SPCC Plan to be complete. Please do not put "911" for any of the above agencies.

Written Commitment of Manpower, Equipment and Materials

In addition to implementing the preventive measures described in this Plan, TALLGRASS RESOURCES, LLC will also in the event of a discharge specifically:

In the event of a discharge:

- Make available all trained field personnel to perform response actions.
- Obtain assistance from additional employees of Pumper.
- Collaborate fully with local, state and federal authorities on response and cleanup operations.
- Maintain all on-site spill control equipment described in this Plan and in the attached Oil Spill Contingency Plan. The equipment is estimated to contain oil spills of up to 500 gallons.
- Maintain all communications equipment in operation condition at all times.
- Ensure that staging areas to be used in the event of a discharge to the creek are accessible by field vehicles.
- Review the adequacy of on-site and third-party response capacity with pre-established response/clean-up contractors on an annual basis and update response/cleanup contractor list as necessary.
- Maintain formal agreements/contracts with response and cleanup contractors who will provide assistance in responding to an oil discharge and/or completing cleanup (see contract agreements maintained separately at the Owner/Operator's office and lists of associated equipment and response contractor personnel capabilities).

Authorized Facility Representative: _____

Signature: _____

Title: _____

SCO-JO

The Leader In Environmental Protection & Supplies.

Facility Information Form

JOINT LEASE

Facility Name & RRC# if located in Texas: JACKSON / JACKSON 'A' LEASE

Operator Name: TALLGRASS RESOURCES LLC

County & State of Facility: OSAGE COUNTY, OKLAHOMA

Legal Location (Include 1/4 section as in Oklahoma or RRC# as in Texas): NW 1/4 SEC. 26 T-24N R-9E

Latitude:	N 36.530168	Longitude:	W 96.313172
Elevation:	919		

Is this a 24 hour monitored facility? NO

Are there any emergency shutdown devises in place & Operational? NO

For facilities located in states other than OK name the State Regulatory Agency: OCC

Regulatory District Name: DIST. #1 Regulatory District Phone Number: 918-367-3396

Date of Initial Production:

Current Daily Oil Production (BOPD): 27 Current Daily Gas Production (MCF): 0

Current Daily Saltwater Production (BOSWPD): 620

Pumper's Name: MATT SURIS

Pumper's Mobile Phone Number: 918-381-9046

Pumper's Home or 24hr. Phone Number:

Lock Information (I.E. Combination or Code):

Please fill out the Driving Directions Section Below:

Begin at Junction of: _____ and _____

Go: N S E W _____ miles, _____

Then Go: N S E W _____ miles, _____

Then Go: N S E W _____ miles, _____

Then Go: N S E W _____ miles, _____

Then Go: N S E W _____ miles into facility _____

I certify that the information above is accurate and complete and will be used without verification by a registered professional engineer (P.E.) for the creation of a Spill Prevention, Control, and Countermeasure Plan (SPCC) for the above referenced company. I agree that the field agent has permission to correct any verbal and/or written directions to above referenced facility as necessary.

Name of Person completing this form (Print): SCOTT LEWIS JR

Signature:

Date: 5/21/2024

PART I

INTRODUCTION

1.1 PURPOSE AND SCOPE

This Oil Spill Contingency Plan is prepared in accordance with 40 CFR 112.7(d) to address areas of the facility where secondary containment is impracticable, as documented in the facility Spill Prevention, Control and Countermeasure (SPCC) Plan.

The purpose of this Oil Spill "Contingency Plan" is to define procedures and tactics for responding to discharges of oil into navigable waters or adjoining shorelines of the United States, originating more specifically from flowlines at TALLGRASS RESOURCES, LLC - JACKSON / JACKSON 'A' LEASE storage facility. The Contingency Plan is implemented whenever a discharge of oil has reached or threatens navigable waters and/or adjoining shorelines.

The objective of procedures described in the Contingency Plan is to protect the public, TALLGRASS RESOURCES, LLC personnel and other responders during oil discharges. In addition, the Plan is intended to minimize damage to the environment, natural resources, and facility installations from a discharge of oil. This Contingency Plan complements the prevention and control measures presented in the facility's SPCC Plan by addressing areas of the facility that have inadequate secondary containment and impacts that may result from a discharge from these areas. The JACKSON / JACKSON 'A' LEASE implements a detailed flowline maintenance program to prevent leaks from the primary system (in this case, piping). Areas lacking adequate containment at the JACKSON / JACKSON 'A' LEASE include the flowlines that run between the extraction wells and the tank battery area and between the tank battery area and the saltwater disposal area.

This Contingency Plan follows the content and organization of 40 CFR part 109 and describes the distribution of responsibilities and basic procedures for responding to an oil discharge and performing cleanup operations.

1.2 RESOURCES AT RISK

JACKSON / JACKSON 'A' LEASE is located at GPS Latitude: N 036 X 31.810; GPS Longitude: W 096 X 18.790. The Facility Drawing , Map of Facility and Driving Directions to facility included in the SPCC Plan on Page 7 and 9, indicate the location of the oil extraction, production and storage areas, and also identify nearby navigable waters. Soil type at facility is CLAY. Ground cover at the facility consists of low lying vegetation. The natural topography of the land is of MODERATE grade in an SOUTH direction.

6 flowlines (which contain oil) at the facility lack adequate secondary containment (see Facility Drawing Page 9 of SPCC Plan):

- Production Flowlines: The 5 flowline(s) from production wells to the storage facility at maximum, are approximately 1400 yds. long. These run underground within the Lease Unit Boundary as described by the OK Oil and Gas regulatory body. See Facility Drawing on Page 9 of SPCC Plan for the closest point of a flowline to navigable waters.
- SWD Flowline(s). The 1 The flowline(s) between the tank battery and the saltwater disposal(s) are approximately 250 yds. long. It runs in an NORTH direction.

TALLGRASS RESOURCES, LLC will coordinate with the OSAGE COUNTY fire and/or police depts. To provide the appropriate warnings in the event of a discharge that could affect public health and safety.

1.3 RISK ASSESSMENT

The facility is comprised of approximately 1650 yds. Of 2-3 INCHES in. diameter flowlines. The Majority of the flowlines are located underground. The flowlines do not have secondary containment, since such containment is impracticable at this facility (see discussion on impracticability of secondary containment in the facility's SPCC Plan).

The total daily production rate at the facility varies, but can reach as much as 27 gallons of crude oil and 620 gallons of produced water. For planning purposes, the worst-case discharge is the volume of oil within the flowline plus 24 hours of production, or 1,560 gallons.

(Note: worst-case flowline volume 1000 gallons)

Over a 24 hr. period, the oil could travel approximately 2 miles. Reference Facility Drawing on Page 9 of the facility SPCC Plan to calculate the estimated arrival to the nearest navigable waters.

1.4 RESPONSE STRATEGY

TALLGRASS RESOURCES, LLC personnel and contractors are equipped and trained to respond to certain "minor discharges" confined within the facility. Minor discharges can generally be described as those where the quantity of product discharged is small, the discharged material can be easily stopped and controlled, the discharge is localized, and the product is not likely to seep into groundwater, or reach surface water or adjoining shorelines. Procedures for responding to these minor discharges are covered in the SPCC Plan.

This Contingency Plan addresses all discharge incidents, including those that affect navigable waters, or during which the oil cannot be safely controlled by facility personnel and confined within the boundaries of the facility. Response to such incidents may necessitate the assistance of outside contractors or other responders to prevent imminent impact to navigable waters.

PART II

SPILL DISCOVERY AND RESPONSE

2.1 DISTRIBUTION OF RESPONSIBILITIES

TALLGRASS RESOURCES, LLC the primary responsibility for providing the initial response to oil discharge incidents originating from its facility. To accomplish this, TALLGRASS RESOURCES, LLC has designated the Field Operations Mgr., SCOTT BENDER as the qualified oil discharge Response Coordinator (RC) in the event of an oil discharge.

- The RC plays a central coordinating role in any emergency situation as illustrated in the emergency organization chart in Figure 2-1, Page C3.
- The RC has the authority to commit the necessary services and equipment to respond to the discharge and to request assistance from OSAGE COUNTY , fire and/or police depts., contractors or other responders as appropriate.
- The RC will direct notifications and initial response actions in accordance with training and capabilities. In the event of a fire or emergency situation that threatens the health and safety of those present at the site, the RC will direct evacuations and contact the fire and police depts.

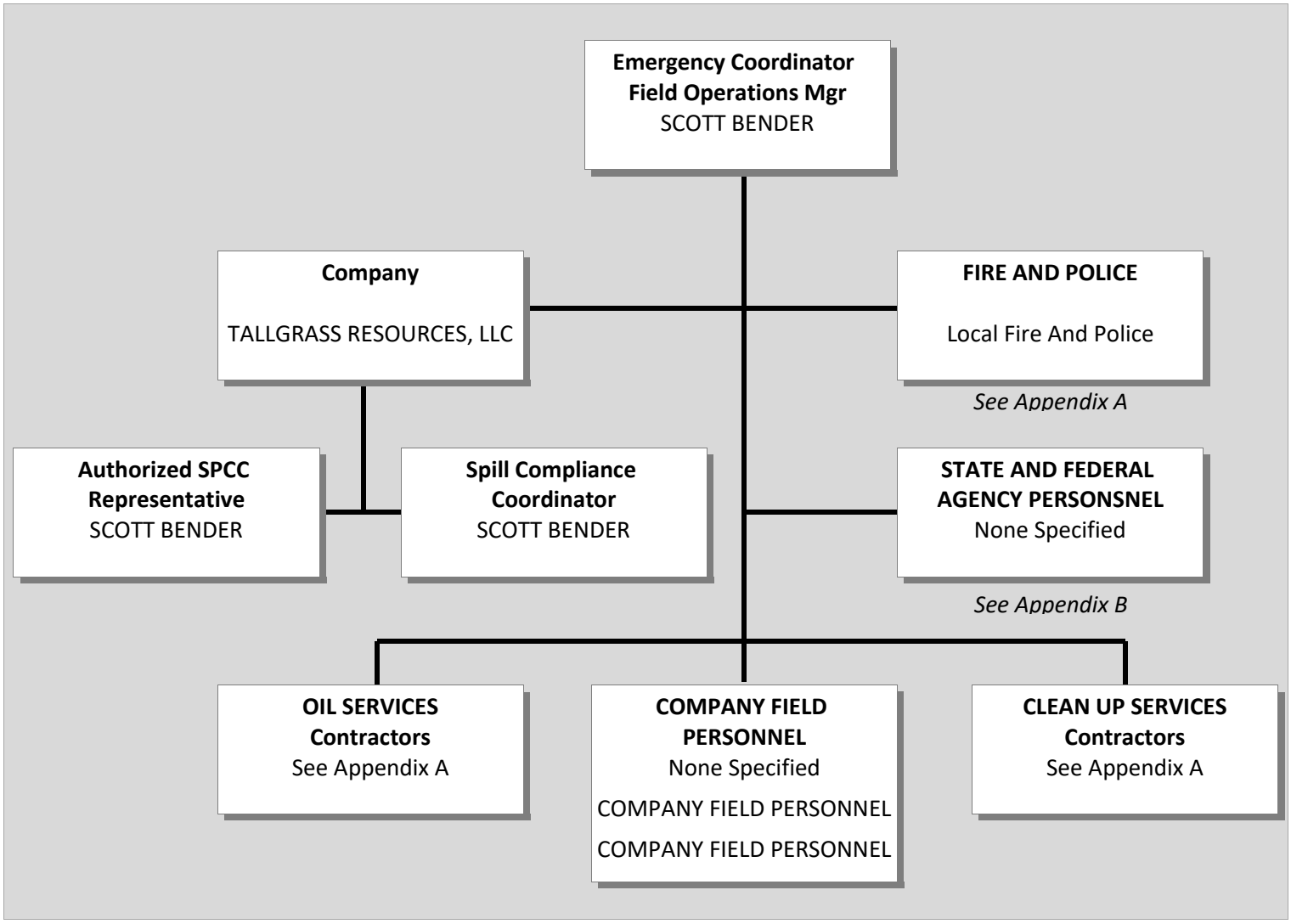
In the event of an emergency involving outside response agencies, the RC's primary responsibility is to provide information regarding the characteristics of the materials and equipment involved and to provide access to TALLGRASS RESOURCES, LLC resources as requested. The RC shall also take necessary measures to control the flow of people, emergency equipment and supplies, and obtain the support of the Local Fire and Police as needed to maintain control of the site. These controls may be necessary to minimize injuries and confusion.

Finally, the RC serves as the coordinator for radio communications by acquiring all essential information and ensuring clear communication of information to emergency response personnel. The RC has access to reference material at the field office, either as printed material or on computer files that can further assist the response activities.

Whenever circumstances permit, the RC transmits assessments and recommendations to TALLGRASS RESOURCES, LLC Senior Management for direction. Senior Management is contacted in the following order: (1) Regional Director of Operations; (2) Vice-President of Operations.

In the event that the Field Operations Manager is not available, the responsibility and authority for initiating a response to a discharge rests with the most senior TALLGRASS RESOURCES, LLC employee on site at the time the discharge is discovered (Crew Lead), or with the contractor Field Supervisor (or next person in command) if contractor personnel are the only personnel on site.

Figure 2-1: Distribution of response authority and communication:



2.2 RESPONSE ACTIVITIES

In the event of a discharge, the first priority is to stop the product flow and to shut off all ignition sources, followed by the containment, control, and mitigation of the discharge. This Contingency Plan breaks down actions to be performed to respond to an oil discharge into different phases described in greater detail in the checklists below.

2.2.1 Discharge Discovery and Source Control:

Minor Discharge: A minor discharge (i.e., small volume leak from flowlines or other equipment) will be discovered by TALLGRASS RESOURCES, LLC facility personnel or by contractor personnel during scheduled daily or monthly visits to the facility. Aboveground flowlines are visually inspected formally once a month during the normal inspection rounds.

Major Discharge: A more severe and sudden discharge will trigger the automatic shut down of the pumping units and will affect oil production. The impact will be detected during the daily visit to the production area by TALLGRASS RESOURCES, LLC or contractor field personnel. The maximum amount of time until a major discharge is detected can be up to 24 hrs.

Notifications to the National Response Center, OK authorities, and OSAGE COUNTY LEPC must occur immediately upon discovery of reportable discharges.

COMPLETED	ACTIONS
	Immediately report the discharge to the RC, providing the following information: > Exact location > Materials involved > Quantity involved > Topographic and environmental conditions > Circumstances that may hinder response > Injuries – if any
	Turn off all sources of ignition.
	Turn off lift pumps that charge or provide flow to the flowline.
	Locate the flowline break.
	If safe to do so, isolate the affected section of piping by closing off the closest valves upstream and downstream from the break.

2.2.2 Assessment and Notifications:

COMPLETED	ACTIONS
	Investigate the discharge to assess actual or potential threat to human health or the environment: > Location of discharge relative to receiving water bodies > Quantity of spilled materials > Ambient conditions (temperature; rain) > Other contributing factors such as fire or explosion hazards > Sensitive receptors downstream
	Request outside assistance from local emergency responders as needed.
	Evaluate the need to evacuate facility and evacuate employees as needed.
	Notify the fire/police departments and OSAGE COUNTY LEPC to assess whether community evacuation is needed. Oil Services Company LEPC to assess whether community evacuation is needed.
	Notify immediately: > 911 > National Response Center > Response Contractor(s) > State authorities
	Communicate with neighboring property owners regarding the discharge and actions taken to mitigate the damage.
	Determine whether the oil reaches or threatens to reach navigable waters.

2.2.3 Control and Recovery:

The RC directs the initial control of the oil flow by TALLGRASS RESOURCES, LLC , Oil services and contractors. (See 3.1 below for oil services and contractors) The actions taken will depend on whether the oil has reached water or is still on land. All effort will be made to prevent oil from reaching water.

If the oil has not yet reached water:

COMPLETED	ACTIONS
	Deploy sand bags and absorbent socks down gradient from the oil, or erect temporary barriers such as trenches or mounds to prevent the oil from flowing towards navigable waters.
	Implement land-based response actions (countermeasure) such as digging temporary containment pits, ponds, or curbs to prevent the flow of oil into the river.
	Deploy absorbent sock and sorbent materials along the shoreline to prevent oil from entering waters.

If the oil has reached water:

COMPLETED	ACTIONS
	Contact cleanup contractor(s). (See 3.1 below for oil services and contractors)
	Deploy floating booms immediately downstream from the release point.
	Control oil flow on the ground by placing absorbent socks and other sorbent material or physical barriers (e.g., “kitty litter,” sandbags, earthen berm, trenches) across the oil flow path.
	Deploy additional floating booms across the whole width of the creek at the next access point downstream from the release point. Access points and staging areas along the shoreline are identified on Figure C-1 of this Contingency Plan.
	Deploy absorbent sock and sorbent materials along the shoreline to prevent oil from entering waters.

2.2.4 Disposal of Recovered Product and Contaminated Response Material:

The RC ensures that all contaminated materials classified as hazardous waste are disposed of in accordance with all applicable solid and hazardous waste regulations.

COMPLETED	ACTIONS
	Place anyrecovered product that can be recycled into the gun barrel tank to be separated and recycled.
	Dispose of recovered product not suitable for on-site recycling with the rest of the waste collected during the response efforts.
	Collect all debris in properly labeled waste containers (impervious bags, drums, or buckets).
	Dispose of contaminated material in accordance with all applicable solid and hazardous waste regulations using a licensed waste hauler and disposal facility, after appropriately characterizing the material for collection and disposal.
	Dispose of all contaminated response material within 2 weeks of the discharge.

2.2.5 Termination

The RC ensures that cleanup has been completed and that the contaminated area has been treated or mitigated according to the applicable regulations and local, State and Federal cleanup action levels. The RC collaborates with the local, State and Federal authorities regarding the assessment of damages.

COMPLETED	ACTIONS
	Ensure that all repairs to the defective equipment or flowline section have been completed.
	Review circumstances that led to the discharge and take all necessary precautions to prevent a recurrence.
	Evaluate the effectiveness of the response activities and make adjustments as necessary to response procedures and personnel training.
	Carry out personnel and contractor debriefings as necessary to emphasize prevention measures or to communicate changes in operations or response procedures.
	Submit any required follow-up reports to the authorities. **As defined in 40CFR 112.1 (b), In the case where the discharge was greater than 1,000 gallons, or there was a second discharge of 42 gallons or more within any 12 mo. Period; the RC is responsible for submitting the required information within 60 days to the EPA Regional Administrator following the procedures outlined in Appendix B.** **Within 30 days of the discharge, the RC will convene an incident critique including all appropriate persons that responded to the spill. The goal of the incident critique is to discuss lessons learned, the efficacy of the Contingency Plan and its implementation, and coordination of the plan/RC, and other State and local plans.** **Within 60 days of the critique, the Contingency Plan will be updated as needed to incorporate the results, findings, and suggestions developed during the critique.**

2.3 DISCHARGE NOTIFICATION

Instructions and phone numbers for reporting a discharge to the National Response Center and other Federal, State and local authorities are provided in Appendix B to this Plan. Any discharge to water must be reported immediately to the National Response Center. The Response Coordinator must ensure that details of the discharge are recorded on the Discharge Notification Form provided on page C10

If the discharge qualifies under 40 CFR part 112 (see Appendix B for circumstances), the RC is responsible for ensuring that all pertinent information is provided to the EPA Regional Administrator.

PART III

RESPONSE RESOURCES AND PREPAREDNESS ACTIVITIES

3.1 EQUIPMENT, SUPPLIES, SERVICES, AND MANPOWER

Spill kits, if applicable, are provided and stored in a storage facility at the production site that is accessible by both TALLGRASS RESOURCES, LLC and oil services contractor(s) personnel. Response equipment and material present at the site include:

QUANTITY	EQUIPMENT AND MATERIALS
1	Spill Kit, When Required

This material is sufficient to respond to most minor discharges occurring at the facility and to initially contain a major discharge while waiting for additional materials, responders or outside contractors. The inventory is verified on a monthly basis during the scheduled facility inspection by designated personnel, and is replenished as needed.

Additional material and equipment is kept at TALLGRASS RESOURCES, LLC district field office. The additional materials are listed below, including all necessary communication equipment to coordinate response activities such as: cell phones, etc. The location serves as the response operation center during a response.

TALLGRASS RESOURCES, LLC has 4 employee(s) trained and available to respond to an oil discharge. TALLGRASS RESOURCES, LLC personnel may be assisted by additional employees from the facility's oil service contractors. All employees are familiar with the facility's layout, location of spill response equipment, staging areas, and response strategies, as well as the SPCC and Contingency Plans. Employees have received training in the deployment of response material and handling of hazardous waste (HAZWOPER), and have attended the required refresher courses.

To respond to larger discharges and ensure the removal and disposal of cleanup debris, courses. TALLGRASS RESOURCES, LLC has established agreements with specialized cleanup contractors (See Appendix A) acting as the primary response/cleanup contractor. These contractors have immediate access to all equipment and materials, including mechanical recovery equipment for use on water and/or land. Each contractor has sufficient response equipment to contain and recover the maximum possible discharge. Contractors are able to respond within # of ____ hours of receiving a verbal request from the RC.

3.2 COMMUNICATIONS AND CONTROL

A central coordination center will be set up at the Field office in the event of a discharge, and is equipped with fixed and mobile communication equipment to ensure continuous communication with TALLGRASS RESOURCES, LLC and all responders

Communications equipment includes:

QUANTITY	EQUIPMENT

The RC is responsible for communicating the status of the response operations and for sharing relevant information with involved parties, including local, State and Federal authorities.

In the event that local and State authorities, or a Federal On Site Coordinator (OSC) assumes Incident Command, the RC will function as the facility representative in the Unified Command structure.

3.3 TRAINING EXERCISES AND UPDATING PROCEDURES

TALLGRASS RESOURCES, LLC has established and maintains an ongoing training program to ensure that responding personnel to oil discharges are properly trained and that all necessary equipment is available to them. The program includes on-the-job training on the proper deployment of response equipment. The RC is responsible for implementing and evaluating employee preparedness training.

Following a response to an oil discharge, the RC will evaluate the actions taken and identify procedural areas where improvements are needed. The RC will conduct a briefing with field personnel, contractors and local emergency responders to discuss lessons learned, and will integrate the outcome of the discussion in subsequent SPCC briefings and employee training seminars. As necessary, the RC will amend this Contingency Plan and/or the SPCC Plan, to reflect changes made to the facility equipment and procedures.

APPENDIX A

Emergency Contacts

TALLGRASS RESOURCES, LLC is responsible for all local information below

Facility Operations:

NAME	TITLE	PHONE #	ADDRESS

Local Emergency Responders:

Agency	Name	PHONE #	ADDRESS
Fire		911 or Local #	
Police		911 or Local #	
OSAGE COUNTY LEPC			
Hospital			

Cleanup Contractors:

Environmental Services

SCO-JO Environmental
P.O. BOX 895
EDMOND, OK 73083
(405)340-5499

Alternate Environmental Services

Backhoe/Dozer/Heavy Equipment

Vacuum Truck/Tankers/Frac Tanks

Alternate Vacuum Trucks/Tanks/etc.

Roustabout Crews

APPENDIX B

Discharge Notification Procedures

Any discharge to water must be reported immediately to the National Response Center.
Circumstances, instructions and phone numbers for reporting a discharge to the National Response Center and other Federal, State and local agencies, and other affected parties, are provided below. They are also posted at the facility in the storage shed containing the discharge response equipment.

FIELD OPERATIONS MGR.	**SCOTT BENDER**	**(918) 270-9927**
EMERGENCY RESPONDERS	**SEE APPENDIX A**	**AND / OR 911**

FEDERAL AGENCIES	PHONE #	CIRCUMSTANCES	WHEN TO NOTIFY
Nat'l Response Center	(800) 424-8802	Discharge reaching navigable waters	Immediately (verbal)
Federal-EPA Region 6	(866) 372-7745		Immediately (verbal)
Federal-EPA Region 6 Admin.	(866) 372-7745	Discharge 1,000 gallons or more; or 2nd discharge of 42 gallons or more over 12 mo. Period.	Written notification within 60 days (See sec. 2.1 of this plan.).

FEDERAL AGENCIES	PHONE #	CIRCUMSTANCES	WHEN TO NOTIFY
State Highway Patrol State Department of Transportation	(405) 425-2424 (405) 521-2011	*Injury requiring hospitalization or fatality *Fire, explosion or other impact that could affect public safety *Release exceeding 24 hr. reportable quantity *Impact to areas beyond the facility's confines	Immediately (verbal) Written notification within 5 working days
Hazardous Materials Hotline	(800) 424-9346	Discharges that pose emergency conditions regardless of the volume discharged.	Within 1 hr. (verbal) Written notification within 7 working days

The person reporting the discharge must provide the following information:

- Name, location, organization and phone #
- Name and address of owner/operator
- Date and time of incident
- Location of incident
- Source and cause of discharge
- Types of materials discharged
- Total quantity of materials discharged
- Quantity discharged to navigable waters or adjoining shorelines
- Danger or threat posed by the release or discharge
- Description of all affected media (e.g., water, soil, etc.)
- Number and types of injuries and damages
- Weather conditions
- Actions used to stop, remove and mitigate effects of the discharge
- Whether an evacuation is needed
- Name of individuals and/or organizations contacted
- Any other information that may help emergency responders

Whenever the facility discharges more than 1,000 gallons of oil in a single event, or discharges more than 42 gallons of oil in each of two discharge incidents within a 12 mo. period, the manager of Field Operations must provide the following information to the EPA's Regional Administrator within 60 days:

- Name of the facility
- Name of owner/operator
- Location of facility
- Maximum storage or handling capacity and normal daily throughput
- Corrective actions and countermeasures taken, including a description of equipment repairs and replacements
- Description of facility, including maps, flow diagrams, and topographical maps
- Cause of the discharge(s) to navigable waters, including a failure analysis of the system and subsystems in which the failure occurred
- Additional preventive measures taken or contemplated to minimize recurrence
- Other pertinent information requested by the Regional Administrator.

RECORD OF INCIDENT NOTIFICATIONS			
FEDERAL AGENCIES CONTACTED	**NAME OF PERSON CONTACTED**	**TYPE OF INCIDENT** (Discharge; evacuation; injury; fatality(ies)	**DATE/TIME/COMMENTS**

APPENDIX C-9

EXEMPTION REQUEST AND APPROVAL LETTERS-25 CFR 226.33

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Osage Agency
P. O. Box 1539
Pawhuska, OK 74056

Branch of Subsurface

OCT 2 9 2025

Tallgrass Resources, LLC
Attn: Don Williams
1560 E 21st St., Suite 215
Tulsa, OK 74114

Dear Mr. Williams:

This is in response to your letter, dated August 28, 2025, in which you requested an exemption for permission to drill within 300' of the lease boundary line for your Oil and Gas Mining Lease (Contract No. G06-23689-0), in the SW/4, Section 01-T25N-R08E, Osage County, Oklahoma. This is your proposed Well #B12, BIA permit No. 25G06427404.

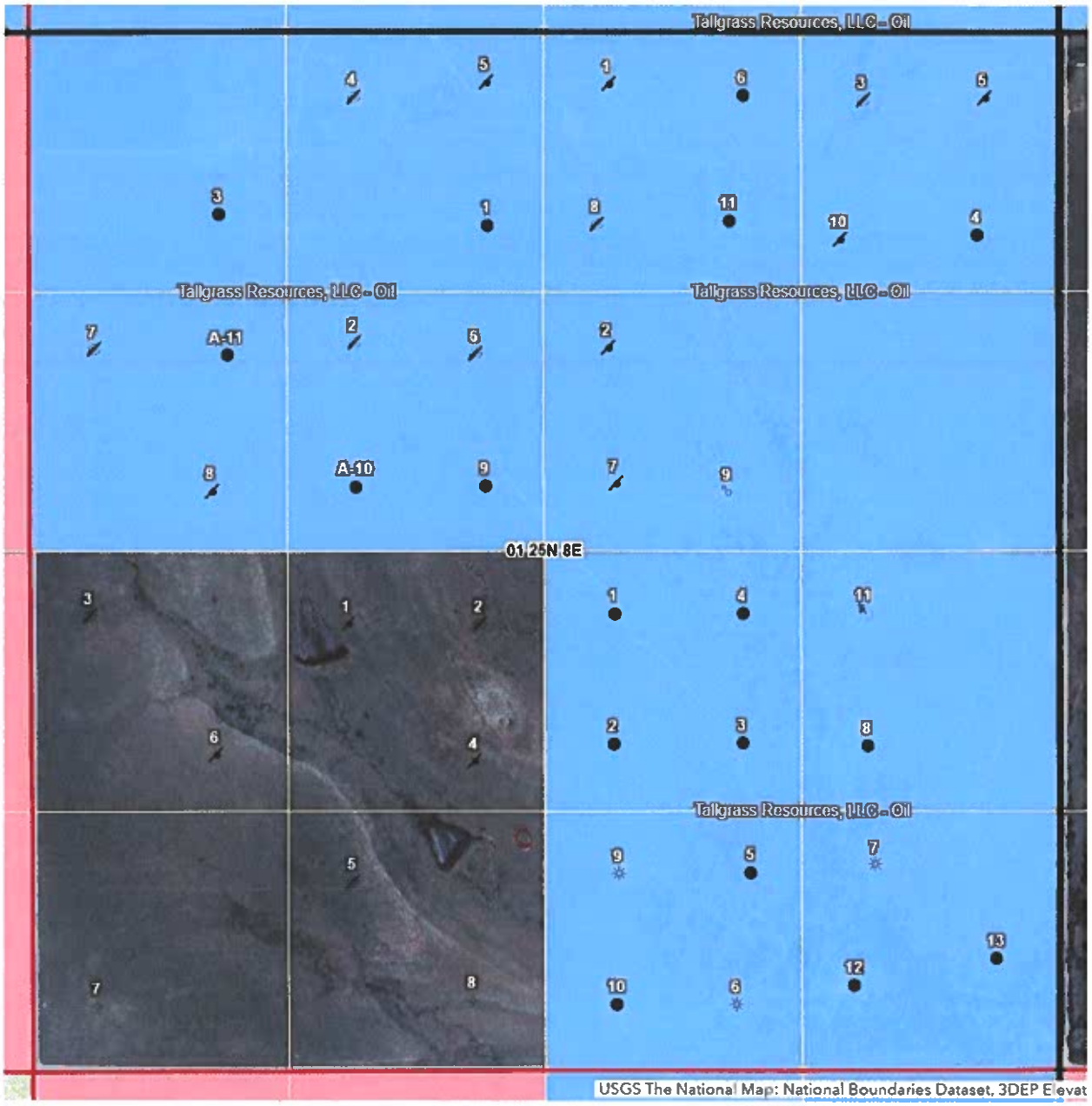
We have reviewed your request to drill 102 feet from the East line of the SW quarter of Section 01, for well No. B12. Based on our review of the area map, we are in agreement with your request to drill at this location. We have noted that the acreage to the east of your lease is leased by Tallgrass Resources, LLC, so this drilling location should not affect production from any other lessee. Therefore, your request for permission to drill at the exempted location is approved.

If you should have any questions regarding this matter, please do not hesitate to contact our Supervisory Petroleum Engineer, Steven Kohler, at (918) 287-5772.

Sincerely,

Superintendent

Cc: Stephanie Erwin, Chairperson, Osage Minerals Council, 813 Grandview Avenue, Pawhuska, OK 74056



Red Circle is Well Location

Tallgrass RESOURCES

1560 E. 21st Street, Suite 215 | Tulsa, OK 74114

August 28, 2025

Adam Trumbly-Superintendent
Bureau of Indian Affairs- Osage Agency
813 Grandview
Pawhuska, Oklahoma 74820

Subject: **Application for Drilling Permit**
Tallgrass Resources LLC Proposed #B-12 Well
SW/4 Section 1 Township 25 North Range 8 East
Osage County, Oklahoma

Dear Superintendent Trumbly,

Tallgrass Resources LLC is in the process of applying to drill a new well bore on the Osage Mineral Estate and is described in detail and evaluated in an Environmental Assessment (EA) recently submitted to your office. This well bore will be known as the B-12 well.

25 CFR 226.33 requires that written permission to drill the above-mentioned well be obtained since this well location is within three hundred (300) feet of a lease boundary. This letter is to request the necessary authorization to proceed with drilling the well as proposed. The surface well bore will be 1,153 feet from the south line and 102 feet from the east line of the SW/4 Section 1. This well bore will be a vertical well, with the bottom hole directly under the surface location. Tallgrass Resources is the lessee of record for the adjacent lease; therefore, a letter of no objection will not be needed.

If you need any additional information, please do not hesitate to contact us.

Best regards,

Don L. Williams

Don L. Williams, CPL
VP – Land

APPENDIX C-10
National Bald Eagle Management Guidelines

NATIONAL BALD EAGLE MANAGEMENT GUIDELINES

U.S. Fish and Wildlife Service

May 2007

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INTRODUCTION

The bald eagle (*Haliaeetus leucocephalus*) is protected by the Bald and Golden Eagle Protection Act (Eagle Act) and the Migratory Bird Treaty Act (MBTA). The MBTA and the Eagle Act protect bald eagles from a variety of harmful actions and impacts. The U.S. Fish and Wildlife Service (Service) developed these National Bald Eagle Management Guidelines to advise landowners, land managers, and others who share public and private lands with bald eagles when and under what circumstances the protective provisions of the Eagle Act may apply to their activities. A variety of human activities can potentially interfere with bald eagles, affecting their ability to forage, nest, roost, breed, or raise young. The Guidelines are intended to help people minimize such impacts to bald eagles, particularly where they may constitute "disturbance," which is prohibited by the Eagle Act.

The Guidelines are intended to:

(1) Publicize the provisions of the Eagle Act that continue to protect bald eagles, in order to reduce the possibility that people will violate the law,

(2) Advise landowners, land managers and the general public of the potential for various human activities to disturb bald eagles, and

(3) Encourage additional nonbinding land management practices that benefit bald eagles (see Additional Recommendations section).

While the Guidelines include general recommendations for land management practices that will benefit bald eagles, the document is intended primarily as a tool for landowners and planners who seek information and recommendations regarding how to avoid disturbing bald eagles. Many States and some tribal entities have developed state-specific management plans, regulations, and/or guidance for landowners and land managers to protect and enhance bald eagle habitat, and we encourage the continued development and use of these planning tools to benefit bald eagles.

Adherence to the Guidelines herein will benefit individuals, agencies, organizations, and companies by helping them avoid violations of the law. However, the Guidelines themselves are not law. Rather, they are recommendations based on several decades of behavioral observations, science, and conservation measures to avoid or minimize adverse impacts to bald eagles.

The U.S. Fish and Wildlife Service strongly encourages adherence to these guidelines to ensure that bald and golden eagle populations will continue to be sustained. The Service realizes there may be impacts to some birds even if all reasonable measures are taken to avoid such impacts. Although it is not possible to absolve individuals and entities from liability under the Eagle Act or the MBTA, the Service exercises enforcement discretion to focus on those individuals, companies, or agencies that take migratory birds without regard for the consequences of their actions and the law, especially when conservation measures, such as these Guidelines, are available, but have not been implemented. The Service will prioritize its enforcement efforts to focus on those individuals or entities who take bald eagles or their parts, eggs, or nests without implementing appropriate measures recommended by the Guidelines.

The Service intends to pursue the development of regulations that would authorize, under limited circumstances, the use of permits if “take” of an eagle is anticipated but unavoidable. Additionally, if the bald eagle is delisted, the Service intends to provide a regulatory mechanism to honor existing (take) authorizations under the Endangered Species Act (ESA).

During the interim period until the Service completes a rulemaking for permits under the Eagle Act, the Service does not intend to refer for prosecution the incidental “*take*” of any bald eagle under the MBTA or Eagle Act, if such take is in full compliance with the terms and conditions of an incidental take statement issued to the action agency or applicant under the authority of section 7(b)(4) of the ESA or a permit issued under the authority of section 10(a)(1)(B) of the ESA.

The Guidelines are applicable throughout the United States, including Alaska. The primary purpose of these Guidelines is to provide information that will minimize or prevent violations only of *Federal* laws governing bald eagles. In addition to Federal laws, many states and some smaller jurisdictions and tribes have additional laws and regulations protecting bald eagles. In some cases those laws and regulations may be more protective (restrictive) than these Federal guidelines. If you are planning activities that may affect bald eagles, we therefore recommend that you contact both your nearest U.S. Fish and Wildlife Service Field Office (see the contact information on p.16) and your state wildlife agency for assistance.

LEGAL PROTECTIONS FOR THE BALD EAGLE

The Bald and Golden Eagle Protection Act

The Eagle Act (16 U.S.C. 668-668c), enacted in 1940, and amended several times since then, prohibits anyone, without a permit issued by the Secretary of the Interior, from “taking” bald eagles, including their parts, nests, or eggs. The Act provides criminal and civil penalties for persons who “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof.” The Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” “Disturb’’ means:

> "Disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle=s return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering habits and causes, or is likely to cause, a loss of productivity or nest abandonment.

A violation of the Act can result in a criminal fine of $100,000 ($200,000 for organizations), imprisonment for one year, or both, for a first offense. Penalties increase substantially for additional offenses, and a second violation of this Act is a felony.

The Migratory Bird Treaty Act
The MBTA (16 U.S.C. 703-712), prohibits the taking of any migratory bird or any part, nest, or egg, except as permitted by regulation. The MBTA was enacted in 1918; a 1972 agreement supplementing one of the bilateral treaties underlying the MBTA had the effect of expanding the scope of the Act to cover bald eagles and other raptors. Implementing regulations define "take" under the MBTA as "pursue, hunt, shoot, wound, kill, trap, capture, possess, or collect."

Copies of the Eagle Act and the MBTA are available at: http://permits.fws.gov/ltr/ltr.shtml.

State laws and regulations
Most states have their own regulations and/or guidelines for bald eagle management. Some states may continue to list the bald eagle as endangered, threatened, or of special concern. If you plan activities that may affect bald eagles, we urge you to familiarize yourself with the regulations and/or guidelines that apply to bald eagles in your state. Your adherence to the Guidelines herein does not ensure that you are in compliance with state laws and regulations because state regulations can be more specific and/or restrictive than these Guidelines.

NATURAL HISTORY OF THE BALD EAGLE

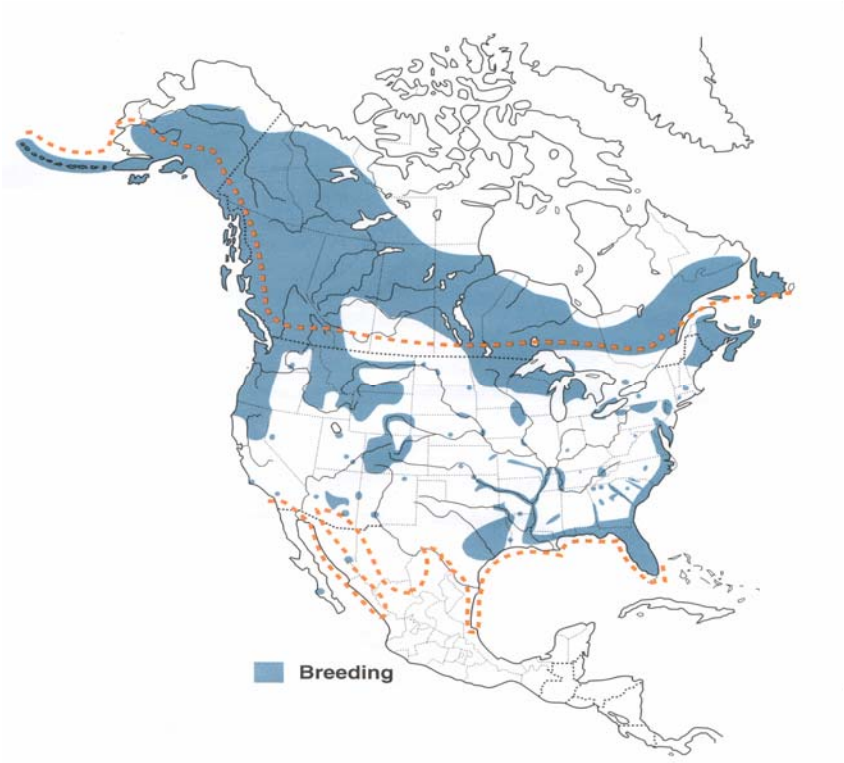
Bald eagles are a North American species that historically occurred throughout the contiguous United States and Alaska. After severely declining in the lower 48 States between the 1870s and the 1970s, bald eagles have rebounded and re-established breeding territories in each of the lower 48 states. The largest North American breeding populations are in Alaska and Canada, but there are also significant bald eagle populations in Florida, the Pacific Northwest, the Greater Yellowstone area, the Great Lakes states, and the Chesapeake Bay region. Bald eagle distribution varies seasonally. Bald eagles that nest in southern latitudes frequently move northward in late spring and early summer, often summering as far north as Canada. Most eagles that breed at northern latitudes migrate southward during winter, or to coastal areas where waters remain unfrozen. Migrants frequently concentrate in large numbers at sites where food is abundant and they often roost together communally. In some cases, concentration areas are used year-round: in summer by southern eagles and in winter by northern eagles.

Juvenile bald eagles have mottled brown and white plumage, gradually acquiring their dark brown body and distinctive white head and tail as they mature. Bald eagles generally attain adult plumage by 5 years of age. Most are capable of breeding at 4 or 5 years of age, but in healthy populations they may not start breeding until much older. Bald eagles may live 15 to 25 years in the wild. Adults weigh 8 to 14 pounds (occasionally reaching 16 pounds in Alaska) and have wingspans of 5 to 8 feet. Those in the northern range are larger than those in the south, and females are larger than males.

Where do bald eagles nest?

Breeding bald eagles occupy "territories," areas they will typically defend against intrusion by other eagles. In addition to the active nest, a territory may include one or more alternate nests (nests built or maintained by the eagles but not used for nesting in a given year). The Eagle Act prohibits removal or destruction of both active and alternate bald eagle nests. Bald eagles exhibit high nest site fidelity and nesting territories are often used year after year. Some territories are known to have been used continually for over half a century.

Bald eagles generally nest near coastlines, rivers, large lakes or streams that support an adequate food supply. They often nest in mature or old-growth trees; snags (dead trees); cliffs; rock promontories; rarely on the ground; and with increasing frequency on human-made structures such as power poles and communication towers. In forested areas, bald eagles often select the tallest trees with limbs strong enough to support a nest that can weigh more than 1,000 pounds. Nest sites typically include at least one perch with a clear view of the water where the eagles usually forage. Shoreline trees or snags located in reservoirs provide the visibility and accessibility needed to locate aquatic prey. Eagle nests are constructed with large sticks, and may be lined with moss, grass, plant stalks, lichens, seaweed, or sod. Nests are usually about 4-6 feet in diameter and 3 feet deep, although larger nests exist.



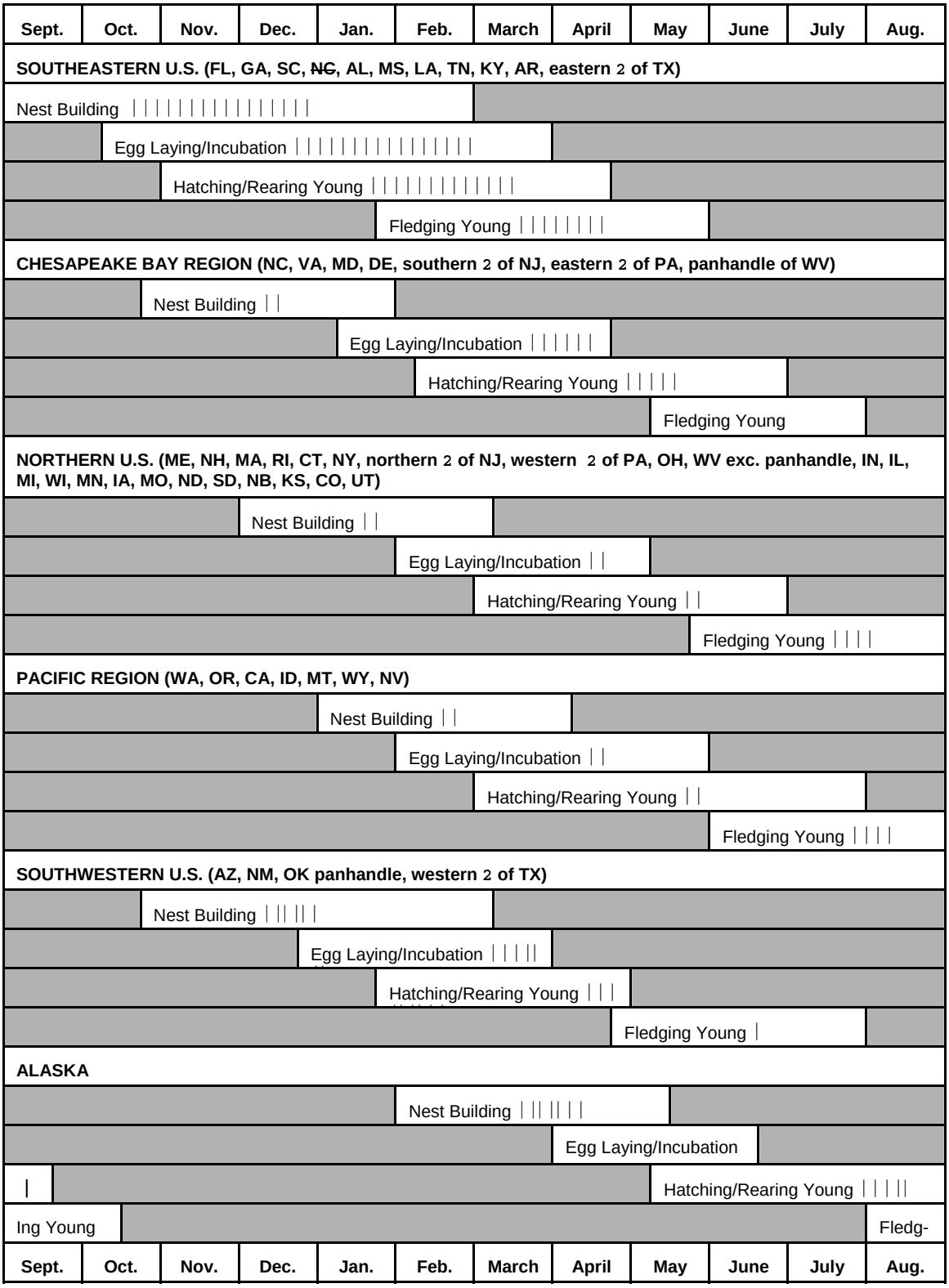
The range of breeding bald eagles in 2000 (shaded areas). This map shows only the larger concentrations of nests; eagles have continued to expand into additional nesting territories in many states. The dotted line represents the bald eagle's wintering range.

When do bald eagles nest?

Nesting activity begins several months before egg-laying. Egg-laying dates vary throughout the U.S., ranging from October in Florida, to late April or even early May in the northern United States. Incubation typically lasts 33-35 days, but can be as long as 40 days. Eaglets make their first unsteady flights about 10 to 12 weeks after hatching, and fledge (leave their nests) within a few days after that first flight. However, young birds usually remain in the vicinity of the nest for several weeks after fledging because they are almost completely dependent on their parents for food until they disperse from the nesting territory approximately 6 weeks later.

The bald eagle breeding season tends to be longer in the southern U.S., and re-nesting following an unsuccessful first nesting attempt is more common there as well. The following table shows the timing of bald eagle breeding seasons in different regions of the country. The table represents the range of time within which the majority of nesting activities occur in each region and does not apply to any specific nesting pair. Because the timing of nesting activities may vary within a given region, you should contact the nearest U.S. Fish and Wildlife Service Field Office (see page 16) and/or your state wildlife conservation agency for more specific information on nesting chronology in your area.

Chronology of typical reproductive activities of bald eagles in the United States.



How many chicks do bald eagles raise?
The number of eagle eggs laid will vary from 1-3, with 1-2 eggs being the most common. Only one eagle egg is laid per day, although not always on successive days. Hatching of young occurs on different days with the result that chicks in the same nest are sometimes of unequal size. The overall national fledging rate is approximately one chick per nest, annually, which results in a healthy expanding population.

What do bald eagles eat?
Bald eagles are opportunistic feeders. Fish comprise much of their diet, but they also eat waterfowl, shorebirds/colonial waterbirds, small mammals, turtles, and carrion. Because they are visual hunters, eagles typically locate their prey from a conspicuous perch, or soaring flight, then swoop down and strike. Wintering bald eagles often congregate in large numbers along streams to feed on spawning salmon or other fish species, and often gather in large numbers in areas below reservoirs, especially hydropower dams, where fish are abundant. Wintering eagles also take birds from rafts of ducks at reservoirs and rivers, and congregate on melting ice shelves to scavenge dead fish from the current or the soft melting ice. Bald eagles will also feed on carcasses along roads, in landfills, and at feedlots.

During the breeding season, adults carry prey to the nest to feed the young. Adults feed their chicks by tearing off pieces of food and holding them to the beaks of the eaglets. After fledging, immature eagles are slow to develop hunting skills, and must learn to locate reliable food sources and master feeding techniques. Young eagles will congregate together, often feeding upon easily acquired food such as carrion and fish found in abundance at the mouths of streams and shallow bays and at landfills.

The impact of human activity on nesting bald eagles
During the breeding season, bald eagles are sensitive to a variety of human activities. However, not all bald eagle pairs react to human activities in the same way. Some pairs nest successfully just dozens of yards from human activity, while others abandon nest sites in response to activities much farther away. This variability may be related to a number of factors, including visibility, duration, noise levels, extent of the area affected by the activity, prior experiences with humans, and tolerance of the individual nesting pair. The relative sensitivity of bald eagles during various stages of the breeding season is outlined in the following table.

Nesting Bald Eagle Sensitivity to Human Activities

Phase	Activity	Sensitivity to Human Activity	Comments
I	Courtship and Nest Building	Most sensitive period; likely to respond negatively	Most critical time period. Disturbance is manifested in nest abandonment. Bald eagles in newly established territories are more prone to abandon nest sites.
II	Egg laying	Very sensitive period	Human activity of even limited duration may cause nest desertion and abandonment of territory for the breeding season.
III	Incubation and early nestling period (up to 4 weeks)	Very sensitive period	Adults are less likely to abandon the nest near and after hatching. However, flushed adults leave eggs and young unattended; eggs are susceptible to cooling, loss of moisture, overheating, and predation; young are vulnerable to elements.
IV	Nestling period, 4 to 8 weeks	Moderately sensitive period	Likelihood of nest abandonment and vulnerability of the nestlings to elements somewhat decreases. However, nestlings may miss feedings, affecting their survival.
V	Nestlings 8 weeks through fledging	Very sensitive period	Gaining flight capability, nestlings 8 weeks and older may flush from the nest prematurely due to disruption and die.

If agitated by human activities, eagles may inadequately construct or repair their nest, may expend energy defending the nest rather than tending to their young, or may abandon the nest altogether. Activities that cause prolonged absences of adults from their nests can jeopardize eggs or young. Depending on weather conditions, eggs may overheat or cool too much and fail to hatch. Unattended eggs and nestlings are subject to predation. Young nestlings are particularly vulnerable because they rely on their parents to provide warmth or shade, without which they may die as a result of hypothermia or heat stress. If food delivery schedules are interrupted, the young may not develop healthy plumage, which can affect their survival. In addition, adults startled while incubating or brooding young may damage eggs or injure their young as they abruptly leave the nest. Older nestlings no longer require constant attention from the adults, but they may be startled by loud or intrusive human activities and prematurely jump from the nest before they are able to fly or care for themselves. Once fledged, juveniles range up to ¼ mile from the nest site, often to a site with minimal human activity. During this period, until about six weeks after departure from the nest, the juveniles still depend on the adults to feed them.

The impact of human activity on foraging and roosting bald eagles

Disruption, destruction, or obstruction of roosting and foraging areas can also negatively affect bald eagles. Disruptive activities in or near eagle foraging areas can interfere with feeding, reducing chances of survival. Interference with feeding can also result in reduced productivity (number of young successfully fledged). Migrating and wintering bald eagles often congregate at specific sites for purposes of feeding and sheltering. Bald eagles rely on established roost sites because of their proximity to sufficient food sources. Roost sites are usually in mature trees where the eagles are somewhat sheltered from the wind and weather. Human activities near or within communal roost sites may prevent eagles

from feeding or taking shelter, especially if there are not other undisturbed and productive feeding and roosting sites available. Activities that permanently alter communal roost sites and important foraging areas can altogether eliminate the elements that are essential for feeding and sheltering eagles.

Where a human activity agitates or bothers roosting or foraging bald eagles to the degree that causes injury or substantially interferes with breeding, feeding, or sheltering behavior and causes, or is likely to cause, a loss of productivity or nest abandonment, the conduct of the activity constitutes a violation of the Eagle Act's prohibition against disturbing eagles. The circumstances that might result in such an outcome are difficult to predict without detailed site-specific information. If your activities may disturb roosting or foraging bald eagles, you should contact your local Fish and Wildlife Service Field Office (see page 16) for advice and recommendations for how to avoid such disturbance.

RECOMMENDATIONS FOR AVOIDING DISTURBANCE AT NEST SITES

In developing these Guidelines, we relied on existing state and regional bald eagle guidelines, scientific literature on bald eagle disturbance, and recommendations of state and Federal biologists who monitor the impacts of human activity on eagles. Despite these resources, uncertainties remain regarding the effects of many activities on eagles and how eagles in different situations may or may not respond to certain human activities. The Service recognizes this uncertainty and views the collection of better biological data on the response of eagles to disturbance as a high priority. To the extent that resources allow, the Service will continue to collect data on responses of bald eagles to human activities conducted according to the recommendations within these Guidelines to ensure that adequate protection from disturbance is being afforded, and to identify circumstances where the Guidelines might be modified. These data will be used to make future adjustments to the Guidelines.

To avoid disturbing nesting bald eagles, we recommend (1) keeping a distance between the activity and the nest (distance buffers), (2) maintaining preferably forested (or natural) areas between the activity and around nest trees (landscape buffers), and (3) avoiding certain activities during the breeding season. The buffer areas serve to minimize visual and auditory impacts associated with human activities near nest sites. Ideally, buffers would be large enough to protect existing nest trees and provide for alternative or replacement nest trees.

The size and shape of effective buffers vary depending on the topography and other ecological characteristics surrounding the nest site. In open areas where there are little or no forested or topographical buffers, such as in many western states, distance alone must serve as the buffer. Consequently, in open areas, the distance between the activity and the nest may need to be larger than the distances recommended under Categories A and B of these guidelines (pg. 12) if no landscape buffers are present. The height of the nest above the ground may also ameliorate effects of human activities; eagles at higher nests may be less prone to disturbance.

In addition to the physical features of the landscape and nest site, the appropriate size for the distance buffer may vary according to the historical tolerances of eagles to human activities in particular localities, and may also depend on the location of the nest in relation

to feeding and roosting areas used by the eagles. Increased competition for nest sites may lead bald eagles to nest closer to human activity (and other eagles).

Seasonal restrictions can prevent the potential impacts of many shorter-term, obtrusive activities that do not entail landscape alterations (e.g. fireworks, outdoor concerts). In proximity to the nest, these kinds of activities should be conducted only outside the breeding season. For activities that entail both short-term, obtrusive characteristics and more permanent impacts (e.g., building construction), we recommend a combination of both approaches: retaining a landscape buffer *and* observing seasonal restrictions.

For assistance in determining the appropriate size and configuration of buffers or the timing of activities in the vicinity of a bald eagle nest, we encourage you to contact the nearest U.S. Fish and Wildlife Service Field Office (see page 16).

Existing Uses

Eagles are unlikely to be disturbed by routine use of roads, homes, and other facilities where such use pre-dates the eagles' successful nesting activity in a given area. Therefore, in most cases *ongoing* existing uses may proceed with the same intensity with little risk of disturbing bald eagles. However, some *intermittent, occasional, or irregular* uses that pre-date eagle nesting in an area may disturb bald eagles. For example: a pair of eagles may begin nesting in an area and subsequently be disturbed by activities associated with an annual outdoor flea market, even though the flea market has been held annually at the same location. In such situations, human activity should be adjusted or relocated to minimize potential impacts on the nesting pair.

ACTIVITY-SPECIFIC GUIDELINES

The following section provides the Service=s management recommendations for avoiding bald eagle disturbance as a result of new or intermittent activities proposed in the vicinity of bald eagle nests. Activities are separated into 8 categories (A – H) based on the nature and magnitude of impacts to bald eagles that usually result from the type of activity. Activities with similar or comparable impacts are grouped together.

In most cases, impacts will vary based on the visibility of the activity from the eagle nest and the degree to which similar activities are already occurring in proximity to the nest site. Visibility is a factor because, in general, eagles are more prone to disturbance when an activity occurs in full view. For this reason, we recommend that people locate activities farther from the nest structure in areas with open vistas, in contrast to areas where the view is shielded by rolling topography, trees, or other screening factors. The recommendations also take into account the existence of similar activities in the area because the continued presence of nesting bald eagles in the vicinity of the existing activities indicates that the eagles in that area can tolerate a greater degree of human activity than we can generally expect from eagles in areas that experience fewer human impacts. To illustrate how these factors affect the likelihood of disturbing eagles, we have incorporated the recommendations for some activities into a table (categories A and B).

First, determine which category your activity falls into (between categories A – H). If the activity you plan to undertake is not specifically addressed in these guidelines, follow the recommendations for the most similar activity represented.

If your activity is under A or B, our recommendations are in table form. The vertical axis shows the degree of visibility of the activity from the nest. The horizontal axis (header row) represents the degree to which similar activities are ongoing in the vicinity of the nest. Locate the row that best describes how visible your activity will be from the eagle nest. Then, choose the column that best describes the degree to which similar activities are ongoing in the vicinity of the eagle nest. The box where the column and row come together contains our management recommendations for how far you should locate your activity from the nest to avoid disturbing the eagles. The numerical distances shown in the tables are the closest the activity should be conducted relative to the nest. In some cases we have included additional recommendations (other than recommended *distance* from the nest) you should follow to help ensure that your activity will not disturb the eagles.

Alternate nests

For activities that entail permanent landscape alterations that may result in bald eagle disturbance, these recommendations apply to both active and alternate bald eagle nests. Disturbance becomes an issue with regard to alternate nests if eagles return for breeding purposes and react to land use changes that occurred while the nest was inactive. The likelihood that an alternate nest will again become active decreases the longer it goes unused. If you plan activities in the vicinity of an alternate bald eagle nest and have information to show that the nest has not been active during the preceding 5 breeding seasons, the recommendations provided in these guidelines for avoiding disturbance around the nest site may no longer be warranted. The nest itself remains protected by other provisions of the Eagle Act, however, and may not be destroyed.

If special circumstances exist that make it unlikely an inactive nest will be reused before 5 years of disuse have passed, and you believe that the probability of reuse is low enough to warrant disregarding the recommendations for avoiding disturbance, you should be prepared to provide all the reasons for your conclusion, including information regarding past use of the nest site. Without sufficient documentation, you should continue to follow these guidelines when conducting activities around the nest site. If we are able to determine that it is unlikely the nest will be reused, we may advise you that the recommendations provided in these guidelines for avoiding disturbance are no longer necessary around that nest site.

This guidance is intended to minimize disturbance, as defined by Federal regulation. In addition to Federal laws, most states and some tribes and smaller jurisdictions have additional laws and regulations protecting bald eagles. In some cases those laws and regulations may be more protective (restrictive) than these Federal guidelines.

Temporary Impacts

For activities that have temporary impacts, such as the use of loud machinery, fireworks displays, or summer boating activities, we recommend seasonal restrictions. These types of activities can generally be carried out outside of the breeding season without causing disturbance. The recommended restrictions for these types of activities can be lifted for alternate nests within a particular territory, including nests that were attended during the current breeding season but not used to raise young, after eggs laid in another nest within the territory have hatched (depending on the distance between the alternate nest and the active nest).

In general, activities should be kept as far away from nest trees as possible; loud and disruptive activities should be conducted when eagles are not nesting; and activity between the nest and the nearest foraging area should be minimized. If the activity you plan to undertake is not specifically addressed in these guidelines, follow the recommendations for the most similar activity addressed, or contact your local U.S. Fish and Wildlife Service Field Office for additional guidance.

If you believe that special circumstances apply to your situation that increase or diminish the likelihood of bald eagle disturbance, or if it is not possible to adhere to the guidelines, you should contact your local Service Field Office for further guidance.

Category A:
Building construction, 1 or 2 story, with project footprint of ½ acre or less.
Construction of roads, trails, canals, power lines, and other linear utilities.
Agriculture and aquaculture – new or expanded operations.
Alteration of shorelines or wetlands.
Installation of docks or moorings.
Water impoundment.

Category B:
Building construction, 3 or more stories.
Building construction, 1 or 2 story, with project footprint of more than ½ acre.
Installation or expansion of marinas with a capacity of 6 or more boats.
Mining and associated activities.
Oil and natural gas drilling and refining and associated activities.

	If there is no similar activity within 1 mile of the nest	***If there is similar activity closer than 1 mile from the nest***
If the activity will be visible from the nest	660 feet. Landscape buffers are recommended.	660 feet, or as close as existing tolerated activity of similar scope. Landscape buffers are recommended.
If the activity will not be visible from the nest	Category A: 330 feet. Clearing, external construction, and landscaping between 330 feet and 660 feet should be done outside breeding season. Category B: 660 feet.	330 feet, or as close as existing tolerated activity of similar scope. Clearing, external construction and landscaping within 660 feet should be done outside breeding season.

The numerical distances shown in the table are the closest the activity should be conducted relative to the nest.

Category C. Timber Operations and Forestry Practices

- Avoid clear cutting or removal of overstory trees within 330 feet of the nest at any time.

- Avoid timber harvesting operations, including road construction and chain saw and yarding operations, during the breeding season within 660 feet of the nest. The distance may be decreased to 330 feet around alternate nests within a particular territory, including nests that were attended during the current breeding season but not used to raise young, after eggs laid in another nest within the territory have hatched.

- Selective thinning and other silviculture management practices designed to conserve or enhance habitat, including prescribed burning close to the nest tree, should be undertaken outside the breeding season. Precautions such as raking leaves and woody debris from around the nest tree should be taken to prevent crown fire or fire climbing the nest tree. If it is determined that a burn during the breeding season would be beneficial, then, to ensure that no take or disturbance will occur, these activities should be conducted only when neither adult eagles nor young are present at the nest tree (i.e., at the beginning of, or end of, the breeding season, either before the particular nest is active or after the young have fledged from that nest). Appropriate Federal and state biologists should be consulted before any prescribed burning is conducted during the breeding season.

- Avoid construction of log transfer facilities and in-water log storage areas within 330 feet of the nest.

Category D. Off-road vehicle use (including snowmobiles). No buffer is necessary around nest sites outside the breeding season. During the breeding season, do not operate off-road vehicles within 330 feet of the nest. In open areas, where there is increased visibility and exposure to noise, this distance should be extended to 660 feet.

Category E. Motorized Watercraft use (including jet skis/personal watercraft). No buffer is necessary around nest sites outside the breeding season. During the breeding season, within 330 feet of the nest, (1) do not operate jet skis (personal watercraft), and (2) avoid concentrations of noisy vessels (e.g., commercial fishing boats and tour boats), except where eagles have demonstrated tolerance for such activity. Other motorized boat traffic passing within 330 feet of the nest should attempt to minimize trips and avoid stopping in the area where feasible, particularly where eagles are unaccustomed to boat traffic. Buffers for airboats should be larger than 330 feet due to the increased noise they generate, combined with their speed, maneuverability, and visibility.

Category F. Non-motorized recreation and human entry (e.g., hiking, camping, fishing, hunting, birdwatching, kayaking, canoeing). No buffer is necessary around nest sites outside the breeding season. If the activity will be visible or highly audible from the nest, maintain a 330-foot buffer during the breeding season, particularly where eagles are unaccustomed to such activity.

Category G. Helicopters and fixed-wing aircraft.
Except for authorized biologists trained in survey techniques, avoid operating aircraft within 1,000 feet of the nest during the breeding season, except where eagles have demonstrated tolerance for such activity.

Category H. Blasting and other loud, intermittent noises.
Avoid blasting and other activities that produce extremely loud noises within 1/2 mile of active nests, unless greater tolerance to the activity (or similar activity) has been demonstrated by the eagles in the nesting area. This recommendation applies to the use of fireworks classified by the Federal Department of Transportation as Class B explosives, which includes the larger fireworks that are intended for licensed public display.

RECOMMENDATIONS FOR AVOIDING DISTURBANCE AT FORAGING AREAS AND COMMUNAL ROOST SITES

1. Minimize potentially disruptive activities and development in the eagles' direct flight path between their nest and roost sites and important foraging areas.

2. Locate long-term and permanent water-dependent facilities, such as boat ramps and marinas, away from important eagle foraging areas.

3. Avoid recreational and commercial boating and fishing near critical eagle foraging areas during peak feeding times (usually early to mid-morning and late afternoon), except where eagles have demonstrated tolerance to such activity.

4. Do not use explosives within ½ mile (or within 1 mile in open areas) of communal roosts when eagles are congregating, without prior coordination with the U.S. Fish and Wildlife Service and your state wildlife agency.

5. Locate aircraft corridors no closer than 1,000 feet vertical or horizontal distance from communal roost sites.

ADDITIONAL RECOMMENDATIONS TO BENEFIT BALD EAGLES

The following are additional management practices that landowners and planners can exercise for added benefit to bald eagles.

1. Protect and preserve potential roost and nest sites by retaining mature trees and old growth stands, particularly within ½ mile from water.

2. Where nests are blown from trees during storms or are otherwise destroyed by the elements, continue to protect the site in the absence of the nest for up to three (3) complete breeding seasons. Many eagles will rebuild the nest and reoccupy the site.

3. To avoid collisions, site wind turbines, communication towers, and high voltage transmission power lines away from nests, foraging areas, and communal roost sites.

4. Employ industry-accepted best management practices to prevent birds from colliding with or being electrocuted by utility lines, towers, and poles. If possible, bury utility lines in important eagle areas.

5. Where bald eagles are likely to nest in human-made structures (e.g., cell phone towers) and such use could impede operation or maintenance of the structures or jeopardize the safety of the eagles, equip the structures with either (1) devices engineered to discourage bald eagles from building nests, or (2) nesting platforms that will safely accommodate bald eagle nests without interfering with structure performance.

6. Immediately cover carcasses of euthanized animals at landfills to protect eagles from being poisoned.

7. Do not intentionally feed bald eagles. Artificially feeding bald eagles can disrupt their essential behavioral patterns and put them at increased risk from power lines, collision with windows and cars, and other mortality factors.

8. Use pesticides, herbicides, fertilizers, and other chemicals only in accordance with Federal and state laws.

9. Monitor and minimize dispersal of contaminants associated with hazardous waste sites (legal or illegal), permitted releases, and runoff from agricultural areas, especially within watersheds where eagles have shown poor reproduction or where bioaccumulating contaminants have been documented. These factors present a risk of contamination to eagles and their food sources.

CONTACTS

The following U.S. Fish and Wildlife Service Field Offices provide technical assistance on bald eagle management:

Alabama	Daphne	(251) 441-5181
Alaska	Anchorage	(907) 271-2888
	Fairbanks	(907) 456-0203
	Juneau	(907) 780-1160
Arizona	Phoenix	(602) 242-0210
Arkansas	Conway	(501) 513-4470
California	Arcata	(707) 822-7201
	Barstow	(760) 255-8852
	Carlsbad	(760) 431-9440
	Red Bluff	(530) 527-3043
	Sacramento	(916) 414-6000
	Stockton	(209) 946-6400
	Ventura	(805) 644-1766
	Yreka	(530) 842-5763
Colorado	Lakewood	(303) 275-2370
	Grand Junction	(970) 243-2778
Connecticut	(See New Hampshire)	
Delaware	(See Maryland)	
Florida	Panama City	(850) 769-0552
	Vero Beach	(772) 562-3909
	Jacksonville	(904) 232-2580
Georgia	Athens	(706) 613-9493
	Brunswick	(912) 265-9336
	Columbus	(706) 544-6428
Idaho	Boise	(208) 378-5243
	Chubbuck	(208) 237-6975
Illinois/Iowa	Rock Island	(309) 757-5800
Indiana	Bloomington	(812) 334-4261
Kansas	Manhattan	(785) 539-3474
Kentucky	Frankfort	(502) 695-0468
Louisiana	Lafayette	(337) 291-3100
Maine	Old Town	(207) 827-5938
Maryland	Annapolis	(410) 573-4573
Massachusetts	(See New Hampshire)	
Michigan	East Lansing	(517) 351-2555
Minnesota	Bloomington	(612) 725-3548
Mississippi	Jackson	(601) 965-4900
Missouri	Columbia	(573) 234-2132
Montana	Helena	(405) 449-5225
Nebraska	Grand Island	(308) 382-6468
Nevada	Las Vegas	(702) 515-5230
	Reno	(775) 861-6300
New Hampshire	Concord	(603) 223-2541
New Jersey	Pleasantville	(609) 646-9310
New Mexico	Albuquerque	(505) 346-2525
New York	Cortland	(607) 753-9334
	Long Island	(631) 776-1401
North Carolina	Raleigh	(919) 856-4520
	Asheville	(828) 258-3939
North Dakota	Bismarck	(701) 250-4481
Ohio	Reynoldsburg	(614) 469-6923
Oklahoma	Tulsa	(918) 581-7458
Oregon	Bend	(541) 383-7146
	Klamath Falls	(541) 885-8481
	La Grande	(541) 962-8584
	Newport	(541) 867-4558
	Portland	(503) 231-6179
	Roseburg	(541) 957-3474
Pennsylvania	State College	(814) 234-4090
Rhode Island	(See New Hampshire)	
South Carolina	Charleston	(843) 727-4707
South Dakota	Pierre	(605) 224-8693
Tennessee	Cookeville	(931) 528-6481
Texas	Clear Lake	(281) 286-8282
Utah	West Valley City	(801) 975-3330
Vermont	(See New Hampshire)	
Virginia	Gloucester	(804) 693-6694
Washington	Lacey	(306) 753-9440
	Spokane	(509) 891-6839
	Wenatchee	(509) 665-3508
West Virginia	Elkins	(304) 636-6586
Wisconsin	New Franken	(920) 866-1725
Wyoming	Cheyenne	(307) 772-2374
	Cody	(307) 578-5939

National Office
U.S. Fish and Wildlife Service
Division of Migratory Bird Management
4401 North Fairfax Drive, MBSP-4107
Arlington, VA 22203-1610
(703) 358-1714
http://www.fws.gov/migratorybirds

State Agencies

To contact a state wildlife agency, visit the Association of Fish & Wildlife Agencies' website at http://www.fishwildlife.org/where_us.html

GLOSSARY

The definitions below apply to these National Bald Eagle Management Guidelines:

Communal roost sites – Areas where bald eagles gather and perch overnight – and sometimes during the day in the event of inclement weather. Communal roost sites are usually in large trees (live or dead) that are relatively sheltered from wind and are generally in close proximity to foraging areas. These roosts may also serve a social purpose for pair bond formation and communication among eagles. Many roost sites are used year after year.

Disturb – To agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

In addition to immediate impacts, this definition also covers impacts that result from human-caused alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle=s return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering habits and causes, or is likely to cause, a loss of productivity or nest abandonment.

Fledge – To leave the nest and begin flying. For bald eagles, this normally occurs at 10-12 weeks of age.

Fledgling – A juvenile bald eagle that has taken the first flight from the nest but is not yet independent.

Foraging area – An area where eagles feed, typically near open water such as rivers, lakes, reservoirs, and bays where fish and waterfowl are abundant, or in areas with little or no water (i.e., rangelands, barren land, tundra, suburban areas, etc.) where other prey species (e.g., rabbit, rodents) or carrion (such as at landfills) are abundant.

Landscape buffer – A natural or human-made landscape feature that screens eagles from human activity (e.g., strip of trees, hill, cliff, berm, sound wall).

Nest – A structure built, maintained, or used by bald eagles for the purpose of reproduction. An **active** nest is a nest that is attended (built, maintained or used) by a pair of bald eagles during a given breeding season, whether or not eggs are laid. An **alternate** nest is a nest that is not used for breeding by eagles during a given breeding season.

Nest abandonment – Nest abandonment occurs when adult eagles desert or stop attending a nest and do not subsequently return and successfully raise young in that nest for the duration of a breeding season. Nest abandonment can be caused by altering habitat near a nest, even if the alteration occurs prior to the breeding season. Whether the eagles migrate during the non-breeding season, or remain in the area throughout the non-breeding season, nest abandonment can occur at any point between the time the eagles return to the nesting site for the breeding season and the time when all progeny from the breeding season have

dispersed.

Project footprint – The area of land (and water) that will be permanently altered for a development project, including access roads.

Similar scope – In the vicinity of a bald eagle nest, an existing activity is of similar scope to a new activity where the types of impacts to bald eagles are similar in nature, and the impacts of the existing activity are of the same or greater magnitude than the impacts of the potential new activity. Examples: (1) An existing single-story home 200 feet from a nest is similar in scope to an additional single-story home 200 feet from the nest; (2) An existing multi-story, multi-family dwelling 150 feet from a nest has impacts of a greater magnitude than a potential new single-family home 200 feet from the nest; (3) One existing single-family home 200 feet from the nest has impacts of a lesser magnitude than three single-family homes 200 feet from the nest; (4) an existing single-family home 200 feet from a communal roost has impacts of a lesser magnitude than a single-family home 300 feet from the roost but 40 feet from the eagles' foraging area. The existing activities in examples (1) and (2) are of similar scope, while the existing activities in example (3) and (4) are not.

Vegetative buffer – An area surrounding a bald eagle nest that is wholly or largely covered by forest, vegetation, or other natural ecological characteristics, and separates the nest from human activities.

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APPENDIX C-11

Migratory Bird and Eagle Avoidance Measures for Oil and Gas

Oklahoma Ecological Services Field Office Migratory Bird and Eagle Impact Avoidance Measures for Actions Associated with Oil and Gas Projects

April 2014

Note to Users: This U.S. Fish and Wildlife Service (Service) document is intended to assist the oil and gas industry with project evaluation and compliance with the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) for activities within Oklahoma. These recommendations may also be useful for other industries and activities in Oklahoma. Guidance herein may also be useful in planning by agencies and organizations concerned with protecting avian resources, such as the Avian Power Line Interaction Committee (APLIC). The APLIC recently released an updated version of their guidance document entitled, Reducing Avian Collisions with Power Lines: State of the Art in 2012, available at ***www.aplic.org***.

The following are general considerations that may apply to most, but not every situation that may occur during oil and gas activities within Oklahoma. Additional conservation measures may be considered and/or required to avoid or minimize impacts to eagles and other species of migratory birds.

With the exception of Arizona, the bald eagle is no longer protected under the Endangered Species Act. However, eagles (both bald eagles and golden eagles) in the United States are protected by the BGEPA, in addition to the MBTA. The BGEPA prohibits the take, possession, sale, purchase, barter, offer to sell, purchase, or barter, transport, export or import, of any eagle, alive or dead, including any part, nest, or egg, unless authorized by permit. Further, activities that would disturb an eagle are prohibited under the BGEPA. "Disturb" means to agitate or bother an eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. If a proposed project or action would occur in areas where there are nesting, feeding, or roosting eagles, proponents of the project may need to take additional conservation measures to comply with BGEPA. New regulations (50 CFR § 22.26 and § 22.27) allow the take of eagles and their nests, respectively, to protect interests in a particular locality. However, consultation with the Service's Migratory Bird, Ecological Services, and Law Enforcement programs will be required before a permit may be issued for such take.

If eagles might be taken in association with oil and gas activities in a given area, the responsible party should develop an Eagle Conservation Plan and apply for a take permit under the BGEPA. Relevant recommendations and guidance can be accessed on the Service's Eagle Management web page: ***http://www.fws.gov/migratorybirds/BaldAndGoldenEagleManagement.htm***.

AVOIDING AND MINIMIZING NEGATIVE IMPACTS TO EAGLES

Both bald and golden eagles occur in Oklahoma. The western portion of Oklahoma has a small nesting population of golden eagles. Some golden eagles also winter throughout the state. However, this document primarily focuses on bald eagles, which have a larger population (both nesting and wintering) in Oklahoma. Please contact the Oklahoma Ecological Services Field Office for more information regarding potential impacts to golden eagles.

I. Thoroughly Document Area Use by Bald Eagles

For bald eagles, use Appendix 2 of the Service's 2009 Bald Eagle Post-delisting Monitoring Standard Operating Procedures to conduct aerial surveys for nests and communal roost sites. This protocol should be used for any aspect of oil and gas activities. Persons conducting bald eagle nest surveys must have previous experience conducting eagle nest surveys. Eagle nest surveys must be conducted during winter, when leaves are off deciduous trees. This protocol only applies to nesting bald eagles. Refer to the following website for the most recent version: ***http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BaldEagle/NationalBaldEagleManagementGuidelines.pdf***

Avoidance measures for eagles include protection of nests and nest sites, nesting adults, eggs, nestlings, and fledglings. Eagle nest surveys must be conducted prior to activities that may alter potential nest site habitat. Not all eagle nest locations are documented and new nests are found each year, as the resident population of bald eagles in Oklahoma expands. Examples of activities that may harm a nest or nest tree include construction of pads, roads, pipelines, and distribution lines. It is paramount to collect information regarding bald eagles well in advance of construction activities.

Surveys could be conducted from the ground or from aircraft. Ground-based surveys may be most appropriate for open terrain with good access for ground survey crews. Aerial surveys may provide the best coverage for large areas with rugged terrain (i.e., inaccessible by ground) and heavily forested areas.

Ground Surveys – Methods for nest surveys must be consistent with accepted, published methodologies and consider species-specific characteristics, terrain, vegetation, and accessibility of the survey area. Smaller projects with limited and open nesting habitat can be effectively surveyed from the ground by qualified observers with experience in identifying eagle nests. Survey routes or transects must adequately cover all potential nesting habitat. Potential eagle nests must be documented with photographs and GPS locations. If observers are unsure of species and occupancy status, and it's during what could be laying through early nestling stages, observers should avoid line-of-sight closer than 660' (per National Bald Eagle Management Guidelines) and return during what normally would be late nestling to fledging stage, or observe activity with scope from a distance (> 660' line-of-sight) for 4+ hours under good weather conditions to validate species and occupancy status.

At minimum, appropriate search protocol for each site must include timing and number of surveys needed, search area, and search techniques. Selecting the method with the lowest probability of causing disturbance to target species is a key element when developing survey protocols. Protocols should follow the most recent recommendations from the Service.

II. Avoidance and Minimization Measures for Bald Eagles

Examples of oil and gas activities that may harm an eagle nest or nest tree include construction of pads, roads, pipelines, and electrical distribution lines. If an oil and gas activity is proposed within 1 mile of a critical component of the bald eagle's life history, such as a nest, communal roost site, river, or freshwater wetland or reservoir covering more than 20 acres, measures listed below, or similar measures approved by the Service should be implemented. These critical life history needs are hereafter referred to as Eagle Use Areas (EUAs).

Bald eagles occurring in a given area throughout the year may also include migrants, overwintering individuals, immature and sub-adult residents, and non-breeding adult residents. Some oil and gas related activities could affect eagles and EUAs. All eagle life history stages should be considered when attempting to avoid and minimize negative impacts. In order to avoid take of bald eagles and their habitats, use the following recommendations as follows:

a) For a complete description of how to avoid negative impacts to bald eagle nests refer to the National Bald Eagle Guidelines on pages 12-15. ***http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BaldEagle/NationalBaldEagleManagementGuidelines.pdf***

b) All flared gases should produce no exposed flames and ends of pipes for flaring gases should be fitted with devices that deter birds from perching.

c) For a given project, avoid locating electrical distribution lines in EUAs or else bury lines.

d) If a new electrical distribution line cannot be buried in an EUA, it should be marked with special diverter devices, per the Service recommendations in APLIC 2012, to alert birds to the line so they can more readily avoid it. As a minimization measure for the above ground electrical distribution lines in EUAs, if possible, mark an equal amount of existing electrical distribution lines within 1 mile of other EUAs.

e) All power poles within an EUA should be designed to protect eagles from electrocution risk, following standard practices in the APLIC document referenced above.

f) As a minimization measure, pre-existing electrical distribution lines and power poles in EUAs also need to be marked per Service recommendations in APLIC 2012.

Before eagle nest surveys are conducted, check with appropriate state agencies or interest groups to determine what data is already available.

AVOIDING AND MINIMIZING NEGATIVE IMPACTS TO OTHER SPECIES OF MIGRATORY BIRDS

The MBTA prohibits the taking, killing, possession, and transportation and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by a permit from the Service or by regulations. However, there is no provision for incidental take under the MBTA. Species of birds protected by the MBTA are listed in 75 FR 9282 or on the Service's website:
http://www.fws.gov/migratorybirds/RegulationsPolicies/mbta/mbtandx.html

Recommendations for avoiding and minimizing potential impacts to migratory birds are provided in Appendix A. Additional information may be obtained through the Service's Migratory Birds Division.

Suggested Conservation Actions for Projects to Avoid or Minimize Potential for Take of Protected Species of Migratory Birds

U.S. Fish and Wildlife Service, Division of Migratory Birds, Southwest Region
P.O. Box 1306, Albuquerque, NM 87103; Phone 505-248-6878

May 2013

The Migratory Bird Treaty Act (MBTA, 16 U.S.C. 703-712) prohibits, among other actions, the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior through a permit or other regulation. Protected species of birds are listed under Title 50, Code of Federal Regulations, Part 10. Currently 1,007 species of birds are protected by the MBTA, including nearly all species that are native to the United States.

Activities that involve modification of habitats in which birds are nesting, or occurring adjacent to habitats in which birds are nesting may take protected birds through direct mortality of eggs, nestlings, or adults, or indirectly by causing nest abandonment, thereby leading to death of eggs or nestlings. The MBTA is a strict liability statute, in that the developer need not know that the nesting birds are present and potentially at risk by the development activities. There is also no permit available under the MBTA that will authorize the unintentional take of migratory birds. The only way to ensure compliance with the MBTA is to avoid the take altogether. Below are suggestions for minimizing or eliminating the potential for take during construction activities.

1. Conduct the activity outside the local nesting season so there are no active nests of birds that may be inadvertently damaged or destroyed by the project actions, and no need to conduct surveys for active nests.

2. Minimize the loss, destruction, or degradation of migratory bird habitat during the local nesting season if activities must occur during that timeframe. Within the Southwest Region, although most species nest between early April and mid-August, some nesting activity may occur during all months of the year depending on location. In desert regions, for example, nesting may begin in January and continue into November. Some eagles, owls, and finches may nest in mid-winter. Due to this variability, project proponents should contact the U.S. Fish and Wildlife Service's (Service) Regional Migratory Bird Office (see above) for details on timing of nesting in the area of the project. The proponent should be knowledgeable of which species may nest outside of the core "nesting season" that is often cited by various entities.

3. Document extent of below- and above-ground construction activities and the habitats through which those will pass. Recommendations on avoidance practices, timing of surveys, and the suite of species potentially affected may differ accordingly.

4. For projects planned well in advance, clearing of vegetation in the year prior to construction (outside the nesting season) may discourage future nesting attempts of birds in the proposed project area, thereby decreasing chance of take during construction activities.

5. If a proposed project or action may take migratory birds through disturbance or alteration of nesting habitat, and work cannot occur outside the local nesting season, project proponents should provide the Service with an explanation for why work has to occur during the migratory bird nesting season. In these cases, project proponents should also demonstrate that all efforts to complete the work outside the migratory bird nesting season were attempted, and that the reasons work needs to be completed during the nesting season were beyond the proponent's control.

6. To determine if migratory birds are nesting on-site and therefore potentially at risk by the activity, project proponents should conduct initial general surveys of the project area during the best biological timeframe for detecting the presence of the locally nesting birds (to locate potential territories that may be in harm's way), followed by nest searches in the project area shortly before the disturbance will occur (ideally within a week of the start of construction due to the speed with which nests may be built). Contact the Service's Division of Migratory Birds for survey protocol recommendations.

   Except for the nests of large species, bird nests are well hidden and very difficult to find, and nest searches can be time intensive. Surveyors must be experienced in locating nests, as doing so successfully often relies on the ability to interpret subtle behavioral cues by the adult birds. Project proponents should also be aware that results of migratory bird surveys are subject to spatial and temporal variability and should be conducted at the most appropriate times of day and season for detection of territories and ultimately nests.

7. If no migratory birds are found nesting in proposed project or action areas immediately prior to the time when construction and associated activities are to occur, then the project activity may proceed as planned.

8. If protected species of birds are present and nesting in the proposed project or action area when project activities are slated to occur, contact your nearest Service Ecological Services Field Office and the Service's Regional Division of Migratory Birds for guidance on appropriate next steps for minimizing risk of violating the MBTA.

* These proposed conservation measures presume that no Endangered or Threatened animal or plant species (including migratory birds) exist in the project/action area. If Endangered or Threatened species are or potentially could be present and the project/action may affect these species, then consult with your nearest Service Ecological Services Office before proceeding with any project/action.

** The MBTA prohibits the taking, killing, possession, and transportation, (among other actions) of migratory birds, their eggs, parts, and nests, except when specifically permitted by regulations. Although the Act has no provision for allowing unintentional take, the Service realizes that some birds may be killed due to construction activities, even if all known reasonable and effective measures to protect birds are used. The Service's Office of Law Enforcement (OLE) carries out its mission to protect migratory birds through investigations and enforcement, as well as by fostering relationships with individuals, companies, and industries that have taken effective steps to avoid take of migratory birds and by encouraging others to implement measures to avoid take of migratory birds. It is not possible to absolve individuals, companies, or agencies from liability even if they implement bird mortality avoidance or other similar protective measures. However, the OLE focuses its resources on investigating and prosecuting individuals and companies that take migratory birds without identifying and implementing all reasonable, prudent and effective measures to avoid that take. Companies are encouraged to work closely with Service biologists to identify available protective measures when developing project plans and/or avian protection plans, and to implement those measures prior to/during construction or similar activities.

*** Bald and golden eagles receive additional protection under the BGEPA. BGEPA prohibits the take, possession, sale, purchase, barter, offer to sell, purchase, or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit. Further, activities that would disturb bald or golden eagles are prohibited under BGEPA. "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. If a proposed project or action would occur in areas where nesting, feeding, or roosting eagles occur, then project proponents may need to take additional conservation measures to achieve compliance with BGEPA. Regulations at 50 CFR 22.26 and 22.27 allow the take of bald and golden eagles and their nests, respectively, to protect interests in a particular locality. Consultation with the Migratory Bird and Ecological Services programs of the Service will be required before a permit may be considered.

**** Under the Service's Nest Destruction Policy, empty nests (except for eagles) may be destroyed without need for a permit from the Service. See the policy language below.

MBPM-2
Date: April 15, 2003

MIGRATORY BIRD PERMIT MEMORANDUM

SUBJECT: Nest Destruction

PURPOSE: The purpose of the memorandum is to clarify the application of the Migratory Bird Treaty Act (MBTA) to migratory bird nest destruction, and to provide guidance for advising the public regarding this issue.

POLICY: The MBTA does not contain any prohibition that applies to the destruction of a migratory bird nest alone (without birds or eggs), provided that no possession occurs during the destruction. To minimize MBTA violations, Service employees should make every effort to inform the public of how to minimize the risk of taking migratory bird species whose nesting behaviors make it difficult to determine occupancy status or continuing nest dependency.

The MBTA specifically protects migratory bird nests from *possession, sale, purchase, barter, transport, import,* and *export*, and *take*. The other prohibitions of the MBTA – *capture*, *pursue*, *hunt*, and *kill* – are inapplicable to nests. The regulatory definition of *take*, as defined by 50 CFR 10.12, *means to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue hunt, shoot, wound, kill, trap, capture, or collect*. Only *collect* applies to nests.

While it is illegal to collect, possess, and by any means transfer possession of any migratory bird nest, the MBTA does not contain any prohibition that applies to the destruction of a bird nest alone (without birds or eggs), provided that no possession occurs during the destruction. The MBTA does not authorize the Service to issue permits in situations in which the prohibitions of the Act do not apply, such as the destruction of unoccupied nests. (Some unoccupied nests are legally protected by statutes other than the MBTA, including nests of threatened and endangered migratory bird species and bald and golden eagles, within certain parameters.)

However, the public should be made aware that, while destruction of a nest by itself is not prohibited under the MBTA, nest destruction that results in the unpermitted take of migratory birds or their eggs, is illegal and fully prosecutable under the MBTA.

Due to the biological and behavioral characteristics of some migratory bird species, destruction of their nests entails an elevated degree of risk of violating the MBTA. For example, colonial nesting birds are highly vulnerable to disturbance; the destruction of unoccupied nests during or near the nesting season could result in a significant level of take. Another example involves ground nesting species such as burrowing owls and bank swallows, which nest in cavities in the ground, making it difficult to detect whether or not their nests are occupied by eggs or nestlings or are otherwise still essential to the survival of the juvenile birds.

The Service should make every effort to raise public awareness regarding the possible presence of birds and the risk of violating the MBTA, the Endangered Species Act (ESA), and the Bald and Golden Eagle Protection Act (BGEPA), and should inform the public of factors that will help minimize the likelihood that take would occur should nests be destroyed (i.e., when active nesting season normally occurs).

The Service should also take care to discern that persons who request MBTA permits for nest destruction are not targeting nests of endangered or threatened species or bald or golden eagles, so that the public can be made aware of the prohibitions of the ESA and the BGEPA against nest destruction.

In situations where it is necessary (i.e., for public safety) to remove (destroy) a nest that is occupied by eggs or nestlings or is otherwise still essential to the survival of a juvenile bird, and a permit is available pursuant to 50 CFR parts 13 and 21, the Service may issue a permit to take individual birds.

Note: A signed version of this Policy may be found at:

http://www.fws.gov/migratorybirds/mbpermits/PoliciesHandbooks/MBPM-2.nest.PDF

LITERATURE CITED

U.S. Fish and Wildlife Service. 2007. National Bald Eagle Guidelines. U.S. Fish and Wildlife Service, Divisions of Endangered Species and Migratory Birds and State Programs, Washington, D.C. 25 pp.

U.S. Fish and Wildlife Service. 2009. Post-delisting Monitoring Plan for the Bald Eagle (*Haliaeetus leucocephalus*) in the Contiguous 48 States. U.S. Fish and Wildlife Service, Divisions of Endangered Species and Migratory Birds and State Programs, Midwest Regional Office, Twin Cities, Minnesota. 75 pp.

Avian Power Line Interaction Committee (APLIC), 2012. Suggested Practices for Avian Protection on Power Lines: The State of Art in 2012. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, D.C. and Sacramento, CA.

APPENDIX D

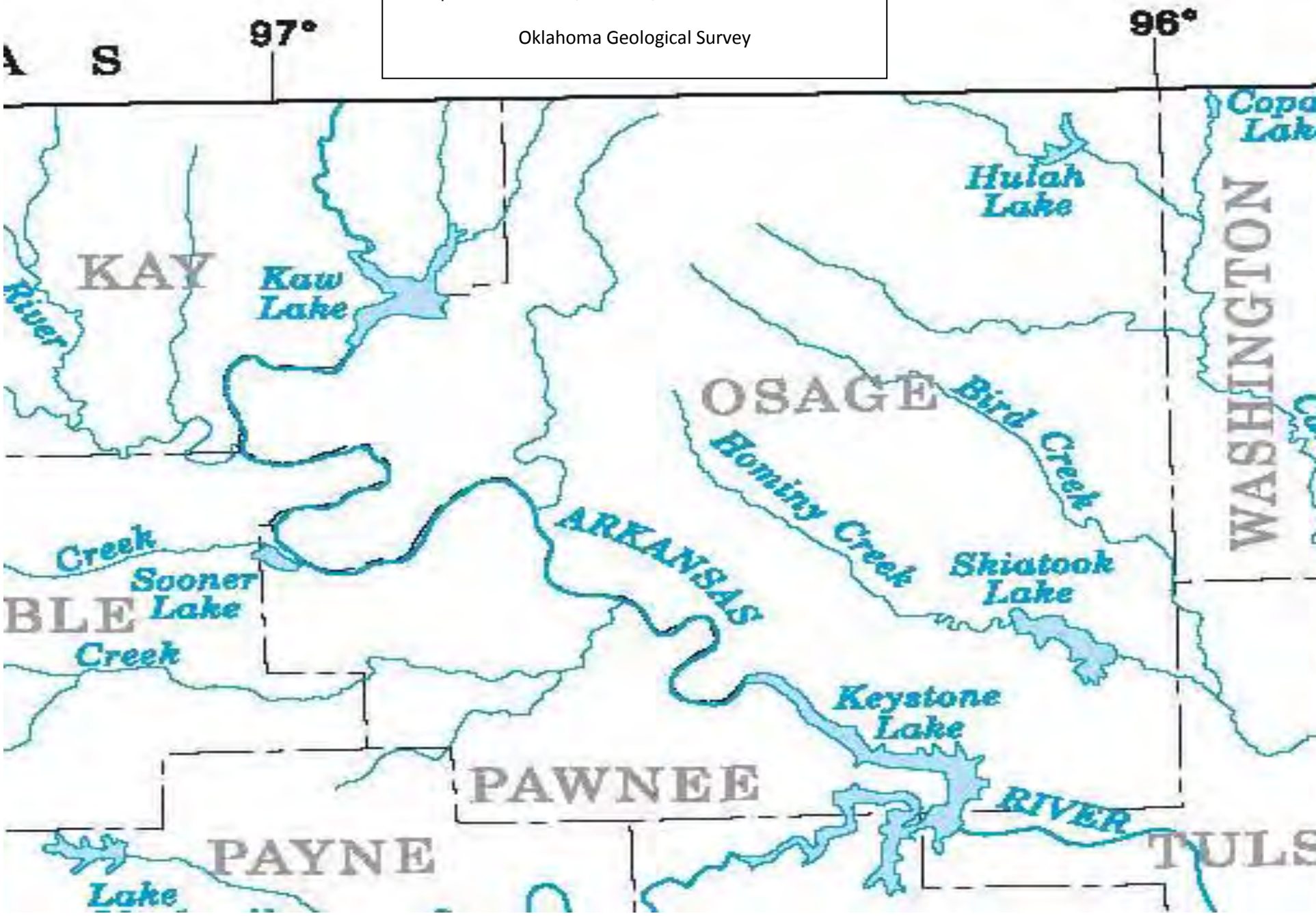
WATER RESOURCES

APPENDIX D-1

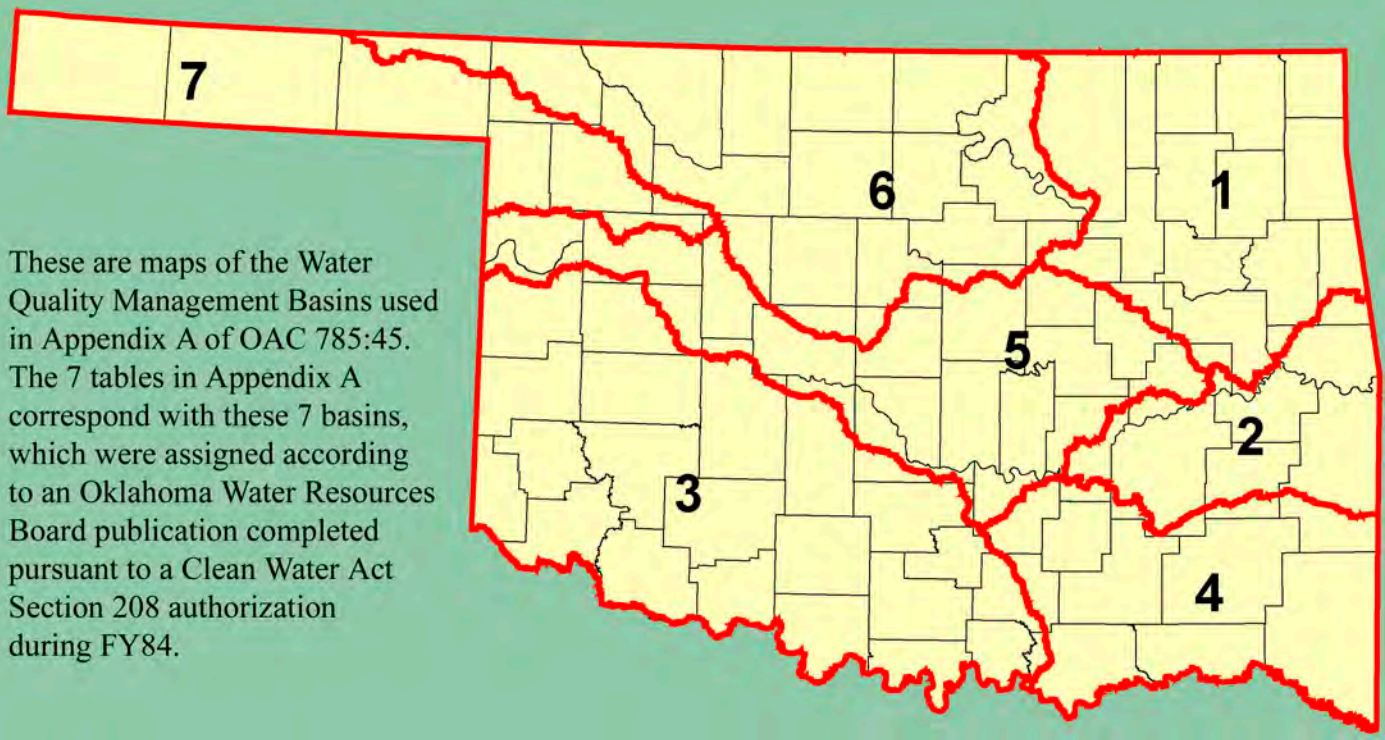
WATER QUALITY AND GROUNDWATER

Excerpted from Rivers, Streams, and Lakes of Oklahoma

Oklahoma Geological Survey



Water Quality Management Basin Numbers



These are maps of the Water Quality Management Basins used in Appendix A of OAC 785:45. The 7 tables in Appendix A correspond with these 7 basins, which were assigned according to an Oklahoma Water Resources Board publication completed pursuant to a Clean Water Act Section 208 authorization during FY84.


121400
121510
121300
121610
1
6
121600
121500
121700
120420
120410
120400
5
2
2

U.S. Fish and Wildlife Service
National Wetlands Inventory

B-12 and B-13

August 25, 2025

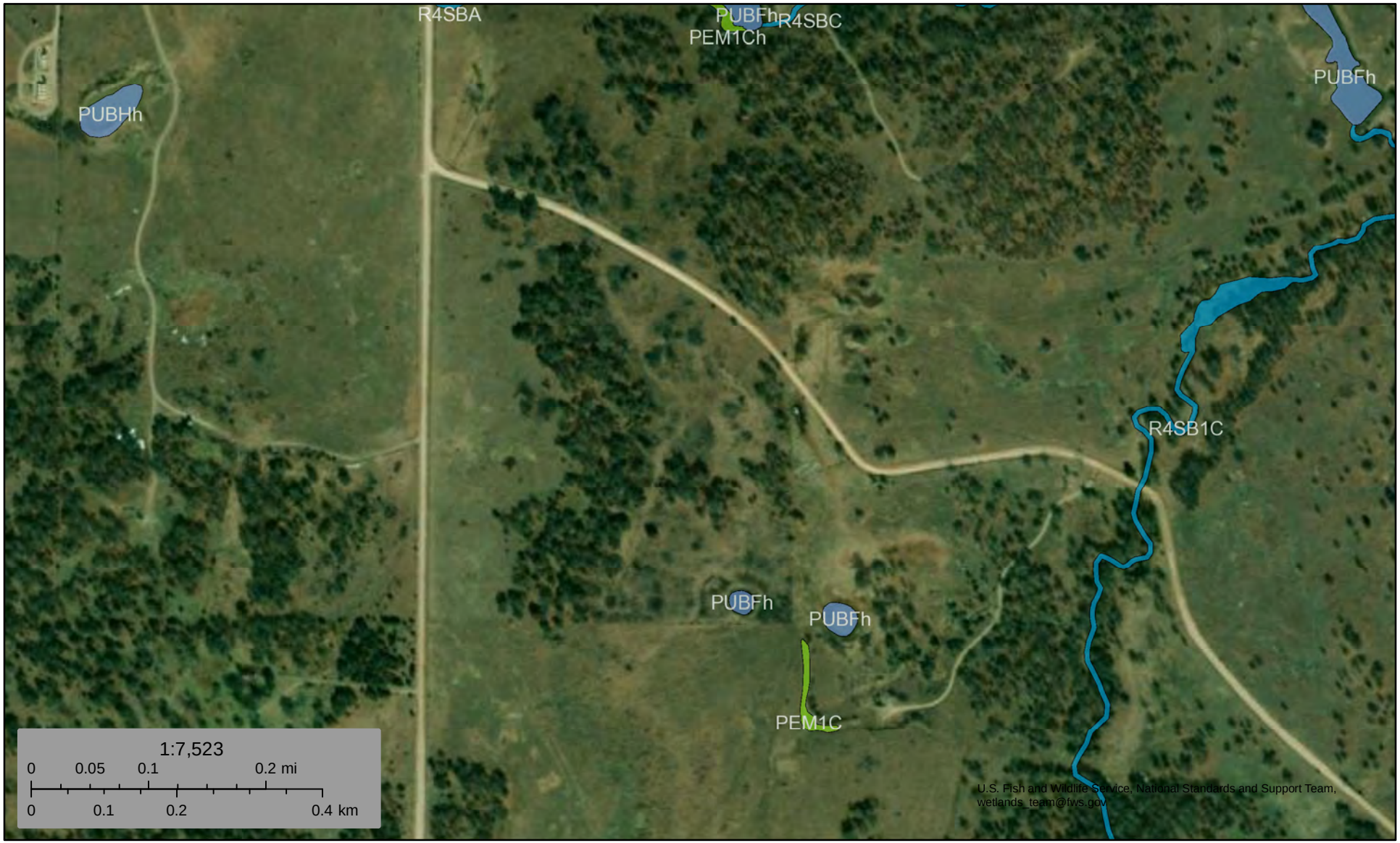
Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

U.S. Fish and Wildlife Service
National Wetlands Inventory

100



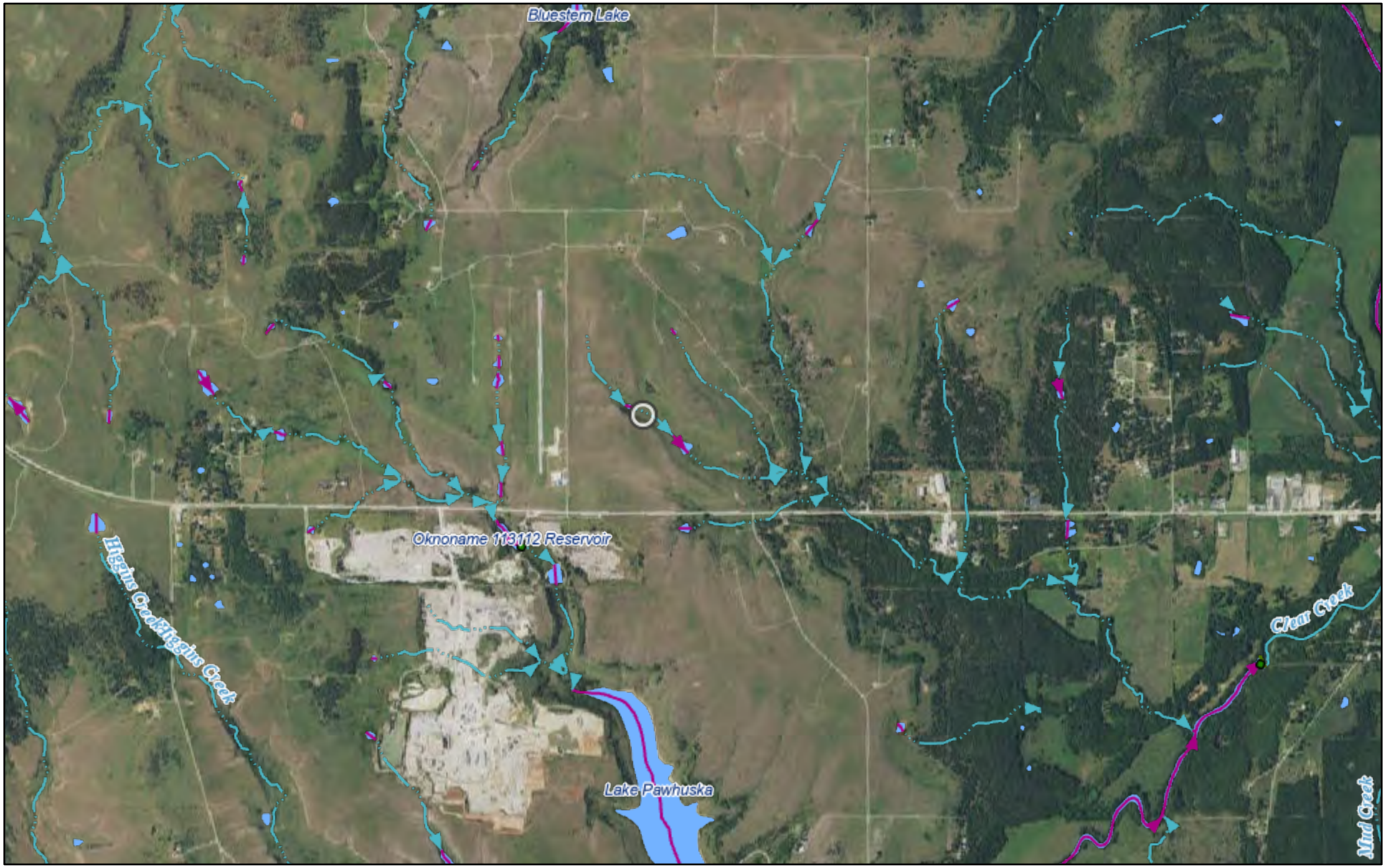
August 27, 2025

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

B-12, B-13, B-15, B-16



8/27/2025

Point Event

Line - Large Scale

Line

Flow Direction

StreamRiver - Intermittent

Artificial Path

Flowline - Large Scale

Perennial

Intermittent

Artificial Path

Area - Large Scale

StreamRiver

Waterbody - Large Scale

Lake Pond

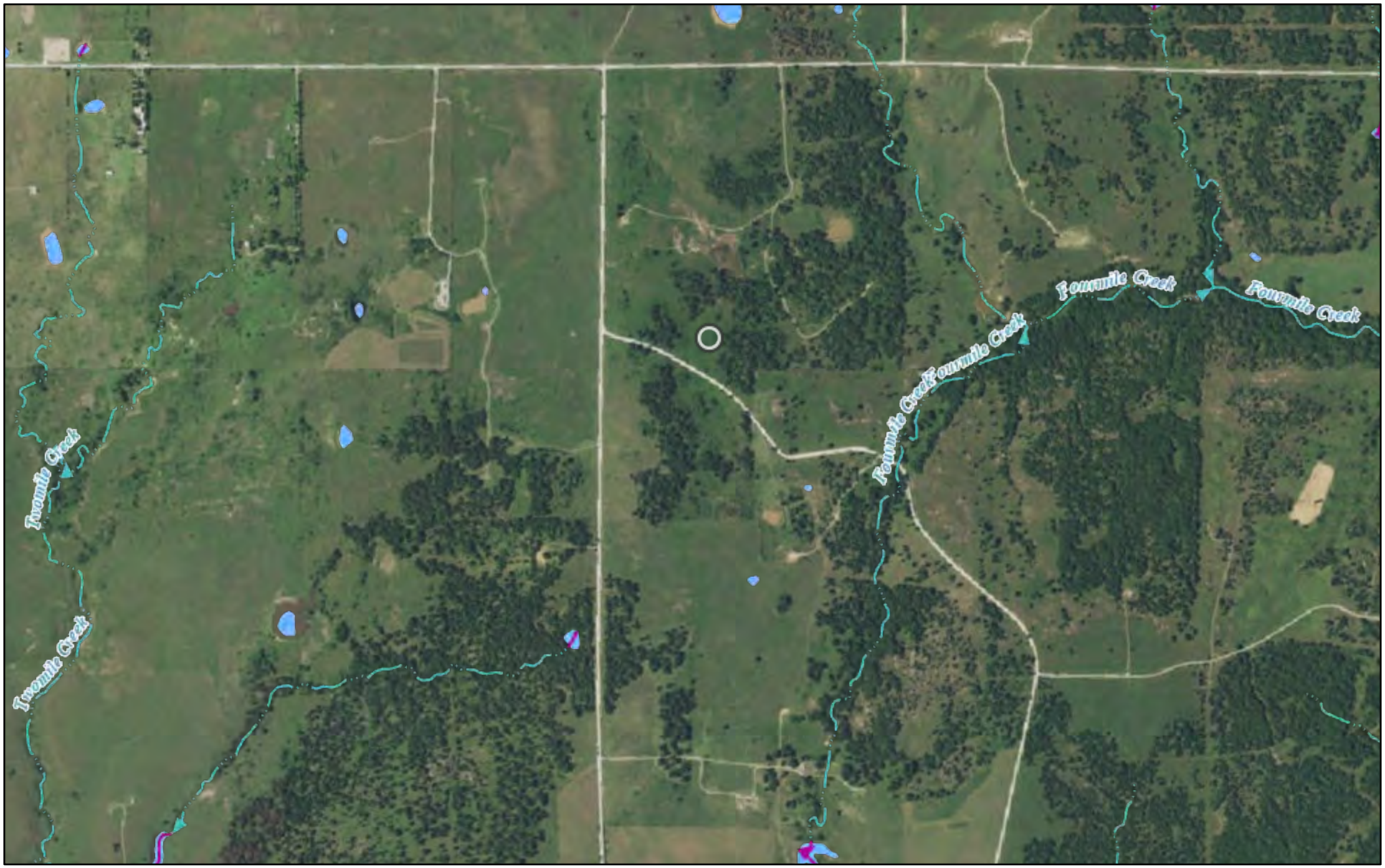
Layers

Red: Band_1

Green: Band_2

Blue: Band_3

USDA, USGS The National Map: Orthoimagery. Data refreshed June, 2024., USGS TNM – National Hydrography Dataset. Data Refreshed June, 2025.



8/27/2025

Flow Direction
- StreamRiver - Intermittent
- Artificial Path

Flowline - Large Scale
- Perennial
- Intermittent
- Artificial Path

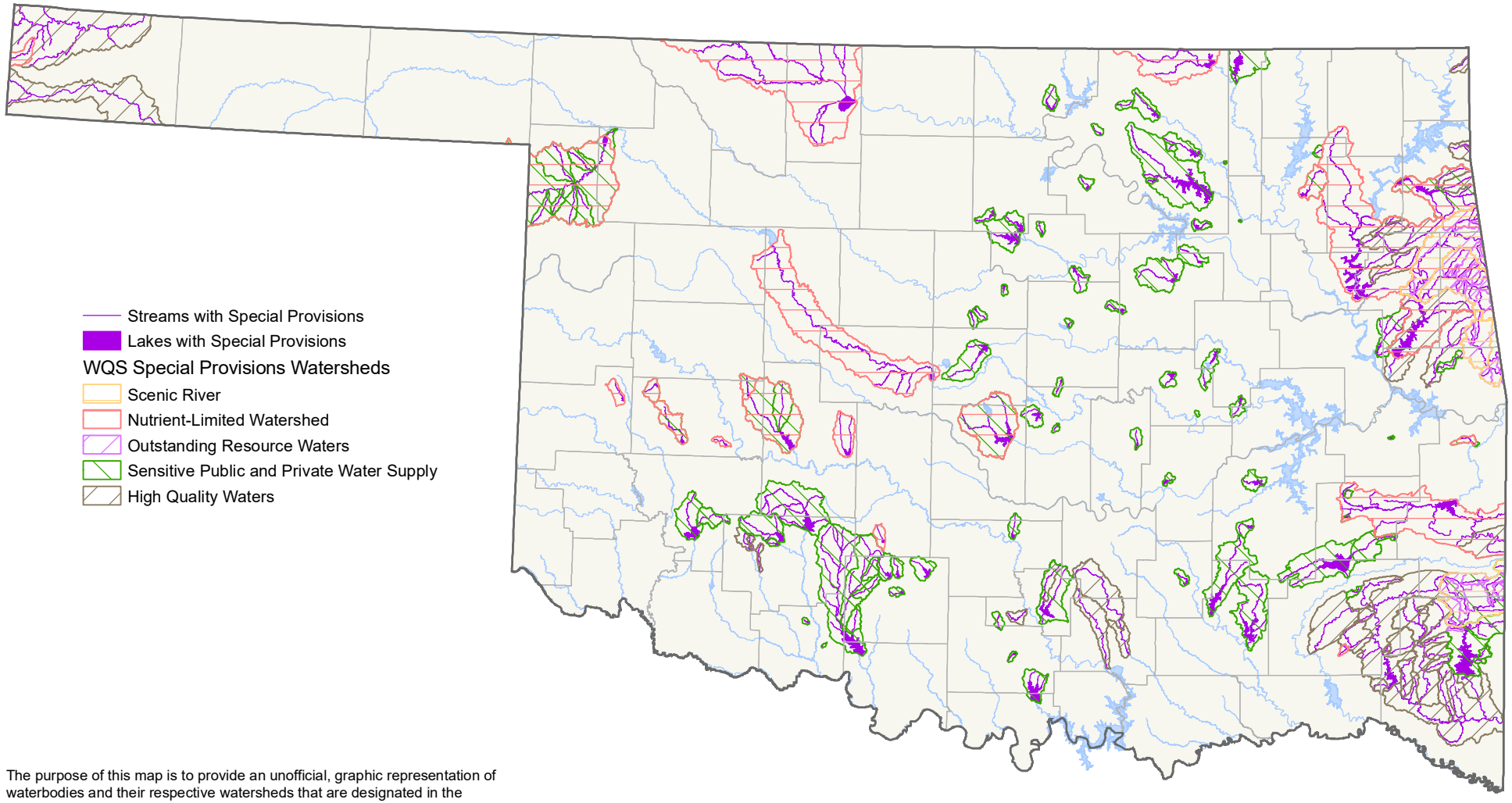
Waterbody - Large Scale
- Lake Pond

Layers
- Red: Band_1
- Green: Band_2
- Blue: Band_3

USDA, USGS The National Map: Orthoimagery. Data refreshed June, 2024., USGS TNM – National Hydrography Dataset. Data Refreshed June, 2025.

Oklahoma Water Quality Standards

Waterbodies and Watersheds with Special Provisions

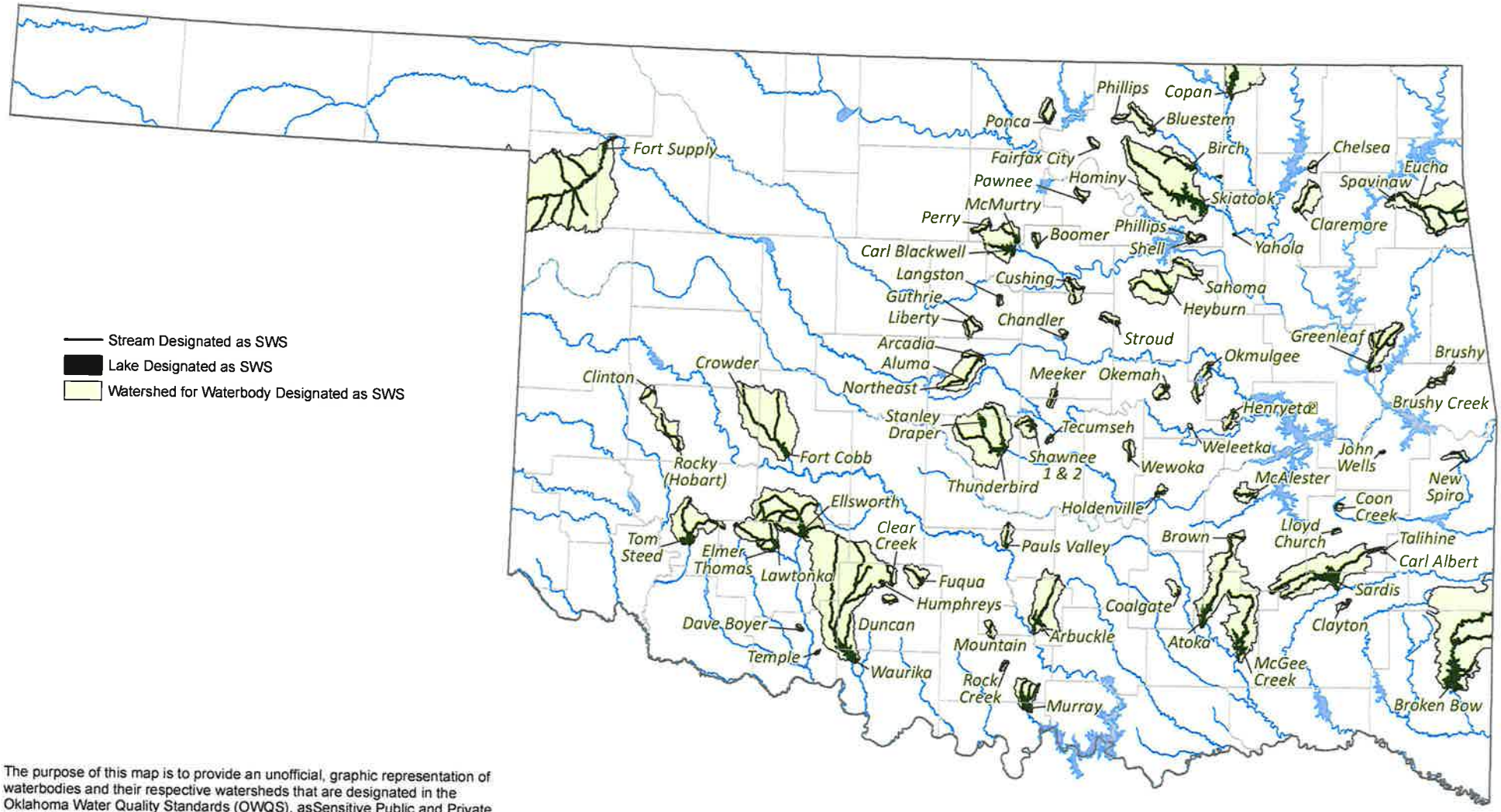


The purpose of this map is to provide an unofficial, graphic representation of waterbodies and their respective watersheds that are designated in the Oklahoma Water Quality Standards (OWQS), with Special Provisions. The official version of the OWQS is published by the Oklahoma Secretary of State in the Oklahoma Administrative Code at Title 785, Chapter 45 (http://www.sos.ok.gov). A complete but unofficial version of the OWQS is available through the OWRB homepage (http://www.owrb.ok.gov).
7/1/2011

State of Oklahoma
OWRB
Water Resources Board
the water agency

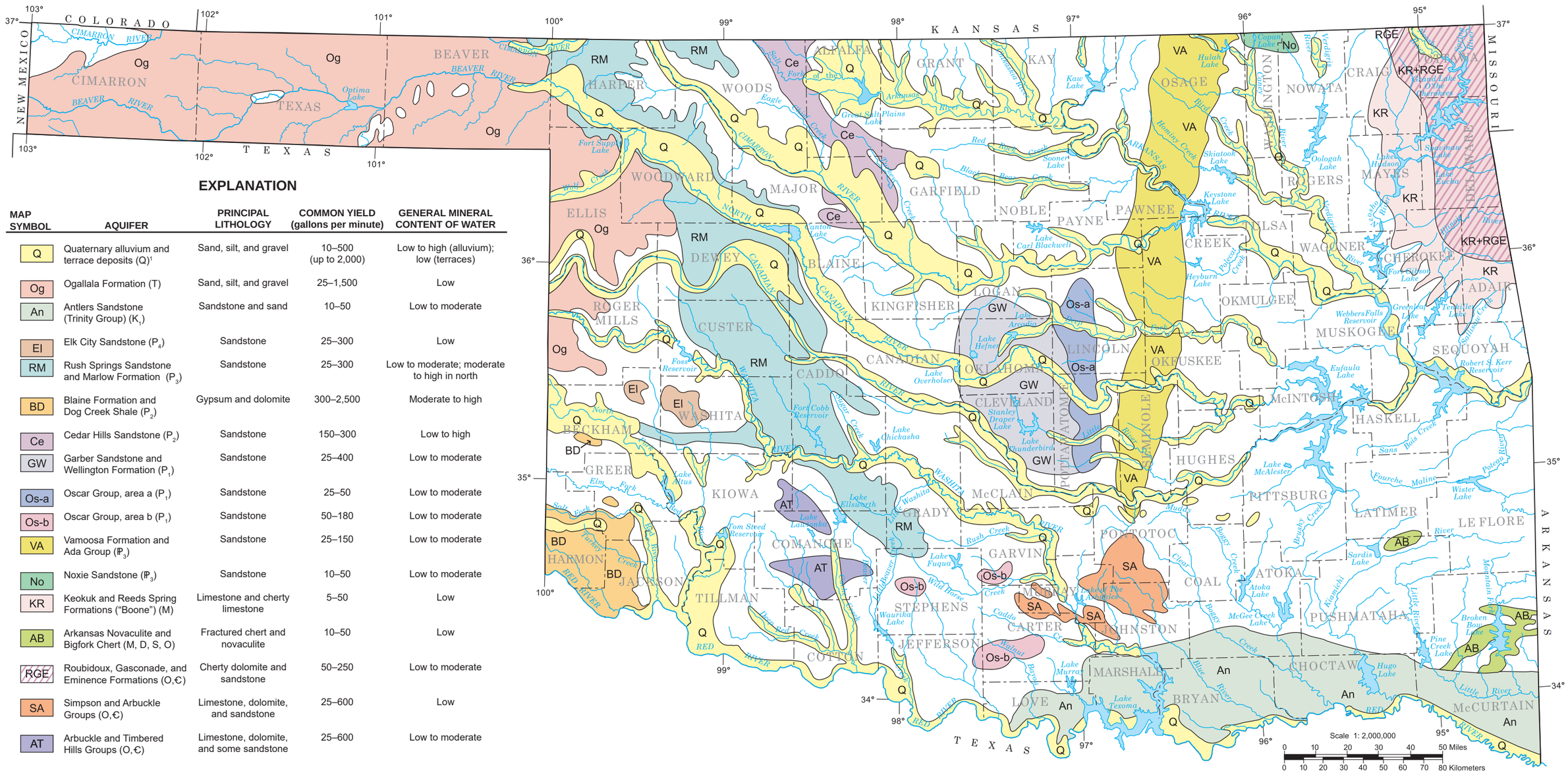
Oklahoma Water Quality Standards

Sensitive Public and Private Water Supplies (SWS)



The purpose of this map is to provide an unofficial, graphic representation of waterbodies and their respective watersheds that are designated in the Oklahoma Water Quality Standards (OWQS), asSensitive Public and Private Water Supplies (SWS). The official version of the OWQS is published by the Oklahoma Secretary of State in the Oklahoma Administrative Code at Title 785, Chapter 45 (http://www.sos.ok.gov). A complete but unofficial version of the OWQS is available through the OWRB homepage (http://www.owrb.ok.gov).
7/1/2011

State of Oklahoma
OWRB
WATER RESOURCES BOARD
the water agency



[1]Symbols in parentheses indicate geologic age, as shown on the Geologic Map of Oklahoma on page 6.

PRINCIPAL GROUND-WATER RESOURCES OF OKLAHOMA

Kenneth S. Johnson, Oklahoma Geological Survey

An “aquifer” consists of rocks and sediments saturated with good- to fair-quality water, and that is permeable to yield water from wells at rates greater than 25 gal/min (gallons per minute). This map shows the distribution of the principal aquifers in Oklahoma and was from Marcher (1969), Marcher and Bingham (1971), Hart (1974), Bingham and Moore (1975), Carr and Bergman (1976), Havens (1977), Bingham and Bergman (1980), Morton (1981), Marcher and Bergman (1983), and Johnson (1983).

Bedrock aquifers in Oklahoma consist of sandstone, sand, limestone, dolomite, gypsum, or fractured novaculite and chert. Aquifer thicknesses range from 100 ft to several thousand feet. Depth to fresh water ranges from a few feet to more than 1,000 ft; most wells are 100–400 ft deep. Wells in these aquifers yield 25–300 gal/min, although some wells yield as much as 600–2,500 gal/min. Water in most bedrock aquifers has low to moderate mineral content, about 300–1,500 milligrams per liter dissolved solids.

Ground water is also present in Quaternary alluvium and terrace deposits that consist mainly of unconsolidated sand, silt, clay, and gravel. “Alluvium” refers to sediments in present-day stream channels or plains, whereas “terrace deposits” refer to older alluvium that remains (usually at an elevation above the present-day plain) after a stream shifts its position or cuts a deeper channel. Alluvium and terrace deposits are among the most recent geologic deposits; therefore, they overlie bedrock aquifers where the two are mapped together. The thickness of Quaternary deposits ranges from 10 to 50 ft (locally up to 100 ft). Wells in alluvium and terrace deposits yield 10–500 gal/min of water (locally several thousand gal/min); most of this ground water has less than 1,000 milligrams per liter dissolved solids.

Fresh water stored in Oklahoma aquifers results from the downward movement of meteoric (precipitation) and surface waters that enter each aquifer at its recharge area. Fresh water may displace saline water that originally may have occupied parts of the aquifer. The system is dynamic; water percolating downward to the water table recharges the aquifer continuously. The vertical or horizontal rate of ground-water in the aquifers probably ranges from 5 to 100 ft per year; under certain geologic and hydrologic conditions, such as in cavernous or highly fractured rocks, can range up to more than 1,000 ft per year.

Large areas of Oklahoma, shown uncolored on the map, are underlain mostly by shale or other low-permeability rocks that typically yield only enough water for household use (about 1–5 gal/min). Highly mineralized (saline) water, for most uses, is present beneath fresh-water zones in these rocks, and beneath fresh-water aquifers. The depth to the top of this saline water ranges from less than 100 ft in some places, up to 3,000 ft in the Arbuckle Mountains.

The Oklahoma Water Resources Board (1990) estimated that Oklahoma’s principal aquifers contain 320 million acre-feet of fresh water, perhaps half of which is recoverable for use. Wells and springs tapping these aquifers currently supply more than 60% of the water used in Okla-

Waterbody ID	Waterbody Name	Size (Lake Acres or Stream Miles)	Type	Category	Aesthetic	Agriculture	Cool Water Aquatic Comm	Habitat Limited Aquatic Comm	Trout Fishery	Warm Water Aquatic Comm	Fish Consumption	Navigation	Primary Body Contact Rec	Secondary Body Contact Rec	Public and Private Water Supply	Emergency Water Supply	High Quality Water	Outstanding Resource Water	Sensitive Water Supply
OK121300030060_00	Choteau Creek	7.68	R	3	X	X				X	X		X						
OK121300030070_00	Bird Creek, Unnamed Tributary of	2.68	R	3	X	X		X			X			X					
OK121300030080_00	Pennel Creek	2.89	R	3	X	X				X	X		X						
OK121300030090_00	Red Eagle Branch	3.12	R	3	X	X				X	X		X						
OK121300030100_00	Cedar Creek	4.80	R	3	X	X				X	X		X						
OK121300030110_00	Cochahee Creek	3.94	R	3	X	X				X	X		X						
OK121300030120_00	Nelagone Creek	5.17	R	3	X	X				X	X		X						
OK121300030130_00	Buffalo Creek	5.32	R	3	X	X				X	X		X						
OK121300030140_00	Saucy Calf Creek	4.05	R	3	X	X				X	X		X						
OK121300030150_00	McCormick Creek	2.86	R	3	X	X				X	X		X						
OK121300030160_00	Quapaw Creek	4.43	R	3	X	X				X	X		X						
OK121300030170_00	Rush Creek	2.43	R	3	X	X				X	X		X						
OK121300030180_00	Soldier Creek	4.02	R	3	X	X				X	X		X						
OK121300030190_00	Mud Creek	2.53	R	3	X	X				X	X		X						
OK121300030200_00	Clear Creek	20.09	R	2	F	F				I	X		I		X				
OK121300030210_00	Cedar Canyon Creek	3.37	R	3	X	X				X	X		X						
OK121300030220_00	Pawhuska Creek	1.97	R	3	X	X				X	X		X						
OK121300030230_00	Pawhuska Lake	96	L	2	F	F				I	I		F		I				
OK121300030240_00	Higgins Creek	3.07	R	3	X	X				X	X		X						
OK121300030250_00	Maher Creek	2.84	R	3	X	X				X	X		X						
OK121300030260_00	Baconrind Creek	5.81	R	3	X	X				X	X		X						
OK121300030270_00	Mud Creek	5.02	R	3	X	X				X	X		X						
OK121300030280_00	Bird Creek, Middle	2.19	R	3	X	X				X	X		X		X				*
OK121300030290_00	Bird Creek, Middle	10.44	R	3	X	X				I	X		X		X				*
OK121300030300_00	**Bluestem Lake**	**762**	**L**	**5a**	F	F				**N**	F		F		F				*
OK121300030310_00	Bird Creek, South	5.39	R	3	X	X				X	X		X		X				*
OK121300030320_00	Bird Creek, North	19.55	R	2	F	F				I	X		I						
OK121300030330_00	Hickory Creek	4.11	R	3	X	X				X	X		X						
OK121300040010_00	**Hominy Creek**	**12.75**	**R**	**5a**	F	F				**N**	X		**N**		I				
OK121300040020_00	Rock Creek	10.40	R	3	X	X				X	X		X						
OK121300040030_00	Quapaw Creek	8.84	R	2	X	X				F	X		X						

F = Fully Supporting I = Insufficient Information X = Not Assessed **N = Not Supporting**

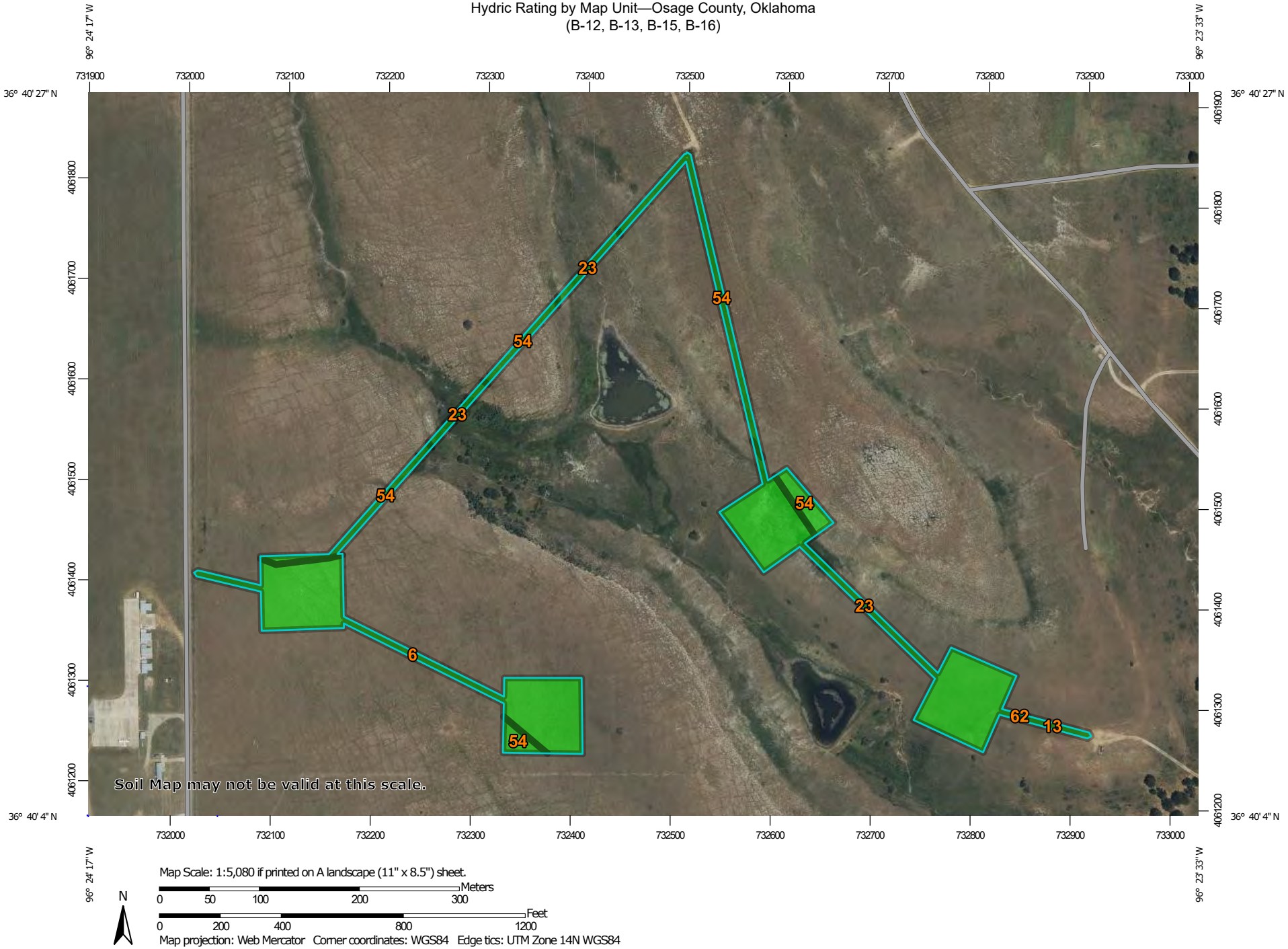
Waterbody ID	Waterbody Name	Size (Lake Acres or Stream Miles)	Type	Category	Aesthetic	Agriculture	Cool Water Aquatic Comm	Habitat Limited Aquatic Comm	Trout Fishery	Warm Water Aquatic Comm	Fish Consumption	Navigation	Primary Body Contact Rec	Secondary Body Contact Rec	Public and Private Water Supply	Emergency Water Supply	High Quality Water	Outstanding Resource Water	Sensitive Water Supply
OK121300010150_00	**Delaware Creek**	**26.26**	**R**	**5a**	F	**N**				**N**	X		F		I				
OK121300010160_00	Goose Creek	3.08	R	3	X	X				X	X		X						
OK121300010170_00	Turkey Creek	6.24	R	3	X	X				X	X		X						
OK121300010180_00	Dirty Butter Creek, Unknown Trib of	1.61	R	3	X	X				X	X		X						
OK121300010200_00	Coal Creek, Unnamed Trib of	2.35	R	3	X	X				X	X		X						
OK121300010220_00	Elm Creek, Unnamed Trib of	2.43	R	3	X	X				X	X		X						
OK121300020010_00	Bird Creek	4.24	R	2	F	F				F	F		I		F				
OK121300020010_10	Bird Creek	35.63	R	2	F	F				F	X		F		I				
OK121300020030_00	Charley Creek	5.56	R	3	X	X				X	X		X						
OK121300020040_00	Panther Creek	3.01	R	3	X	X				X	X		X						
OK121300020050_00	Skunk Creek	4.33	R	3	X	X				X	X		X						
OK121300020060_00	Skalall Creek	8.28	R	3	X	X				X	X		X						
OK121300020070_00	Tyner Creek	10.35	R	3	X	X				X	X		X						
OK121300020080_00	Candy Creek	16.95	R	2	F	F				I	X		I		I				
OK121300020090_00	Pecan Hollow Creek	0.38	R	3	X	X				X	X		X		X				*
OK121300020100_00	Avant Public Utility Lake	6	L	3	X	X				X	X		X		X				
OK121300020110_00	Avant Municipal Lake	1	L	3	X	X				X	X		X						
OK121300020120_00	Little Candy Creek	6.61	R	3	X	X				X	X		X						
OK121300020130_00	Tucker Creek	5.29	R	3	X	X				X	X		X						
OK121300020140_00	Avant Creek	2.67	R	3	X	X				X	X		X						
OK121300020150_00	Bull Creek	8.01	R	3	X	X				X	X		X						
OK121300020160_00	Clem Creek	4.09	R	3	X	X				X	X		X						
OK121300020170_00	Dog Thresher Creek	8.25	R	3	X	X				X	X		X						
OK121300020180_00	Dog Thresher Creek, Unnamed Trib of	0.98	R	3	X	X				X	X		X						
OK121300020190_00	Waxhoma Lake	197	L	2	F	F				I	F		F		F				
OK121300030010_00	Bird Creek	25.11	R	2	F	F				F	X		I		I				
OK121300030020_00	Birch Creek	0.93	R	3	X	X				X	X		X		X				
OK121300030030_00	Birch Creek	11.44	R	3	X	X				X	X		X		X				*
OK121300030040_00	**Birch Lake**	**1137**	**L**	**5a**	F	F				**N**	**N**		F		**N**				*
OK121300030050_00	Fourmile Creek	5.80	R	3	X	X				X	X		X		X				*
OK121300030055_00	Birch Creek, Unnamed Tributary of	3.15	R	3	X	X		X			X			X						*

F = Fully Supporting I = Insufficient Information X = Not Assessed **N = Not Supporting**

APPENDIX D-2

NRCS HYDRIC MAPS

Hydric Rating by Map Unit—Osage County, Oklahoma
(B-12, B-13, B-15, B-16)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Osage County, Oklahoma
Survey Area Data: Version 22, Aug 27, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 11, 2022—Jul 11, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
6	Catoosa-Shidler-Lula complex, 1 to 3 percent slopes	0	3.0	37.5%
13	Lucien-Coyle complex, 3 to 8 percent slopes	0	0.1	1.3%
23	Foraker-Shidler complex, 12 to 25 percent slopes	0	3.3	40.9%
54	Shidler silty clay loam, 1 to 5 percent slopes	0	1.6	20.2%
62	Westsum-Shidler-Apperson complex, 3 to 12 percent slopes	0	0.0	0.1%
Totals for Area of Interest			**8.1**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Hydric Rating by Map Unit—Osage County, Oklahoma
(100)

Map Scale: 1:1,880 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 25 50 100 150

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Osage County, Oklahoma
Survey Area Data: Version 22, Aug 27, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 11, 2022—Jul 11, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
51	Prue loam, 3 to 5 percent slopes	0	1.9	100.0%
Totals for Area of Interest			**1.9**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

APPENDIX E

PHOTOGRAPHIC LOGS

Photo Log
B-12

View to north at wellbore.

View to east at wellbore.

View to south at well bore.

View to west at well bore.

Looking northwest along access road towards B-12 well.

Looking north along utility corridor.

Photo Log
B-13

View to north at wellbore.

View to east at wellbore.

View to south at well bore.

View to west at well bore.

Looking northwest along access road and utility corridor.

Looking south along access road and utility corridor from tie in with existing infrastructure.

Photo Log
B-15

View to north at wellbore.

View to east at wellbore.

View to south at well bore.

View to west at well bore.

Looking northwest along access road and utility corridor.

Looking southeast along access road and utility corridor from tie in with existing infrastructure.

Photo Log
B-16

View to north at wellbore.

View to east at wellbore.

View to south at well bore.

View to west at well bore.

Looking northeast along and utility corridor.

Looking southeast along access road and utility corridor from county road.

Photo Log
100

View to north at wellbore.

View to east at wellbore.

View to south at well bore.

View to west at well bore.

Looking southwest along access road.

Looking south along utility corridor.

APPENDIX F – TABLES

Table 1-1. Proposed Well Locations

Well Name	Township	Range	Section
B-12	25 North	8 East	SW/4 Sect. 1
B-13	25 North	8 East	SW/4 Sect. 1
B-15	25 North	8 East	SW/4 Sect. 1
B-16	25 North	8 East	SW/4 Sect. 1
#100	24 North	9 East	SE/4 Sect. 26

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

LEGAL DESCRIPTION	EXISTING WELLS	PROPOSED NEW WELLS
SW/4 Sect. 1 T25N R8E		B-12, B-13, B-15, B-16
SE/4 Sect. 26 T24N R9E		#100

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)
B-12	925
B-13	945
B-15	966
B-16	982
#100	920

Table 4-3. Soil Descriptions.

Well Name	Soil Description	Percent Slope	Hydric Rating
B-12	Lucien-Coyle complex	3-8	0
	Westsum-Shidler-Apperson complex	3-12	0
	Foraker-Shidler complex	12-25	0
B-13	Foraker-Shidler complex	12-25	0
	Shidler silty clay loam	1-5	0
B-15	Catoosa-Shidler-Lula complex	1-3	0
	Shidler silty clay loam	1-5	0
B-16	Catoosa-Shidler-Lula complex	1-3	0
#100	Prue loam	3-5	0

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

LEGAL DESCRIPTION	USDW DEPTH	SURFACE CASING DEPTH	PROPOSED NEW WELLS
SW/4 Sect. 1 T25N R8E	220’	400’	B-12, B-13, B-15, B-16
SE/4 Sect. 26 T24N R9E	300’	500’	#100

Table 4-5. Prime Farmland Soils

Well Name	Soil Description	Percent Slope	Prime Farmland
B-12	Lucien-Coyle complex	3-8	Not Prime Farmland
	Westsum-Shidler-Apperson complex	3-12	Not Prime Farmland
	Foraker-Shidler complex	12-25	Not Prime Farmland
B-13	Foraker-Shidler complex	12-25	Not Prime Farmland
	Shidler silty clay loam	1-5	Not Prime Farmland
B-15	Catoosa-Shidler-Lula complex	1-3	Not Prime Farmland
	Shidler silty clay loam	1-5	Not Prime Farmland
B-16	Catoosa-Shidler-Lula complex	1-3	Not Prime Farmland
#100	Prue loam	3-5	Not Prime Farmland

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

Species/Critical Habitat	Habitat Determination	Notes/Documentation	ESA Determination
Piping Plover (*Charadrius melodus*)	Location does not overlap critical habitat.	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 (*Calidris canutus*)	Location does not overlap proposed critical habitat.	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 *(Nicrophorus americanus)*	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 8/27/2025.USFWS had up to 30 days to provide further comment and no comment was received.	May Effect
Tricolored Bat (*Perimyotis subflavus*)	No critical habitat has been designated for this species.	The number of trees to be impacted will not create jeopardy to the survival of the species. Proposed Endangered.	No Jeopardy
Monarch Butterfly (*Danaus plexippus*)	Location does not overlap proposed critical habitat.	Proposed Threatened. Habitat may be present but this action will not jeopardize the continued existence of the species.	No Jeopardy
Western Regal Fritallary (*Argynnis idalia occidnetalis)*	No critical habitat has been designated for this species.	Proposed Threatened. Habitat may be present but this action will not jeopardize the continued existence of the species.	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 August 27, 2025.

Table 4-7. Migratory Bird Conclusion Table		
Species	**Breeding Season**	**Probability of Presence**
Bald Eagle *Haliaeetus leucocephalis* This is not a Bird of Conservation Concern (BCC) in this area but warrants attention because of the Eagle Act.	Breeds October 15 to August 31	(see U.S. Fish and Wildlife Service Species List)
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds March 15 to August 25	(see U.S. Fish and Wildlife Service Species List)
Henslow's Sparrow *Centronyx henslowii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 through August 31	(see U.S. Fish and Wildlife Service Species List)
Prairie Loggerhead Shrike *Lanius ludovicianus excubitorides* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 1 to August 31	(see U.S. Fish and Wildlife Service Species List)
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to September 10	(see U.S. Fish and Wildlife Service Species 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 August 27, 2025.

APPENDIX G - FIGURES

Figure 1-1 Map of Osage County

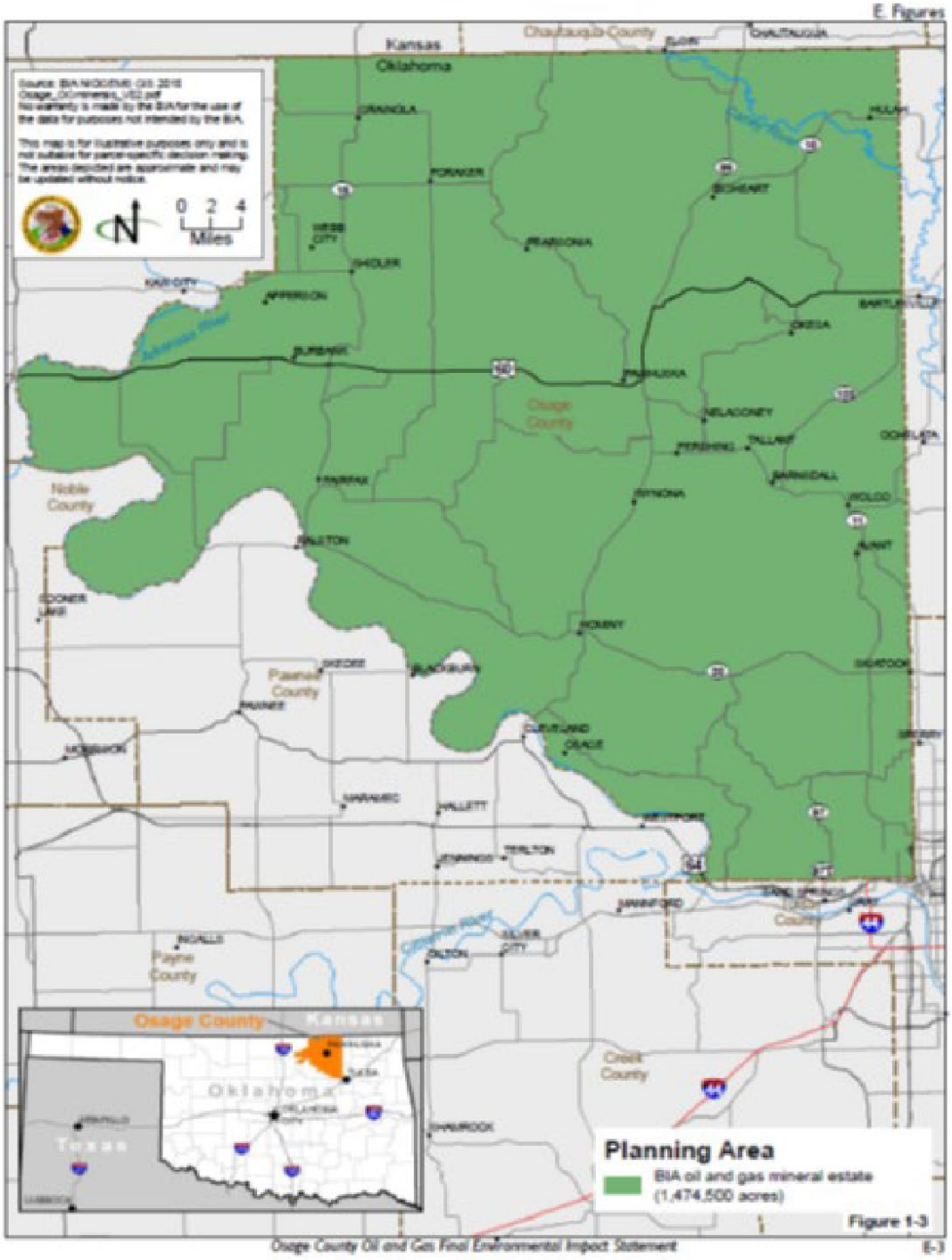


Figure 1-2 Map of Well Locations