United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Great Plains Regional Office
115 Fourth Avenue S.E.
Aberdeen, South Dakota 57401

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IN REPLY REFER TO:
DESCRM
MC-208

MAR 10 2011

MEMORANDUM

TO: Superintendent, Fort Berthold Agency

FROM: Acting Regional Director, Great Plains Region

SUBJECT: Environmental Assessment and Finding of No Significant Impact

In compliance with the regulations of the National Environmental Policy Act (NEPA) of 1969, as amended, for sixteen oil and gas wells atop eight pads by Peak North Dakota, LLC on the Fort Berthold Reservation, an Environmental Assessment (EA) has been completed and a Finding of No Significant Impact (FONSI) has been issued.

All the necessary requirements of the National Environmental Policy Act have been completed. Attached for your files is a copy of the EA, FONSI and Notice of Availability. The Council on Environmental Quality (CEQ) regulations require that there be a public notice of availability of the FONSI (1506.6(b)). Please post the attached notice of availability at the agency and tribal buildings for 30 days.

If you have any questions, please call Marilyn Bercier, Regional Environmental Scientist, Division of Environment, Safety and Cultural Resources Management, at (605) 226-7656.

Attachment

cc: Tex Hall, Chairman, Three Affiliated Tribes (with attachment)
Elgin Crows Breast, THPO (with attachment)
Derek Enderud, BLM, Dickenson, ND (with attachment)
John Shelman, US Army Corps of Engineers
Jeffrey Hunt, Virtual One Stop Shop

Finding of No Significant Impact

Peak North Dakota, LLC (Peak)

Environmental Assessment for Drilling of Fool Bear #16-12H, Fool Bear #23-34H, Fox #21-21H, Grace #6-24H, Hall #23-21H, Hidatsa Hills # 26-21H, Hudson # 13-21H, Johnson #7-24H Exploratory Oil & Gas Wells

Fort Berthold Indian Reservation
Dunn County and McKenzie County, North Dakota

The U.S. Bureau of Indian Affairs (BIA) has received a proposal to drill up to sixteen oil and gas wells located atop eight well pads (2 wells per pad) as follows:

- Fool Bear #16-12H located in T152N, R94W, Section 16 (McKenzie County)
- Fool Bear #23-34H located in T152N, R94W, Section 23 (McKenzie County)
- Fox #21-21H located in T149N, R93W, Section 21 (Dunn County)
- Grace #6-24H located in T150N, R94W, Section 6 (McKenzie County)
- Hall #23-21H located in T149N, R94W, Section 23 (McKenzie County)
- Hidatsa Hills #26-21H located in T149N, R93W, Section 26 (Dunn County)
- Hudson #13-21H located in T149N, R94W, Section 13 (McKenzie County)
- Johnson #7-24H located in T149N, R93W, Section 7 (Dunn County)

Associated federal actions by BIA include determinations of effect regarding environmental resources and positive recommendations to the Bureau of Land Management regarding the Applications for Permit to Drill.

The potential of the proposed action to impact the human environment is analyzed in the following Environmental Assessment (EA), as required by the National Environmental Policy Act. Based on the EA, I have determined that the proposed project will not significantly affect the quality of the human or natural environment. No Environmental Impact Statement is required for any portion of the proposed activities.

This determination is based on the following factors:

1. Agency and public involvement solicited for the preceding NEPA document was sufficient to ascertain potential environmental concerns associated with the currently proposed project.

2. Protective and prudent measures were designed to minimize impacts to air, water, soil, vegetation, wetlands, wildlife, public safety, water resources, and cultural

resources. The remaining potential for impacts was disclosed for both the proposed action and the No Action alternatives.

3. Guidance from the U.S. Fish and Wildlife Service has been fully considered regarding wildlife impacts, particularly in regard to threatened or endangered species. This guidance includes the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.) (MBTA), the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.) (NEPA), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250) (BGEPA), Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds", and the Endangered Species Act (16 U.S.C. 1531 et seq.) (ESA).

4. The proposed action is designed to avoid adverse effects to historic, archaeological, cultural and traditional properties, sites and practices. Compliance with the procedures of the National Historic Preservation Act is complete.

5. Environmental justice was fully considered.

6. Cumulative effects to the environment are either mitigated or minimal.

7. No regulatory requirements have been waived or require compensatory mitigation measures.

8. The proposed project will improve the socio-economic condition of the affected Indian community.

Tim LaPointe — 3-10-11

Acting Regional Director — Date

ENVIRONMENTAL ASSESSMENT

United States Bureau of Indian Affairs

Great Plains Regional Office
Aberdeen, South Dakota

Peak North Dakota, LLC

Drilling of Fool Bear #16-12H, Fool Bear #23-34H, Fox #21-21H, Grace #6-24H, Hall #23-21H, Hidatsa Hills # 26-21H, Hudson # 13-21H, Johnson #7-24H Exploratory Oil & Gas Wells

Fort Berthold Indian Reservation

March 2011

For information contact:
Bureau of Indian Affairs, Great Plains Regional Office
Division of Environment, Safety and Cultural Resources
115 4th Avenue SE
Aberdeen, South Dakota 57401
605-226-7656

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Chapter 1. Purpose and Need for Action

1.1 Introduction

This EA (Environmental Assessment) was prepared in accordance with NEPA (the National Environmental Policy Act) of 1969, as amended, and the regulations of the CEQ (Council on Environmental Quality), 40 CFR parts 1500 through 1508. An EA is an informational document intended for use by both decision-makers and the public. It discloses relevant environmental information concerning the proposed action and the no-action alternative.

1.2 Description of the Proposed Action

The Fort Berthold Reservation encompasses 988,000 acres, 457,837 of which are in tribal and individual Indian ownership by the Three Affiliated Tribes (Mandan, Hidatsa, and Arikara) and its members. The reservation is located in west central North Dakota and is split into three areas by Lake Sakakawea, which traverses the center of the reservation. It occupies sections of six counties: Dunn, McKenzie, McLean, Mercer, Mountrail, and Ward.

The Fort Berthold Reservation lies atop the Bakken Formation, a geologic formation rich in oil and gas deposits that extends approximately 25,000 square miles beneath North Dakota, Montana, Saskatchewan, and Manitoba, with approximately two-thirds of the acreage beneath North Dakota. The Three Forks Formation lies beneath the Bakken. The North Dakota Department of Mineral Resources estimates that there are approximately 2 billion barrels of recoverable oil in each of these Formations. (The Bakken contains about 169 barrels of oil and the Three Forks contains about 20 billion barrels; however, most of this is not expected to be recoverable.) The Department's director estimates that there are 30-40 remaining years of production, or more if technology improves.

The proposed action includes approval by the Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM) for Peak North Dakota, LLC (Peak) to drill and complete eight dual well pads, resulting in the drilling of up to sixteen exploratory oil and gas wells targeting the Bakken Formation. The proposed action is located on the Fort Berthold Reservation; these well sites are proposed to be positioned in the following locations:

- Johnson #7-24H located in T149N, R93W, Section 7 (Dunn County)
- Fox #21-21H located in T149N, R93W, Section 21 (Dunn County)
- Hidatsa Hills #26-21H located in T149N, R93W, Section 26 (Dunn County)
- Hudson #13-21H located in T149N, R94W, Section 13 (McKenzie County)
- Hall #23-21H located in T149N, R94W, Section 23 (McKenzie County)
- Grace #6-24H located in T150N, R94W, Section 6 (McKenzie County)
- Fool Bear #16-12H located in T152N, R94W, Section 16 (McKenzie County)
- Fool Bear #23-34H located in T152N, R94W, Section 23 (McKenzie County)

Please refer to Figure 1-1, Project Location Map. Each well pad would support two wells. Each well would have an associated drilling unit in which the minerals to be developed by that well are located. Proposed completion activities include acquisition of rights-of-way, infrastructure for the proposed wells, and roadway improvements.

Figure 1-1, Project Location Map

1.3 Need for the Proposed Action

The Tribes own their mineral resources, which are held in trust by the United States government through the BIA. The BIA's approval to drill the eight dual exploratory wells would provide important benefits to the Three Affiliated Tribes, including revenue that could contribute to the Tribal budgets, satisfy Tribal obligations, and fund land purchase programs to stabilize its land base. It would also provide individual members of the Tribes with needed employment and income.

Furthermore, the proposed action gives the United States an opportunity to reduce its dependence on foreign oil and gas by exploring for domestic sources of oil and gas.

1.4 Purpose of the Proposed Action

The purpose of the proposed action is to allow the Three Affiliated Tribes to provide for oil and gas development on the identified lands on the Fort Berthold Reservation. Additionally, the purpose is to determine if there are commercially recoverable oil and gas resources on the lands subject to Peak's lease areas by drilling up to sixteen exploratory oil and gas wells on eight dual well pads.

1.5 Regulations that Apply to Oil and Gas Development Activities

The BIA must comply with NEPA before it issues a determination of effect regarding environmental resources and provides a recommendation to the Bureau of Land Management regarding the Application for Permit to Drill. Therefore, an EA for the proposed wells is necessary to analyze the direct, indirect, and cumulative impacts of the proposed project.

Oil and gas development activities on Indian lands are subject to a variety of federal environmental regulations and policies under authority of the BIA and BLM. This inspection and enforcement authority derives from the United States trust obligations to the Tribes, the Indian Mineral Leasing Act of 1938, the Indian Mineral Development Act of 1982, and the Federal Oil and Gas Royalty Management Act of 1982. Under the BIA's regulations at 25 CFR Part 225, the BLM exercises authority over oil and gas development on Tribal lands under its implementing regulations at 43 CFR Part 3160 and its internal supplemental regulations and policies. The BLM's authority includes the inspection of oil and gas operations to determine compliance with applicable statutes, regulations, and all applicable orders. These include, but are not limited to, conducting operations in a manner which ensures the proper handling, measurement, disposition, and site security of leasehold production; and protecting other natural resources, environmental quality, life, and property.

Chapter 2. Alternatives

2.1 Introduction

This chapter provides information on the development and evaluation of project alternatives. The development of alternatives is directly related to the purpose and need for the project. Two alternatives are being considered for this project: a no action alternative and a proposed action alternative.

2.2 Alternative A: No Action

Under the no action alternative (Alternative A), the BIA and BLM would not authorize the development of eight dual well pads, resulting in the drilling and completion of up to sixteen exploratory oil and gas wells. There would be no environmental impacts associated with Alternative A. However, the Three Affiliated Tribes (or any of its members) would not receive potential royalties on production or other economic benefits from oil and gas development on the Reservation. Further, the oil and gas resources targeted by the proposed action would not be explored for commercial production or recovered and made available for domestic energy use.

2.3 Alternative B: Proposed Action

The proposed action (Alternative B) includes authorization by the BIA and BLM to construct eight dual well pads, resulting in the drilling and completion of up to sixteen exploratory oil and gas wells as well as associated rights-of-way acquisition, roadway improvements, and infrastructure for the wells. Infrastructure may include oil and gas gathering pipelines and underground electrical lines, both of which would be located within the access road right-of-way.

Each exploratory well would consist of a well pad (properly sized to accommodate two wells per pad), access road (one access road per dual well pad), associated infrastructure, and a spacing unit. The well pad is where the actual surface disturbance caused by drilling activities would occur. Peak proposes to drill two wells on each of the eight pads (16 wells atop 8 pads) with each surface well-head located approximately 50 feet away from one another; however this EA only addresses a single spacing unit for each well. An EA addendum will be submitted when the location of the remaining eight spacing units are determined by Peak. The spacing unit is the location of the minerals that are to be developed. The location of the proposed well sites, access roads, and proposed horizontal drilling techniques were chosen to minimize surface disturbance.

Each well pad would require new right-of-way for access points, supporting aboveground/underground electrical lines, and pipelines associated with oil and gas production. Rights-of-way would be located to avoid sensitive surface resources and any cultural resources identified in site surveys. Access roads would be improved as necessary to eliminate overly steep grades, maintain current drainage patterns, and provide all-weather driving surfaces.

An intensive, pedestrian resource survey of each proposed well pad and access road was conducted on May 26-27, 2010 by KL&J. The purpose of this survey was to gather site-specific data and photos with regards to botanical, biological, and water resources. The study area consisted of 10 acres centered on each of the proposed well pad center points

and a 200-foot wide corridor along all proposed access roads. Resources were evaluated using visual inspection and pedestrian transects across the site. In addition, a survey for raptors and raptor nests within 0.5 miles of all project disturbance areas was conducted by KL&J on May 26-27, 2010, with additional surveys occurring June 7-8 and June 22, 2010. These surveys consisted of pedestrian transects focusing specifically on potential nesting sites within 0.5 miles of project disturbance areas, including cliffs and wooded draws. Wooded draws were observed both from the upland areas overlooking the draws and from bottomlands within the actual draws.

The BIA EA on-site assessments of the proposed well pad and access road sites were conducted on June 7-8, 2010. The BIA Environmental Protection Specialist, representatives from the Tribal Historic Preservation Office, Peak, Beaver Creek Archeology, and KL&J participated in these assessments. Construction suitability with respect to topography, stockpiling, drainage, erosion control, and other surface issues were considered. The well pad and access road locations were finalized, and the BIA gathered information needed to develop site-specific mitigation measures and BMPs to be incorporated into the final APDs. Those present at the on-site assessments agreed that the selected locations, along with the minimization measures Peak plans to implement, are positioned to minimize impacts to sensitive wildlife and botanical resources. In addition, comments received from the USFWS (United States Fish and Wildlife Service) have been considered in the development of this project.

2.3.1 Fool Bear # 16-12H

The Fool Bear #16-12H dual well pad would be located in the W½NW¼ of Section 16, Township 152 North, Range 94 West, 5th P.M. to access potential oil and gas resources within the spacing unit consisting of the N½ of Section 16, Township 152 North, Range 94 West, 5th P.M. ***Please refer to Figure 2-1, Fool Bear #16-12H Well Overview.***

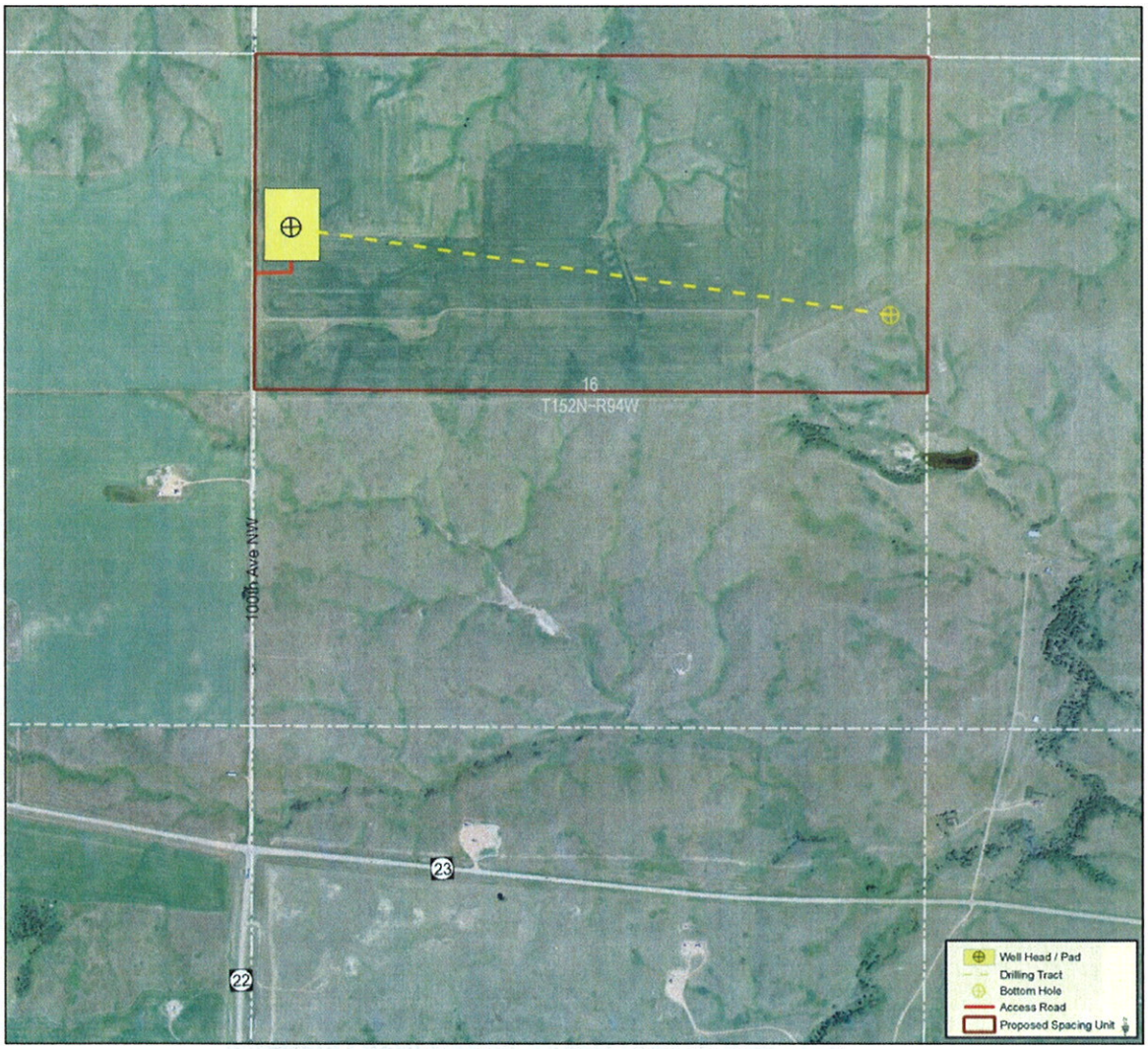

Figure 2-1, Fool Bear #16-12H Well Overview

The Fool Bear #16-12H well would be accessed from the south. A new access road approximately 375 feet long would be constructed in the SW¼NW¼ corner of section 16. The proposed access road would provide a connection with the existing 100th Avenue NW roadway. The proposed access road would be used to access both wells on the dual well pad. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignment. Culverts and cattle guards would be installed as needed along this new access road.

2.3.2 Fool Bear # 23-34H

The Fool Bear #23-34H dual well pad would be located in the SE¼ of Section 23, Township 152 North, Range 94 West, 5th P.M. to access potential oil and gas resources within the spacing unit consisting of Section 23, Township 152 North, Range 94 West, 5th P.M. ***Please refer to Figure 2-2, Fool Bear #23-34H Well Overview.***

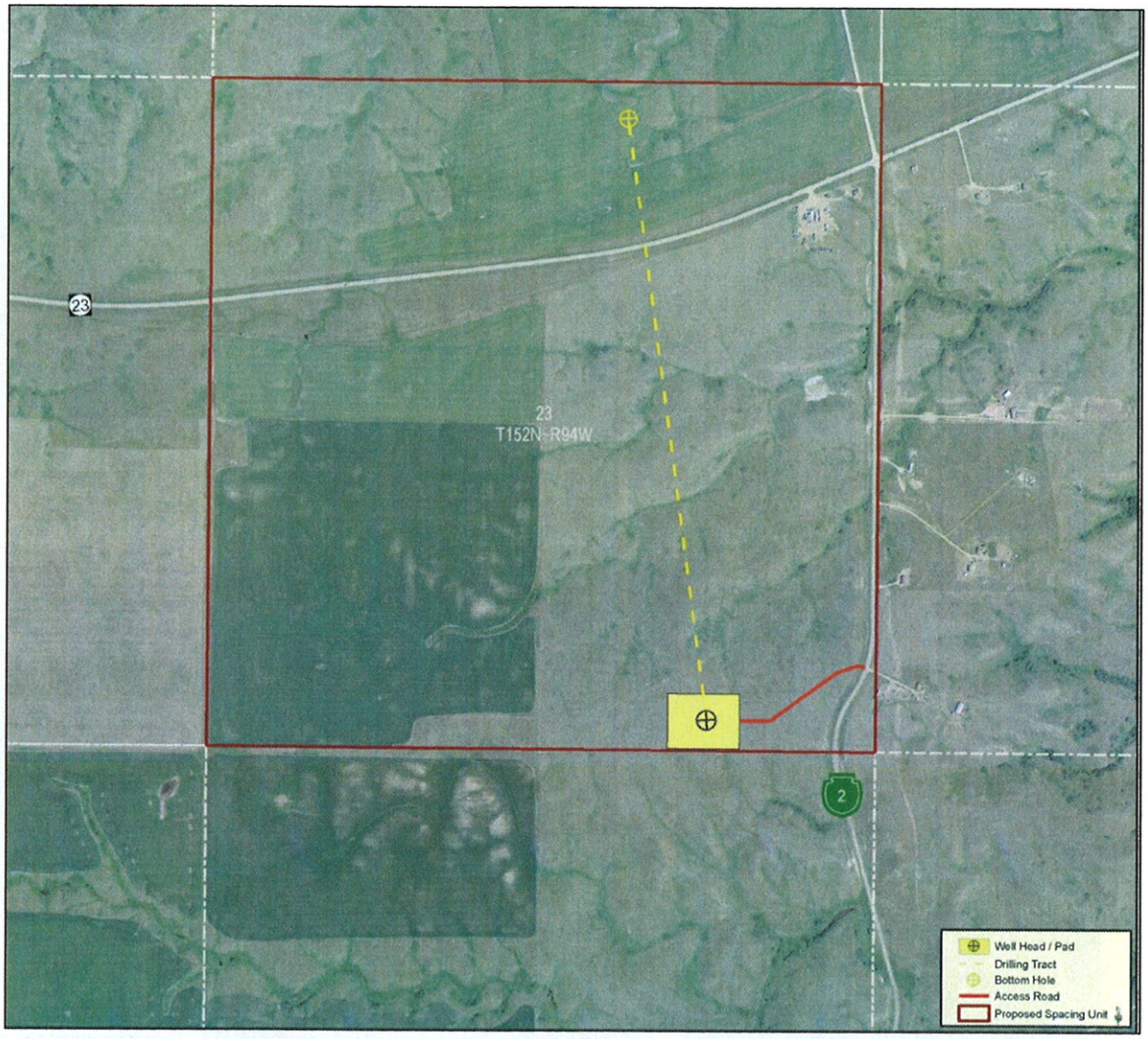

Figure 2-2, Fool Bear #23-34H Well Overview

The Fool Bear #23-34H well would be accessed from the east. A new access road approximately 1,135 feet long would be constructed, starting at the southeast corner of section 23, T152N, R94W, connecting to BIA Route 2. The proposed access road would be used to access both wells on the dual well pad. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignment. Culverts and cattle guards would be installed as needed along this new access road.

2.3.3 Fox #21-21H

The Fox #21-21H dual well pad would be located in the NE¼NW¼ of Section 21, Township 149 North, Range 93 West, 5th P.M. to access potential oil and gas resources within the spacing unit consisting of Section 21, Township 149 North, Range 93 West, 5th P.M. ***Please refer to Figure 2-3, Fox #21-21H Well Overview.***

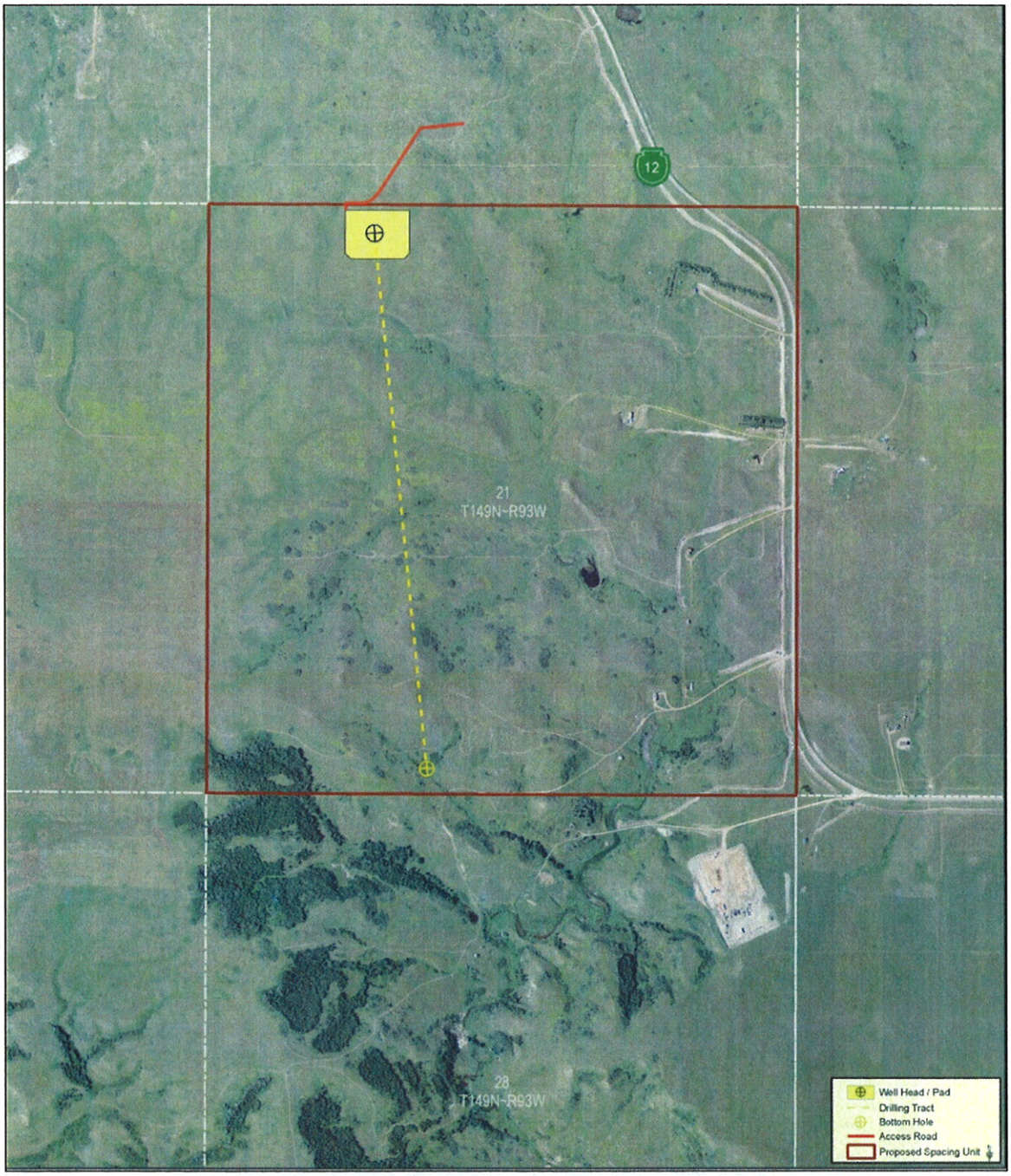

Figure 2-3, Fox #21-21H Well Overview

The Fox #21-21H well would be accessed from the north. A new access road approximately 1,470 feet long would be constructed, starting at the NE¼NW¼ of Section 21 and continuing to an existing Zenergy Lease Road in the SE¼SW¼ corner of Section 16. The proposed access road would provide a connection with BIA 12. The proposed access road would be used to access both wells on the dual well pad. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignment. Culverts and cattle guards would be installed as needed along this new access road.

2.3.4 Grace #6-24H

The Grace #6-24H dual well pad would be located in the SE¼SW¼ of Section 6, Township 150 North, Range 94 West, 5th P.M. to access potential oil and gas resources within the spacing unit consisting of Section 6, Township 150 North, Range 94 West, 5th P.M. ***Please refer to Figure 2-4, Grace #6-24H Well Overview.***

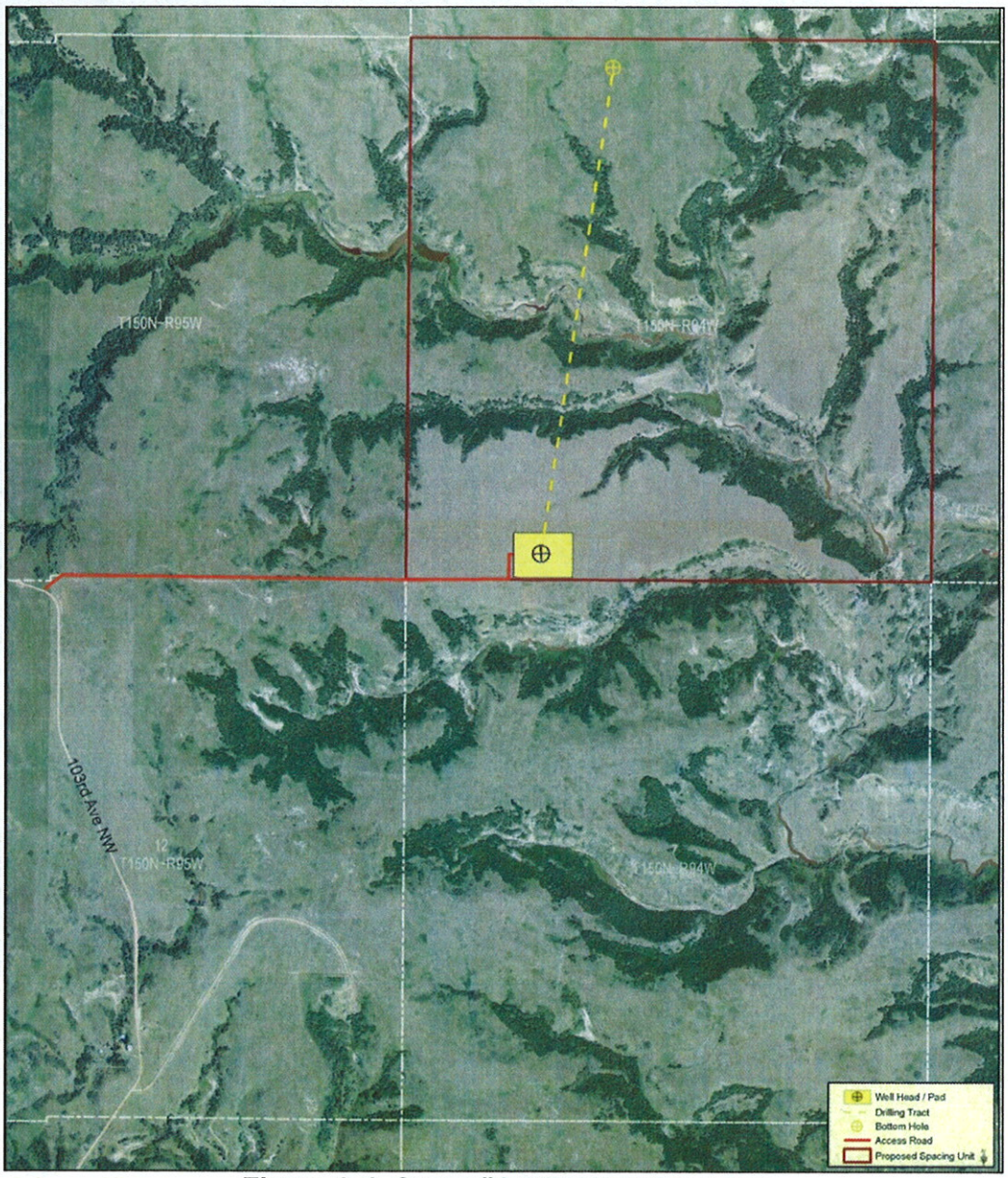

Figure 2-4, Grace #6-24H Well Overview

The Grace #6-24H well would be accessed from the west. A new access road approximately 4,747 feet long would be constructed, starting at the northwest corner of Section 12, Township 150 North, Range 95 West, 5th P.M. The proposed access road would provide a connection with the existing 103rd Ave NW roadway. The proposed access road would be used to access both wells on the dual well pad. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignment. Culverts and cattle guards would be installed as needed along this new access road.

2.3.5 Hall #23-21H

The Hall #23-21H dual well pad would be located in the NE¼NW¼ of Section 23, Township 149 North, Range 94 West, 5th P.M. to access potential oil and gas resources within the spacing unit consisting of Section 23, Township 149 North, Range 94 West, 5th P.M. ***Please refer to Figure 2-5, Hall #23-21H Well Overview.***

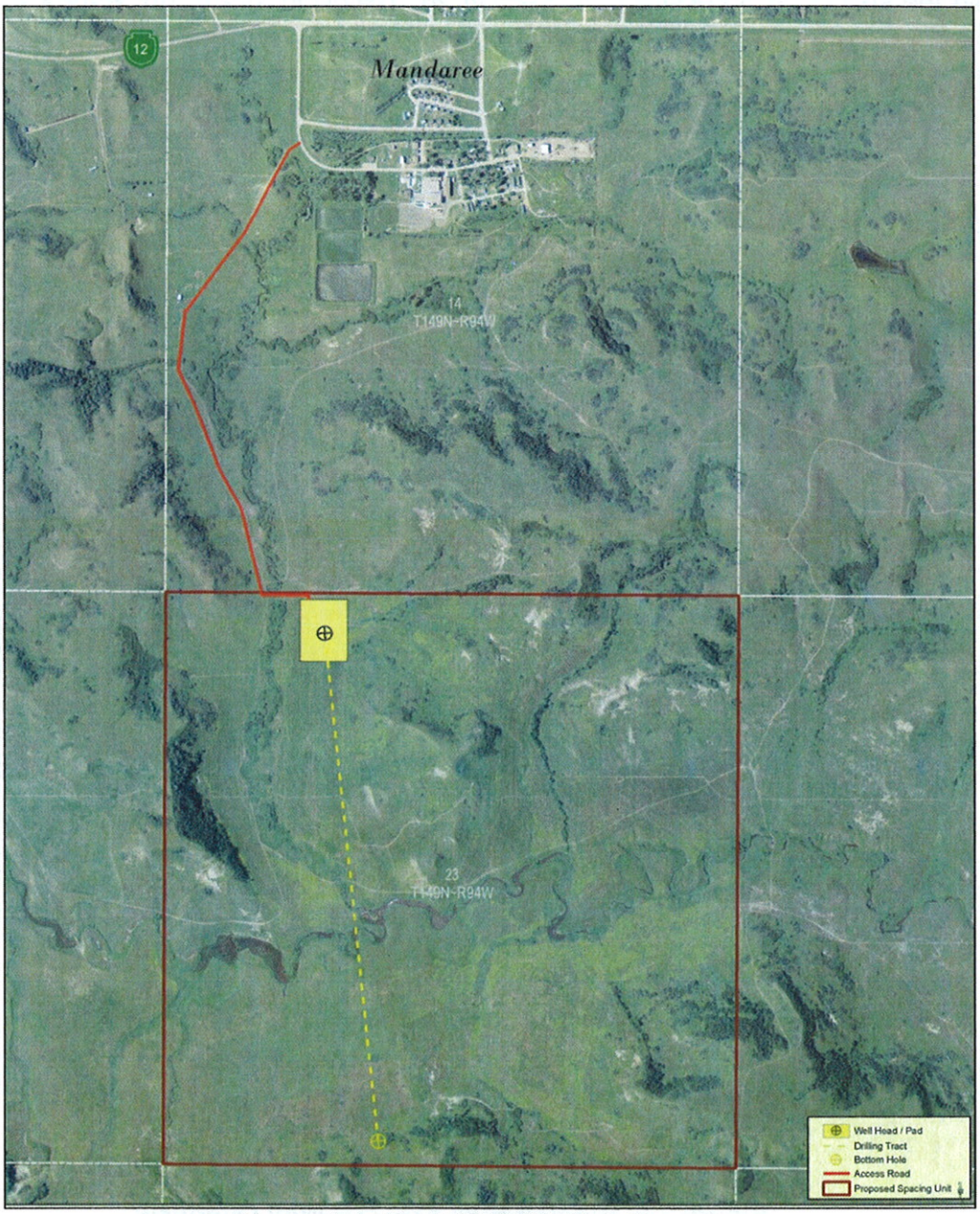

Figure 2-5, Hall #23-21H Well Overview

The Hall #23-21H well would be accessed from the north. A new access road approximately 5,136 feet long would be constructed, starting at the SE¼NW ¼ of Section 14. The proposed access road would provide a connection with the BIA 12 in Mandaree, ND. The proposed access road would be used to access both wells on the dual well pad. Minor spot grading may be needed to flatten existing landscape grades along the proposed access

road alignment. Culverts and cattle guards would be installed as needed along this new access road.

2.3.6 Hidatsa Hills #26-21H

The Hidatsa Hills #26-21H dual well pad would be located in the NE¼NW¼ of Section 26, Township 149 North, Range 93 West, 5th P.M. to access potential oil and gas resources within the spacing unit consisting of Section 26, Township 149 North, Range 93 West, 5th P.M. ***Please refer to Figure 2-6, Hidatsa Hills #26-21H Well Overview.***

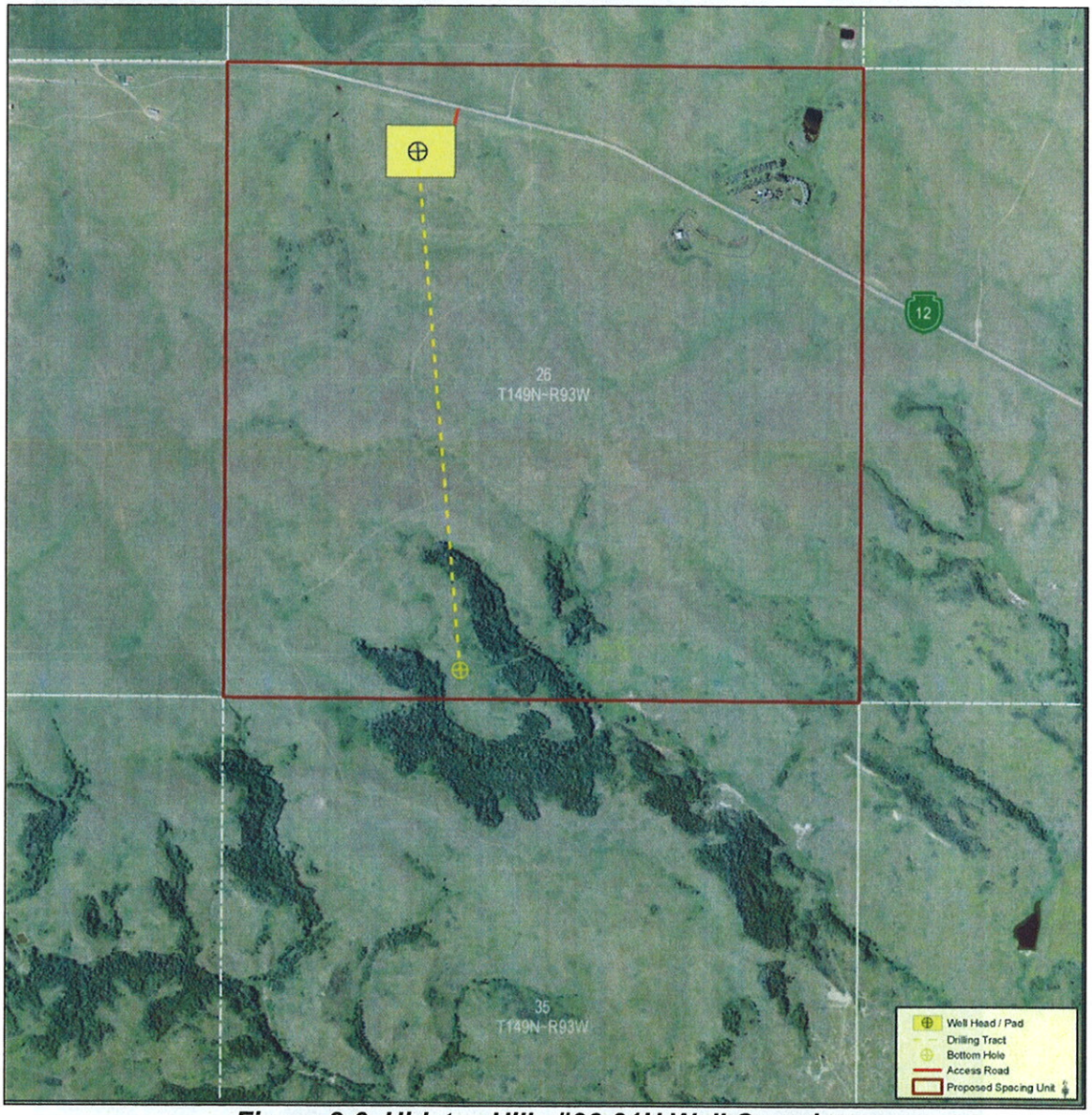

Figure 2-6, Hidatsa Hills #26-21H Well Overview

The Hidatsa Hills #26-21H well would be accessed from the north. A new access road approximately 141 feet long would be constructed in the NE¼NW¼ corner of section 26. The proposed access road would provide a connection with BIA 12. The proposed access road would be used to access both wells on the dual well pad. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignment. Culverts and cattle guards would be installed as needed along this new access road.

2.3.7 Hudson #13-21H

The Hudson #13-21H dual well pad would be located in the N½NW¼ of Section 13, Township 149 North, Range 94 West, 5th P.M. to access potential oil and gas resources within the spacing unit consisting of the W½ of Section 13, Township 149 North, Range 94 West, 5th P.M. ***Please refer to Figure 2-7, Hudson #13-21H Well Overview.***

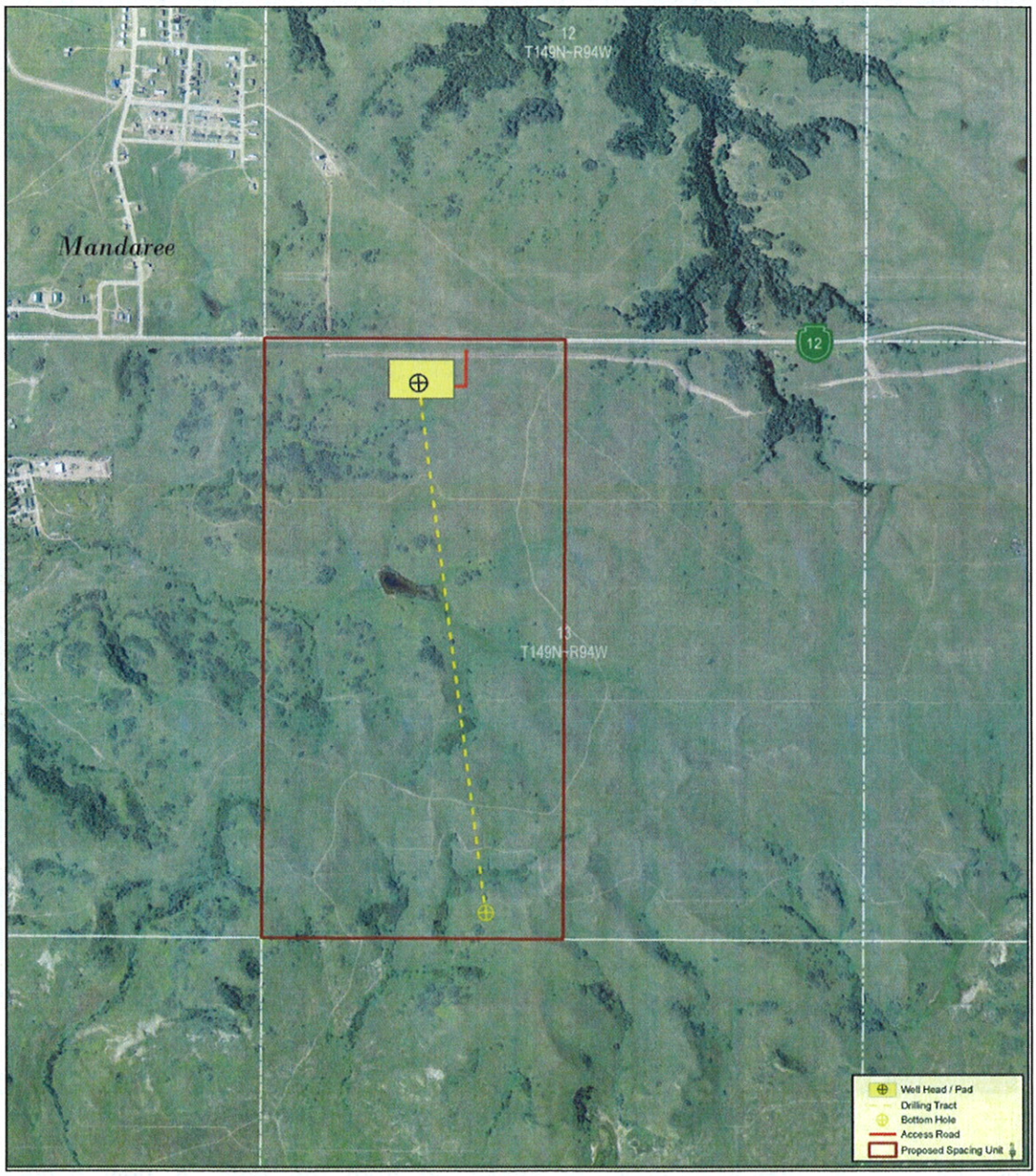

Figure 2-7, Hudson #13-21H Well Overview

The Hudson #13-21H well would be accessed from the north. A new access road approximately 500 feet long would be constructed, starting at the section line between sections 12 and 13. The proposed access road would provide a connection with the BIA 12 roadway. The proposed access road would be used to access both wells on the dual well pad. Minor spot grading may be needed to flatten existing landscape grades along the

proposed access road alignment. Culverts and cattle guards would be installed as needed along this new access road.

2.3.8 Johnson #7-24H

The Johnson #7-24H dual well pad would be located in the SE¼SW¼ of Section 7, Township 149 North, Range 93 West, 5th P.M. to access potential oil and gas resources within the spacing unit consisting of Section 7, Township 149 North, Range 93 West, 5th P.M. ***Please refer to Figure 2-8, Johnson #7-24H Well Overview.***

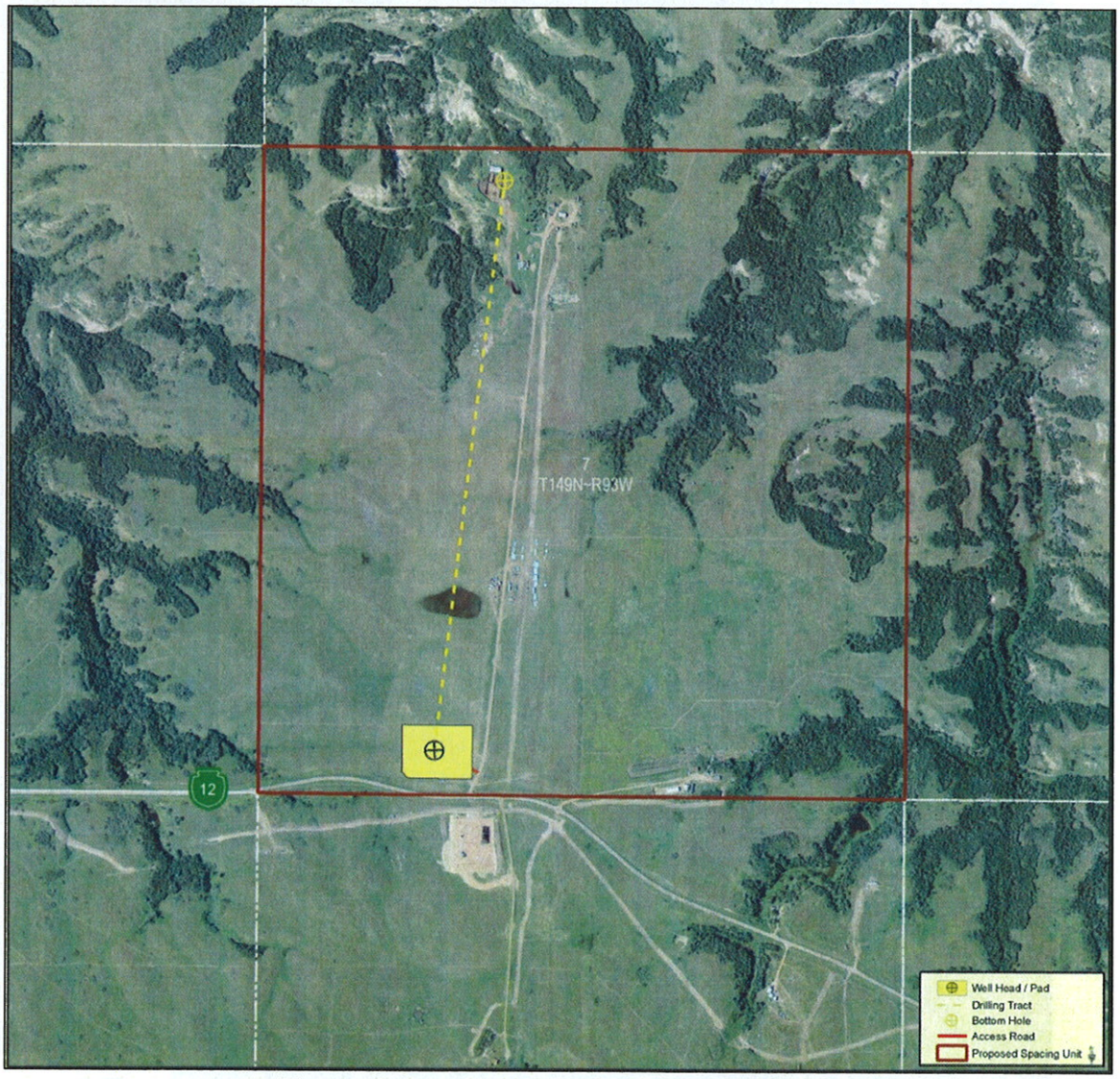

Figure 2-8, Johnson #7-24H Well Overview

The Johnson #7-24H well would be accessed from the east. A new access road approximately 55 feet long would be constructed in the SE¼SW¼ corner of Section 7. The proposed access road would provide a connection with BIA 12. The proposed access road would be used to access both wells on the dual well pad. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignment. Culverts and cattle guards would be installed as needed along this new access road.

2.3.9 Activities that Apply to Development of All Wells

The following includes a discussion of items that would be consistent for construction of each of the proposed wells:

2.3.9.1 Field Camps

Self-contained trailers may temporarily house key personnel on-site during drilling operations. No long-term residential camps are proposed. Sewage would be collected in standard portable chemical toilets or service trailers on-site and then transported off-site to a state-approved wastewater treatment facility. Other solid waste would be collected in enclosed containers and disposed of at a state-approved facility.

2.3.9.2 Access Roads

Existing roadways would be used to the extent possible to access the proposed wells; however, the improvement of existing roadways and construction of new access roads would also be required. The running surface of access roads would be surfaced with crushed gravel or scoria from a previously approved location, and erosion control measures would be installed as necessary. A maximum right-of-way width of 100 feet would be disturbed, consisting of a 20 to 28-foot wide roadway with the remainder of the disturbed area due to borrow ditches, construction slopes, gathering pipelines and electrical infrastructure. The outslope portions of constructed access roads would be re-seeded upon completion of construction to reduce access road related disturbance. Access road construction shall follow road design standards outlined in the BLM's Gold Book.

All efforts will be made so that construction activities begin after July 15 and end prior to February 1, in order to avoid impacts to migratory birds during the breeding/nesting season. Pre-construction surveys for migratory birds or their nests would be conducted within five days prior to the initiation of construction activities for any construction activity that must take place during the breeding season.

2.3.9.3 Well Pads

Each proposed well pad would consist of a leveled area surfaced with several inches of gravel or crushed scoria. The pads would be used for the drilling rig and related equipment, as well as an excavated, reinforced lined (with a minimum of thickness of 20mm) pit to store drill cuttings. A semi-closed loop system would be used during drilling. The drill cuttings pit would be reclaimed to BLM and North Dakota Industrial Commission (NDIC) standards immediately upon finishing completion operations. The level well pads, plus cut and fill slope areas, required for drilling and completing operations (including reserve pit for drill cuttings) for all wells would be approximately 435x575 feet (approximately 6 acres). Cut and fill slopes on the edge of the well pad would be determined on a well-by-well basis. The reserve pit would be fenced and covered with netting to protect wildlife from hazardous areas. In areas where livestock are present, the entire well pad would also be fenced. Pad corners will be rounded, as necessary, to protect drainageways and wooded draws.

Well pad areas would be cleared of vegetation, stripped of topsoil, and graded to specifications in the APDs (Applications for Permit to Drill) submitted to the BLM. Construction would comply with the standards and guidelines prescribed in the BLM's "Gold Book." Topsoil would be stockpiled and stabilized until disturbed areas are reclaimed and re-vegetated. Excavated subsoils would be used in pad construction, with the finished well

pads graded to ensure that water drains away from the drill site. Erosion control at the sites would be maintained through the use of BMPs (best management practices), which may include, but are not limited to, water bars, bar ditches, diversion ditches, bio-logs, silt fences, and re-vegetation via hydro-seeding or matting of disturbed areas. Sorbent booms would be placed in select locations down-gradient of the well pad in order to prevent materials from entering surface drainageways in the event of an accidental release.

All efforts will be made so that construction activities begin after July 15 and end prior to February 1, in order to avoid impacts to migratory birds during the breeding/nesting season. Pre-construction surveys for migratory birds or their nests would be conducted within five days prior to the initiation of construction activities for any construction activity that must take place during the breeding season.

2.3.9.4 Drilling

Following the access road construction and well pad preparation, a drilling rig would be rigged up at each well site. The time for rigging up, drilling the well, and rigging down the well is anticipated to be about 60 days. During this phase, vehicles and equipment would access the site several times a day.

Initial drilling would be vertical to a depth of approximately 10,200 feet, at which it would angle to become horizontal at 11,200 feet and then drill horizontally to an approximate measured depth of about 15,500 feet, targeting the Middle Bakken Dolomite Member target. This horizontal drilling technique would minimize surface disturbance.

For the first 2,500 feet drilled at each well (commonly referred to as a "surface hole"), a fresh water based mud system with non-hazardous additives would be used to minimize contaminant concerns. Water would be obtained from a commercial source for this drilling stage. About 8 gallons of water would be used per foot of hole drilled, for a total of about 40,000 gallons (20,000 gallons in the hole and 20,000 gallons as working volume at the surface). After setting and cementing the surface casing, an oil-based mud system consisting of about 80% diesel fuel and 20% saltwater would be used to drill the remainder of the vertical hole and curve. Once seven-inch production casing is set and cemented through the curve (into the lateral), either saltwater based or oil-based drilling mud would be utilized for the horizontal portion of the wellbore.

Drilling fluids would be separated from cuttings and contained in steel tanks placed on liners until they were ready for re-use. Any minimal fluids remaining in the drill cuttings pit would be removed and disposed of in accordance with BLM and NDIC rules and regulations. Cuttings generated from drilling would be deposited in the cuttings pit on the well pads. The pit would be lined to prevent seepage and contamination of underlying soil. Prior to its use, the pit would be fenced on the non-working sides. The access side would be fenced and netted immediately following drilling and completions operations in order to prevent wildlife and livestock from accessing the pit. In accordance with NDIC and BLM regulations and guidelines, drill cuttings would be solidified into an inert, solid mass by chemical means.

2.3.9.5 Casing and Cementing

Casing and cementing methods would be used to isolate all near-surface aquifers and hydrocarbon zones encountered during drilling.

2.3.9.6 Completion and Evaluation

Once each well is drilled and cased, approximately 30 additional days would be required to complete and evaluate it. Completion and evaluation activities include cleaning out the well bore, pressure testing the casing, perforating and fracturing to stimulate the horizontal portion of the well, and running production tubing for potential future commercial production. Fluids utilized in the completion process would be captured in tanks and would be disposed of in accordance with BLM and NDIC rules and regulations. Once each well is completed, site activity and vehicle access would be reduced. If a well is determined to be successful, tank trucks (and, if appropriate, natural gas gathering lines) would transport the product to market.

2.3.9.7 Commercial Production

If commercially recoverable oil and gas resources are found at any of the proposed well sites, the site(s) would become established as production facilities. Production equipment, including a well pumping unit, vertical heater/treater, storage tanks (typically four 400 barrel steel oil tanks and one 400 barrel fiberglass saltwater tank) and a flare with associated piping would be installed. The tanks would be connected by a pipe and valve near the top of each tank, which would allow for overflow into the next tank. The storage tanks and heater/treater would be surrounded by an impermeable berm that would act as secondary containment to guard against possible spills. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. Sorbent booms will be placed in select locations down-gradient of the well pad in order to prevent materials from entering surface drainageways in the event of an accidental release. All permanent above ground production facilities would be painted to blend into the surrounding landscape, as determined by the BIA, based on standard colors recommended by the BLM.

Oil would be collected in the storage tanks and periodically trucked to an existing oil terminal to be sold. Produced water would also be captured in storage tanks and periodically trucked to an approved disposal site. The frequency of trucking activities for both oil resources and produced water would be dependent upon volumes and rates of production. It is expected that oil would be trucked via existing oil field, and BIA or county roads to Highway 23 near New Town and then west approximately 20 miles (off of the Fort Berthold Reservation) to a regional oil terminal. All haul routes used would be either private roads or roads that are approved for this type of transportation use by the local governing tribal, township, county, and/or state entities. All associated applicable permits would be obtained and restrictions complied with. Should regional oil, gas, and/or saltwater pipelines be installed, every attempt to tie production facilities at these sites to these pipelines would be made, thereby minimizing truck traffic. Any future oil, gas, or saltwater transportation pipelines would be constructed within the existing right-of-way or additional NEPA analysis and approval from the BIA would be undertaken.

When any of the proposed wells cease to flow naturally, a pump jack would be installed. After production ceases, the well would be plugged and abandoned, and the land would be fully reclaimed in accordance with BIA and BLM requirements.

Peak would mitigate the effects of these eight dual wells by incorporating applicable conditions, mitigation measures, and BMPs from the BLM's regulations, BLM's Gold Book

(4th Edition, 2006), and applicable BLM Onshore Oil and Gas Orders, including Numbers 1, 2, and 7.

2.3.9.8 Reclamation

The drill cuttings would be dried during drilling operations and placed into a reserve pit at each site. Additional treatment of the cuttings, including stabilization, would be completed, and then the pit would be backfilled and buried as soon as possible upon well completion. Other interim reclamation measures to be implemented upon well completion include reduction of cut and fill slopes where necessary, redistribution of stockpiled topsoil, and re-seeding of the disturbed areas via hydro-seeding or matting. If commercial production equipment is installed, the well site would be reduced in size to accommodate the production facilities, while leaving adequate room to conduct normal well maintenance and potential recompletion operations, with the remainder of the well pad reclaimed. Reclamation activities would include leveling, re-contouring, treating, backfill, and re-seeding with native vegetation. Erosion control measures would be installed as appropriate. Stockpiled topsoil would be redistributed and reseeded as recommended by the BIA.

If no commercial production were developed from one or any of the proposed wells, or upon final abandonment of commercial operations, all disturbed areas would be promptly reclaimed. As part of the final reclamation process, all well facilities would be removed, well bores would be plugged with cement, and dry hole markers would be set in accordance with NDIC and BLM requirements. The access road and well pad areas would be re-contoured to match topography of the original landscape, and reseeded with a native grass seed mixture that is consistent with surrounding native species to ensure a healthy and diverse vegetative community that is free of noxious weeds. Erosion control measures would be installed as appropriate. Maintenance of the grass seeding would continue until such time that the productivity of the stand is consistent with surrounding undisturbed vegetation and is free of noxious weeds. An exception to these reclamation measures may occur if the BIA approves assignment of an access road either to the BIA roads inventory or to concurring surface allottees.

2.3.10 Potential for Future Development

Development beyond the Fool Bear #16-12H, Fool Bear #23-34H, Fox #21-21H, Grace #6-24H, Hall #23-21H, Hidatsa Hills #26-21H, Hudson #13-21H, and Johnson #7-24H wells discussed in this document is not included with this proposal. Further development would be subject to applicable regulations, including 43 CFR Part 3160, and the BLM's Onshore Oil and Gas Order No. 1 – Approval of Operations on Onshore Federal and Indian Oil and Gas Leases, and would be subject to review under NEPA, as appropriate.

Chapter 3. Description of the Affected Environment and Impacts

3.1 Introduction

This chapter describes the existing conditions within the study area. The existing conditions, or affected environment, are the baseline conditions that may be affected by the proposed action. This chapter also summarizes the positive and negative direct environmental impacts of the project alternatives, as well as cumulative impacts. Indirect impacts are discussed in impact categories where relevant. Information regarding the existing environment, potential effects to the environment resulting from the proposed alternative, and avoidance, minimization, and/or mitigation measures for adverse impacts is included.

3.2 Climate, Geologic Setting, and Land Use

The proposed wells and access roads are situated geologically within the Williston basin, where the shallow stratigraphy consists of sandstones, silts and shales dating to the Tertiary Period (65 to 2 million years ago), including the Sentinel Butte and Golden Valley Formations. The underlying Bakken Formation is a well-known source of hydrocarbons; its middle member is targeted by the proposed projects. Although earlier oil and gas exploration activity within the Fort Berthold Reservation was limited and commercially unproductive, recent advances in drilling technologies, including horizontal drilling techniques, now make accessing oil in the Bakken Formation feasible.

According to Great Plains Regional Climate Center data collected at the Keene weather station from 1971-2000, temperatures in excess of 80 degrees Fahrenheit are common in summer months. The area receives approximately 16.0 inches of rain annually, predominantly during spring and summer. Winters in this region are cold, with temperatures often falling near zero degrees Fahrenheit. Snow generally remains on the ground from November to March, and about 32.4 inches of snow are received annually.

The topography within the project area is primarily identified as part of the River Breaks ecoregion, which consists of broken terraces and upland areas that descend to the Missouri River and its major tributaries. They have formed particularly in soft, easily erodible strata, such as Pierre shale.

The western and southern portions of the Fort Berthold Reservation consist of prairie grasslands and buttes. The northern and eastern areas of the Reservation provide fertile farmland. The proposed project areas are located within a predominately rural area. Land within the proposed project areas are predominantly grassland (88%) and cultivated (10%). ***Please refer to Figure 3-1, Land Use.*** Small amounts of woodland and transportation/developed land are also located in the proposed project areas.

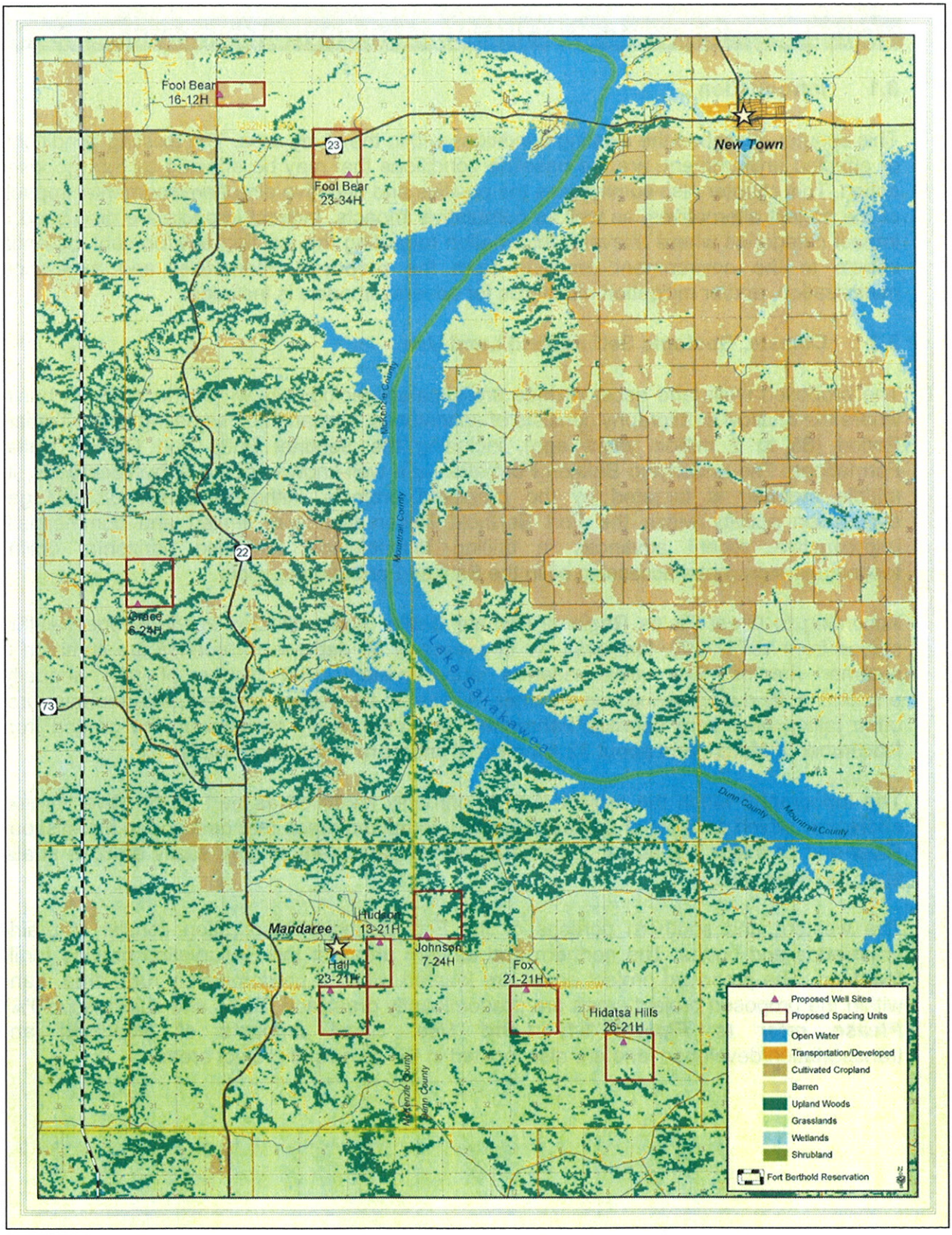

Figure 3-1, Land Use

3.2.1 Climate, Geologic Setting and Land Use Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact land use.

Alternative B (Proposed Action) – Alternative B would result in the conversion of approximately 61 acres of land from present uses to part of an exploratory oil and gas network. ***Please refer to Table 3.1, Summary of Land Use Conversion.***

Table 3.1
Summary of Land Use Conversion

Well Site	Well Pad Acres	Access Road Acres	Total Acres
Fool Bear #16-12H	5.87	0.42	6.29
Fool Bear #23-34H	5.88	1.30	7.18
Fox #21-21H	6.32	1.69	8.01
Grace #6-24H	6.28	5.28	11.56
Hall #23-21H	5.99	3.69	9.68
Hidatsa Hills #26-21H	6.52	0.17	6.69
Hudson #13-21H	4.98	0.48	5.46
Johnson #7-24H	6.08	0.05	6.13
		Total	**61.00**

Mineral resources would be impacted through the development of oil and gas resources at the proposed well sites, as is the nature of this project. Impacts to the geologic setting and paleontological resources are not anticipated.

3.3 Soils

The NRCS (Natural Resource Conservation Service) Soil Survey of Dunn County and McKenzie County dates from 1991, with updated information available online through the NRCS Web Soil Survey. There are 22 soil types identified within the project impact areas. Location and characteristics of these soils are identified in ***Table 3.2, Soils.***

Table 3.2
Soils

Map Unit Symbol	Soil Name	Percent Slope	Composition (in upper 60 inches)			Erosion Factor[1]		Hydrologic Soil Group[2]
			% sand	% silt	% clay	T	Kf	
9D	Amor-Cabba loams	9 to 15	39.9	38.5	21.6	3	.24	B
9E	Cabba loam	15 to 45	40.5	39.5	20.0	2	.32	D
14	Korchea loam, channeled	0 to 2	43.0	38.6	18.4	5	.28	B
30E	Cohagen-Vebar fine sandy loams	9 to 25	78.5	14.0	7.5	2	.20	B
32C	Flaxton-Williams complex	6 to 9	47.4	28.2	24.5	5	.28	B
33	Belfield-Grail silty clay loams	0 to 2	21.6	43.0	35.4	5	.37	C

[1] Erosion Factors indicate susceptibility of a soil to sheet and rill erosion by water. Kf indicates the erodibility of material less than two millimeters in size. Values of K range from 0.02 to 0.69. Higher values indicate greater susceptibility. T Factors estimate maximum average annual rates of erosion by wind and water that will not affect crop productivity. Tons/acre/year range from 1 for shallow soils to 5 for very deep soils. Soils with higher T values can tolerate higher rates of erosion without loss of productivity.

[2] Hydrologic Soil Groups (A, B, C, and D) are based on estimates of runoff potential according to the rate of water infiltration under the following conditions: soils are not protected by vegetation, soils are thoroughly wet, and soils receive precipitation from long-duration storms. The rate of infiltration decreases from Group A (high infiltration, low runoff) to D (low infiltration, high runoff).

Table 3.2 Soils								
Map Unit Symbol	Soil Name	Percent Slope	Composition (in upper 60 inches)			Erosion Factor[1]		Hydrologic Soil Group[2]
			% sand	% silt	% clay	T	Kf	
34B	Daglum-Belfield complex	0 to 6	29.0	32.8	38.2	2	.32	D
36B	Rhoades-Daglum complex	0 to 6	11.0	50.8	38.2	2	.32	D
38F	Dogtooth-Janesburg-Cabba complex	6 to 30	4.5	47.1	48.4	2	.28	D
41B	Williams-Bowbells loams	3 to 6	34.8	35.2	30.0	5	.28	B
42C	Williams loam	6 to 9	34.8	35.2	30.9	5	.28	B
43C	Williams-Zahl loams	6 to 9	35.0	35.2	30.6	5	.28	B
44D	Zahl-Williams loams	9 to 15	35.0	34.3	30.6	5	.28	B
45F	Zahl-Cabba-Maschetah complex	3 to 70	35.0	34.3	30.6	5	.32	B
61F	Beisigl-Flasher-Tally complex	9 to 50	81.1	13.7	5.2	3	.17	A
63D	Vebar-Flasher-Tally complex	9 to 15	75.4	14.8	9.8	3	.20	B
62D	Dogtooth-Cabba complex	9 to 15	5.1	46.6	48.3	2	.32	D
81C	Vebar-Parshall fine sandy loams	6 to 9	75.4	14.8	9.8	3	.20	B
81D	Vebar fine sandy loams	9 to 15	75.4	14.8	9.8	3	.20	B
93D	Zahl-Williams loams	9 to 15	35.0	35.2	30.6	5	.28	B
232C	Lambert-Slickspots-Rhoades complex	0 to 9	29.2	50.4	20.4	5	.32	D
341B	Noonan-Niobell-Williams loams	0 to 6	34.6	34.2	31.2	5	.37	D
341C	Noonan-Williams loams	6 to 9	34.6	34.2	31.2	5	.28	B
442F	Zahl-Willliams loams, dissected	15 to 45	35.0	34.3	30.6	5	.28	B
460C	Zahl-Williams-Cabba complex	6 to 9	35.1	34.3	30.6	5	.28	B

All of the soils listed have high to moderate susceptibility to sheet and rill erosion and can tolerate high to moderate levels of erosion without loss of productivity. Each of these soils is well drained, and depth to the water table is generally recorded at greater than six feet for each of these soil types. None of the soils listed within the project impact areas are susceptible to flooding or ponding.

3.3.1 Soil Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact soils.

Alternative B (Proposed Action) – Construction activities associated with the proposed well sites and associated access roads would result in soil disturbances, though impacts to soils associated with the proposed action are not anticipated to be significant. Stockpile quantities for the location were calculated using an assumption of six-inches of existing topsoil. Topsoil requirements for each site are identified in ***Table 3.3, Topsoil Requirements for Future Site Reclamation.***

Table 3.3 Topsoil Requirements for Future Site Reclamation		
Well Name	**Cubic Yards of Topsoil**	**Cubic Yards of Material**
Fool Bear #16-12H	4,730	14,120
Fool Bear #23-34H	4,740	17,015
Fox #21-21H	5,100	47,375
Grace #6-24H	5,035	42,300
Hall #23-21H	4,830	20,920
Hidatsa Hills #26-21H	5,260	45,700
Hudson #13-21H	3,980	27,790
Johnson #7-24H	4,900	37,355

Based on NRCS soil data, topsoil exists in excess of 12 inches at each of the well sites, yielding sufficient quantity of topsoil for construction and reclamation activities. Topsoil depths taken during onsite surveys indicated soil depths of greater than 6 inches at each of the well sites. The stockpiles would be positioned to assist in diverting runoff away from the disturbed area, thus minimizing erosion, and to allow for interim reclamation soon after the well is put into production. Topsoil and embankment stockpile locations for each proposed site are identified in ***Table 3.4, Topsoil and Embankment Stockpile Locations.***

Table 3.4 Topsoil and Embankment Stockpile Locations	
Well Name	**Topsoil Stockpile Locations on Well Pad**
Fool Bear #16-12H	Two topsoil stockpiles located on the north and east sides of the well pad.
Fool Bear #23-34H	Two topsoil stockpiles located on the south and west sides of the well pad.
Fox #21-21H	Two topsoil stockpiles located on the north and east sides of the well pad.
Grace #6-24H	Two topsoil stockpiles located on the north side and northwest corner of the well pad.
Hall #23-21H	Two topsoil stockpiles located on the northeast corner of the well pad.
Hidatsa Hills #26-21H	Two topsoil stockpiles located on the south side of the well pad.
Hudson #13-21H	Two topsoil stockpiles located on the north and west sides of the well pad.
Johnson #7-24H	Two soil stockpiles located on the north side and northwest corner of the well pad.

Soil impacts would be localized, and BMPs would be implemented to minimize these impacts. Surface disturbance caused by well development, road improvements, and facilities construction would result in the removal of vegetation from the soil surface. This

can damage soil crusts and destabilize the soil. As a result, the soil surface could become more prone to accelerated erosion by wind and water. BMPs used at all sites to reduce these impacts would include erosion and sediment control measures during and after construction, segregating topsoil from subsurface material for future reclamation, chipping any woody vegetation that is removed on-site and incorporating it into topsoil stockpiles, re-seeding of disturbed areas via hydro-seeding, the use of construction equipment appropriately sized to the scope and scale of the project, ensuring the road gradient fits closely with the natural terrain, and maintaining proper drainage. According to discussions at the field on-site assessment and standard industry practices, BMPs identified in the BLM Gold Book shall be utilized, to further minimize site erosion.

Another soil resources issue is soil compaction, which can occur by use of heavy equipment. When soil is compacted, it decreases permeability and increases surface runoff. This is especially evident in silt and clay soils. In addition, soils may be impacted by mixing of soil horizons. Soil compaction and mixing of soil horizons would be minimized by the previously discussed topsoil segregation.

Contamination of soils from various chemicals and other pollutants used during oil development activities is not anticipated. In the rare event that such contamination may occur, the event shall be immediately reported to the BLM, the NDIC, and where appropriate the North Dakota Department of Health, and the procedures of the surface management agency shall be followed to contain spills and leaks.

3.4 Water Resources

The Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act of 1977, provides the authority to EPA (Environmental Protection Agency) and USACE (United States Army Corps of Engineers) to establish water quality standards, control discharges into surface and ground waters, develop waste treatment management plans and practices, and issue permits for discharges (Section 402) and for dredged or fill material (Section 404). Within the Fort Berthold Reservation, the Missouri River and Lake Sakakawea are both considered navigable waters and are therefore subject to Section 10 of the Rivers and Harbors Act of 1899.

3.4.1 Surface Water

The project areas are situated in the Great Plains region of North Dakota that borders the Badlands to the west. This is an arid area with few isolated surface water basins. The majority of the surface waters in the region are associated with the Missouri River, Lake Sakakawea, and tributaries to these water bodies. Surface water generally flows overland until draining into these systems.

The proposed well pads are located in the Lake Sakakawea basin, meaning surface waters within this basin drain to Lake Sakakawea. Watershed and Sub-Watershed information for each well site is identified in ***Table 3.5, Watersheds and Sub-Watersheds.***

Table 3.5 Watersheds and Sub-Watersheds		
Well Name	**Watershed**	**Sub-Watershed**
Fool Bear #16-12H	Antelope Creek SWMA	Antelope Creek
Fool Bear #23-34H	Sanish Bay	Four Bears Bay
Fox #21-21H	Waterchief Bay	Upper Squaw Creek
Grace #6-24H	Bear Den Creek	Bear Den Bay
Hall #23-21H	Waterchief Bay	Upper Squaw Creek
Hidatsa Hills #26-21H	Independence Point	Skunk Creek
Hudson #13-21H	Waterchief Bay	Upper Squaw Creek
Johnson #7-24H	Independence Point	Boggy Creek

Runoff throughout the study area is by sheet flow until collected by ephemeral and perennial streams draining to Lake Sakakawea. ***Please refer to Figure 3-2, Surface Water Resources.*** Surface runoff for each well site would typically travel to Lake Sakakawea via drainage patterns as follows:

- Fool Bear #16-12H – Runoff from the well pad drains to the east-southeast across a cultivated field, then flows northerly into an unnamed draw, approximately 0.5 miles. The draw continues to the north for 1.4 miles until it connects with Antelope Creek, where it flows approximately 7.9 miles east to Lake Sakakawea, for a total traveled distance of 9.8 miles.
- Fool Bear #23-34H – The well pad is situated on the crest of a hill. A small portion of the well pad drains to the northeast, collecting in a roadway ditch. The remaining portion of the well pad drains south 1.1 miles through a coulee that connects to draw. This draw drains north and northeast approximately 2.3 miles, across Highway 23, where it then travels east 2.6 miles into Four Bears Bay of Lake Sakakawea, for a total traveled distance of 6.0 miles.
- Fox #21-21H – Runoff from the well pad drains south-southeasterly, following a series of depressions and gullies for 5.0 miles where it connects with Squaw Creek. From there, it travels southeast approximately 8.8 miles to Squaw Creek Bay of Lake Sakakawea, for a total traveled distance of 13.8 miles.
- Grace #6-24H – Runoff from the well pad drains northeast 0.3 miles to a draw that joins Forman Coulee. From there, it travels southeast 2.6 miles to Bear Den Creek which flows east 3.9 miles to Bear Den Bay of Lake Sakakawea, for a total traveled distance of 6.8 miles.
- Hall #23-21H – Runoff from the well pad drains southwester to a draw that travels south 0.7 miles to Squaw Creek. From there, it drains southeast approximately 17.3 miles to Squaw Creek Bay of Lake Sakakawea, for a total traveled distance of 18.0 miles.
- Hidatsa Hills #26-21H – Runoff from the well pad drains to the north, entering a shallow channel which travels northeast approximately 3.7 miles to Skunk Creek. From there, it travels easterly 3.1 miles to the south fork of Skunk Creek and continues traveling northeast 2.3 miles to Skunk Creek Bay of Lake Sakakawea, for a total traveled distance of 9.1 miles.

- Hudson #13-21H – Runoff from the well pad drains southwest into a draw. From there, it travels 2.5 miles southwest into Squaw Creek and then 17.3 miles to Squaw Creek Bay of Lake Sakakawea, for a total traveled distance of 19.8 miles.
- Johnson #7-24H – Runoff from the well pad drains west 0.2 miles through a shallow depression where it then connects with a ravine. From there, it travels north 2.4 miles to Boggy Creek and then 2.7 miles northeast to Drags Wolf Bay of Lake Sakakawea, for a total traveled distance of 5.3 miles.

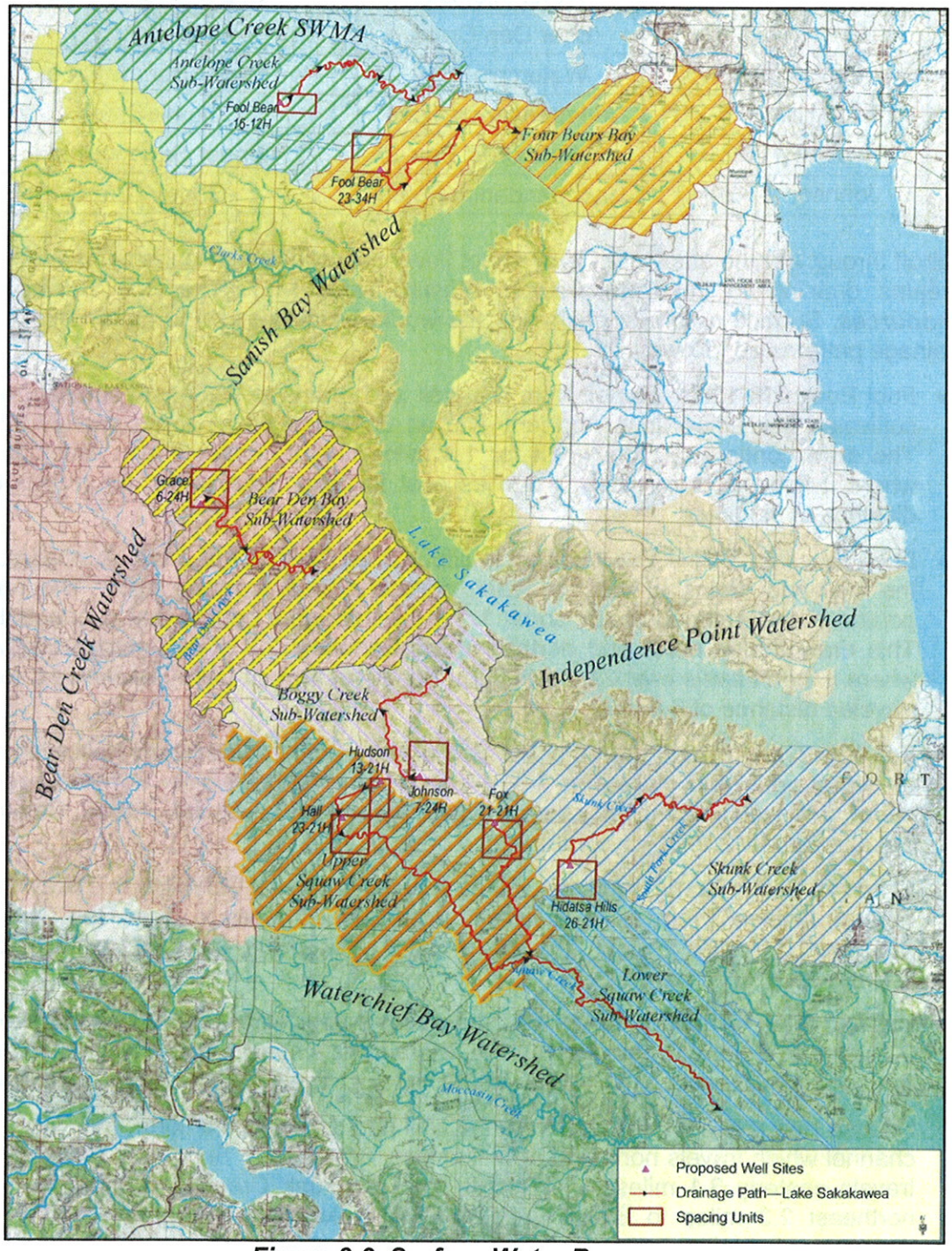

Figure 3-2, Surface Water Resources

3.4.1.1 Surface Water Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact surface water.

Alternative B (Proposed Action) – No significant impacts to surface water are expected to result from Alternative B. The proposed projects have been sited to avoid direct impacts to surface waters and to minimize the disruption of drainage patterns across the landscape. Construction site plans should contain measures to divert surface runoff around the well pads. Culverts would be implemented as needed. Roadway engineering and the implementation of BMPs to control erosion would minimize runoff of sediment downhill or downstream. Specific measures to mitigate the impacts to surface waters and to minimize the disruption of drainage patterns include; berming the northeast corner of the Grace 6-24H well pad, as well as rounding the southern corners of the Fox 21-21H pad, the southeast corner of the Hudson 13-21H pad, and the southwest corner of the Johnson #7-24H pad. Alternative B is not anticipated to result in measurable increases in runoff or impacts to surface waters.

3.4.2 Ground Water

The North Dakota State Water Commission's electronic records reveal that there are active or permitted ground water wells within one-mile of the proposed oil and gas well pads or access road areas. The New Town aquifer is located northeast of the proposed well pads, and the Fort Union Aquifer is located to the west and southwest; however, no sole source aquifers have been identified within the state of North Dakota. ***Please refer to Figure 3-3, Aquifers and Groundwater Wells.*** Ground water well and water pipeline locations in relation to the proposed oil and gas well pads and/or access roads are as follows:

- Fool Bear #16-12H – Two active or permitted ground water wells are located 0.5 miles southeast, and 0.8 miles south-southeast of the proposed well site. An existing water pipeline is located 0.91 miles south of the proposed well site.
- Fool Bear #23-34H – Four active or permitted ground water wells are located 0.94 miles west, 0.33 miles east, 0.41 miles northeast, and 0.95 miles north-northeast of the proposed well site. An existing water pipeline is located 0.28 miles east of the proposed well site.
- Fox #21-21H – Four active or permitted ground water wells are located 0.65 miles east-southeast, 0.62 miles north-northeast, 0.86 miles south-southeast, and 0.93 miles south-southeast of the proposed well site.
- Grace #6-24H – There are no active or permitted ground water wells or existing water pipelines within one mile of the proposed well site.
- Hall #23-21H – Two active or permitted ground water wells are located 0.94 miles north, and 0.8 miles north of the proposed well site. An existing water pipeline is located 0.75 miles north-northeast of the proposed well site.
- Hidatsa Hills #26-21H – Two active or permitted ground water wells are located 0.62 miles west, and 0.61 miles west of the proposed well site.
- Hudson #13-21H – One active or permitted ground water well is located 0.88 miles west of the proposed well site. An existing water pipeline is located 0.27 miles west of the proposed well site.
- Johnson #7-24H – There are no active or permitted ground water wells or existing water pipelines within one mile of the proposed well site.

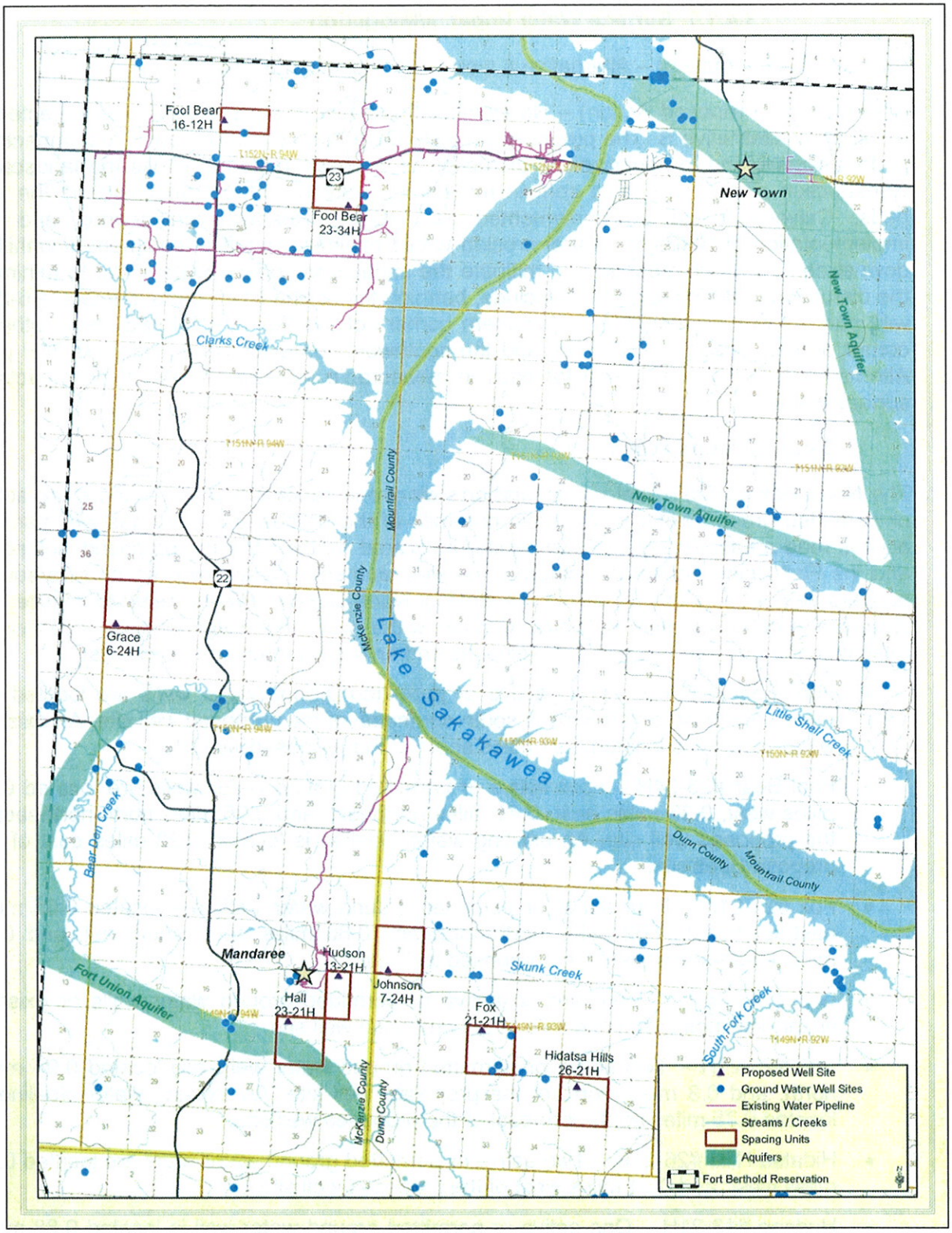

Figure 3-3, Aquifers and Groundwater Wells

3.4.2.1 Groundwater Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact ground water.

Alternative B (Proposed Action) – No significant impacts to ground water are expected to result from Alternative B. As required by applicable law, all proposed oil and gas wells would be cemented and cased to isolate aquifers from potentially productive hydrocarbon and disposal/injection zones.

3.5 Air Quality

The Clean Air Act, as amended, requires the EPA to establish air quality standards for pollutants considered harmful to public health and the environment by setting limits on emission levels of various types of air pollutants.

The NDDH (North Dakota Department of Health) operates a network of AAQM (Ambient Air Quality Monitoring) stations. The nearest AAQM station is located in Dunn Center, North Dakota; located south of the proposed wells, about 25 miles from the nearest site (Hidatsa Hills #26-21H). Criteria pollutants tracked under EPA's National Ambient Air Quality Standards in the Clean Air Act include SO_2 (sulfur dioxide), PM (particulate matter), NO_2 (nitrogen dioxide), O_3 (ozone), Pb (lead), and CO (carbon monoxide). In addition, the NDDH has established state air quality standards. State standards must be as stringent as (but may be more stringent than) federal standards. The federal and state air quality standards for these pollutants are summarized in ***Table 3.6, Federal and State Air Quality Standards and Reported Data for Dunn Center (EPA 2006, NDDH 2009, Dunn Center 2009).***

North Dakota was one of thirteen states in 2008 that met standards for all criteria pollutants. The state also met standards for fine particulates and the eight-hour ozone standards established by the EPA (NDDH 2009).

Table 3.6
Federal and State Air Quality Standards and Reported Data for Dunn Center

Pollutant	Averaging Period	EPA Air Quality Standard		NDDH Air Quality Standard		Dunn Center 2009 Reported Data	
		µg/m³	parts per million	µg/m³	parts per million	µg/m³	parts per million
SO_2	24-Hour	365	0.14	260	0.099	--	.0055
	Annual Mean	80	0.030	60	0.023	--	.0005
PM_{10}	24-Hour	150	--	150	--	44.5	--
	Annual Mean	50	--	50	--	11.3	--
$PM_{2.5}$	24-Hour	35	--	35	--	14.2	--
	Weighted Annual Mean	15	--	15	--	3.4	--
NO_2	Annual Mean	100	0.053	100	0.053	--	.0015
CO	1-Hour	40,000	35	40,000	35	--	--
	8-Hour	10,000	9	10,000	9	--	--
Pb	3-Month	1.5	--	1.5	--	--	--
O3	1-Hour	240	0.12	235	0.12	--	.064
	8-Hour	--	0.08	--	0.08	--	.055

In addition, the Fort Berthold Reservation complies with the North Dakota National Ambient Air Quality Standards and visibility protection. The Clean Air Act affords additional air quality protection near Class I areas. Class I areas include national parks greater than 6,000 acres in size, national monuments, national seashores, and federally designated wilderness areas larger than 5,000 acres designated prior to 1977. There are no Federal Class I areas[3] within the project area. The Theodore Roosevelt National Park is the nearest Class I area, located west of the proposed sites, approximately 27 miles from the closest site (Grace #6-24H).

3.5.1 Air Quality Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact air quality.

Alternative B (Proposed Action) – The Fort Berthold Reservation complies with North Dakota National Ambient Air Quality Standards and visibility protection. In addition, the Dunn Center AAQM Station reported air quality data well below the state and federal standards. Alternative B would not include any major sources of air pollutants. Construction activities would temporarily generate minor amounts of dust and gaseous emissions of PM, SO_2, NO_2, CO, and volatile organic compounds. Emissions would be limited to the immediate project areas and are not anticipated to cause or contribute to a violation of National Ambient Air Quality Standards. No detectable or long-term impacts to air quality or visibility are expected within the airsheds of the Fort Berthold Reservation, State, or Theodore Roosevelt National Park. No mitigation or monitoring measures are recommended.

3.6 Threatened and Endangered Species

In accordance with Section 7 of the ESA (Endangered Species Act) of 1973, 50 CFR Part 402, as amended, each federal agency is required to ensure the following two criteria. First, any action funded or carried out by such agency must not be likely to jeopardize the continued existence of any federally-listed endangered or threatened species or species proposed to be listed. Second, no such action can result in the destruction or adverse modification of habitat of such species that is determined to be critical by the Secretary. An endangered species is in danger of extinction throughout all or a significant portion of its range. A threatened species is one that is likely to become endangered in the foreseeable future. A candidate species is a plant or animal for which the USFWS has sufficient information on its biological status and threats to propose it as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by other higher priority listing activities. While candidate species are not legally protected under the ESA, it is within the spirit of the ESA to consider these species as having significant value and worth protecting.

The proposed action area was evaluated to determine the potential for occurrences of federally-listed threatened, endangered, and candidate species. The USFWS (United States Fish and Wildlife Service) March 2010 Endangered, Threatened, and Candidate Species and Designated Critical Habitat in North Dakota county list identified the black-footed ferret, gray wolf, interior least tern, pallid sturgeon, and whooping crane as endangered species that may be found within McKenzie and Dunn Counties. The piping plover is listed as a threatened species for McKenzie and Dunn Counties. In addition, McKenzie and Dunn Counties contain designated critical habitat for the piping plover adjacent to Lake Sakakawea. The Dakota skipper, a candidate species, is also listed for McKenzie and Dunn

[3] Federal Class I areas are generally national parks and wilderness areas.

Counties. In addition, the USFWS is currently conducting a study to determine if the Sprague's pipet will become a listed species in the future. None of these species were observed in the field. Habitat requirements, the potential for suitable habitat within the project area, and other information regarding listed species for McKenzie and Dunn Counties are as follows:

Black-footed Ferret (*Mustela nigripes*)

The black-footed ferret historically could be found throughout the Rocky Mountains and Great Plains. In North Dakota, the black-footed ferret may potentially be present within prairie dog towns. However, this species has not been confirmed in North Dakota for over 20 years and is presumed to be extirpated. Its preferred habitat includes areas around prairie dog towns, as it relies on prairie dogs for food and lives in prairie dog burrows. Black-footed ferrets require at least an 80-acre prairie dog town to survive.

No prairie dog towns to provide suitable black-footed ferret habitat were observed within the proposed well pads or access road corridors.

Gray Wolf (*Canis lupus*)

The gray wolf is the largest wild canine species in North America. It is found throughout northern Canada, Alaska, and the forested areas of Northern Michigan, Minnesota, and Wisconsin and has been re-introduced to Yellowstone National Park in Wyoming. While the gray wolf is not common in North Dakota, occasionally individual wolves do pass through the state. Historically, its preferred habitat includes biomes such as boreal forest, temperate deciduous forest, and temperate grassland. Gray wolves live in packs of up to 21 members, although some individuals will roam alone. The project area is located far from other known wolf populations.

Interior Least Tern (*Sterna antillarum*)

The interior least tern nests along inland rivers. The interior least tern is found in isolated areas along the Missouri, Mississippi, Ohio, Red, and Rio Grande Rivers. In North Dakota, it is sighted along the Missouri River during the summer nesting season. The interior least tern nests in sandbars or barren beaches, preferably in the middle of a river for increased safety while nesting. These birds nest close together, using safety in numbers to scare away predators.

There is no existing or potential habitat within the project area. Potential habitat in the form of sandy/gravely Lake Sakakawea shoreline exists approximately 1.6 miles away from the Fool Bear #23-34H access road, this being the closest of the proposed projects to potential habitat.

Pallid Sturgeon (*Scaphirhynchus albus*)

The pallid sturgeon is known to exist in the Yellowstone, Missouri, middle and lower Mississippi, and Atchafalaya Rivers, and seasonally in some tributaries. In North Dakota, the pallid sturgeon is found principally in the Missouri River and upstream of Lake Sakakawea in the Yellowstone River. Dating to prehistoric times, the pallid sturgeon has become well adapted to living close to the bottom of silty river systems. According to the USFWS, its preferred habitat includes "a diversity of water depths and velocities formed by braided river

channels, sand bars, sand flats, and gravel bars." Weighing up to 80 pounds, pallid sturgeons are long lived, with individuals possibly reaching 50 years of age.

Potential habitat for pallid sturgeon can be found in Lake Sakakawea approximately 1.6 miles from the project sites at the closest point.

Whooping Crane (*Grus americana*)

The whooping crane is the tallest bird in North America. In the United States, this species ranges through the Midwest and Rocky Mountain regions from North Dakota south to Texas and east into Colorado. Whooping cranes migrate through North Dakota along a band running from the south central to the northwest parts of the state. They use shallow, seasonally and semi-permanently flooded palustrine (marshy) wetlands for roosting and various cropland and emergent wetlands for feeding. During migration, whooping cranes are often recorded in riverine habitats, including the Missouri River. Currently there are three wild populations of whooping cranes, yielding a total species population of about 383. Of these flocks, only one is self-sustaining.

The proposed project is located in the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred. The proposed project sites and access roads do not contain wetlands. Potential habitat at the Fool Bear #16-12H pad site is present in the form of cropland which may be used for feeding. The other sites do not have cropland habitat present. The closest site to Lake Sakakawea, which provides potential stopover habitat for whooping cranes migration, is approximately 1.6 miles away.

Piping Plover (*Charadrius melodus*)

The piping plover is a small migratory shorebird. Historically, piping plovers could be found throughout the Atlantic Coast, Northern Great Plains, and the Great Lakes. Drastically reduced, sparse populations presently occur throughout this historic range. In North Dakota, breeding and nesting sites can be found along the Missouri River. Preferred habitat for the piping plover includes riverine sandbars, gravel beaches, alkali areas of wetlands, and flat, sandy beaches with little vegetation. The USFWS has identified critical habitat for the piping plover on the Missouri River system. Critical habitat includes reservoir reaches composed of sparsely vegetated shoreline beaches, peninsulas, islands composed of sand, gravel, or shale, and their interface with water bodies.

There is no existing or potential habitat within the project area. Potential habitat in the form of sandy/gravely Lake Sakakawea shoreline exists approximately 1.6 miles away at the closest point.

Dakota Skipper (*Hesperia dacotae*)

The Dakota skipper is a small butterfly with a one-inch wing span. These butterflies historically ranged from southern Saskatchewan, across the Dakotas and Minnesota, to Iowa and Illinois. The preferred habitat for the Dakota skipper consists of flat, moist bluestem prairies and upland prairies with an abundance of wildflowers. Dakota skippers are visible in their butterfly stage from mid June to early July.

The Fox #21-21H, Grace #6-24H, Hidatsa Hills #26-21H, and Hudson #13-21H sites contain suitable Dakota skipper habitat. The remaining sites do not contain suitable habitat for the Dakota skipper. No Dakota skippers were observed during any of the field visits.

Sprague's Pipit (*Anthus spragueii*)

The Sprague's pipit is a small songbird found in prairie areas throughout the Northern Great Plains. Preferred habitat includes rolling, upland mixed-grass prairie habitat with high plant species diversity. The Sprague's pipit breeds in habitat with minimal human disturbance. The proposed project area does consist of upland prairie, which may provide potential habitat for the Sprague's pipit. Due to the presence of potential habitat for the Sprague's pipit within the project area, the proposed action may impact individuals or habitat. An "effect determination" under Section 7 of the Endangered Species Act has not been made due to the current unlisted status of the species.

3.6.1 Threatened and Endangered Species Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact threatened or endangered species or designated critical habitat.

Alternative B (Proposed Action) – Potential habitat associated with Lake Sakakawea and its shoreline is located approximately 1.6 miles away from the closest project site. Therefore, the proposed project is anticipated to have no effect on the interior least tern, pallid sturgeon, or piping plover. The proposed project is not likely to jeopardize the continued existence of these species and is not likely to destroy or adversely modify critical habitat.

The proposed project is located within the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred and suitable cropland food sources can be found nearby. Per USFWS recommendations, if a whooping crane is sighted within one-mile of a well site or associated facilities while under construction, then all work would cease within one-mile of that part of the project and the USFWS would be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area. Potential forage habitat may exist at the Fool Bear #16-12H site in the form of a small-grain field. The Hall #23-21H site has a wetland drainage area to the west of the site. Whooping cranes would most likely not utilize the stream drainage area, as they prefer shallow, marshy areas with good sight visibility, which the drainage area does not possess. No other potential habitat exists at the other project sites. It is determined that the proposed projects may affect, but are not likely to adversely affect the whooping crane. The proposed projects are not likely to jeopardize the continued existence of this species and are not likely to destroy or adversely modify critical habitat.

Potential habitat for the Dakota skipper was observed at the Fox #21-21H, Grace #6-24H, Hidatsa Hills #26-21H, and Hudson #13-21H sites; however, no Dakota skippers were observed during the field surveys. Therefore, it is determined that the proposed projects may affect, but are not likely to adversely affect the Dakota skipper. The proposed projects are not likely to jeopardize the continued existence of this species and are not likely to destroy or adversely modify critical habitat.

Due to a lack of preferred habitat characteristics and/or known populations, the proposed project is anticipated to have no effect on the gray wolf or the black-footed ferret.

Peak has developed avoidance and minimization measures for the proposed project. ***Please refer to section 3.17 Environmental Commitments/ Mitigation.***

3.7 Wetlands, Eagles, Other Wildlife, and Vegetation

An intensive resource survey of wildlife and botany species was conducted for the well pads and access roads on May 26-27, 2010 by Kadrmas, Lee & Jackson. The purpose of this site visit was to gather site-specific data and photos with regards to biological, botanical, soil, and water resources. A study area of 10 acres centered on the well pads center point and a 200-foot wide access road corridor were surveyed. .

A BIA EA onsite assessment was conducted for the well pads and access road locations on June 7, 2010. Representatives from the Tribal Historic Preservation Office, BIA (Environmental Protection Specialist), Peak, Beaver Creek Archaeology and Kadrmas, Lee & Jackson participated in the assessment. Proposed well pad locations were adjusted as appropriate to best avoid impacts to environmental areas of concern including avian nests, wetlands, and any additional identified sensitive wildlife or botanical concerns identified on site. Those present at the on-site assessment agreed on the selected locations and best management practices to be implemented to minimize impacts to wildlife and botanical resources. During this site visit, the well pads and access road locations were finalized and the BIA gathered information needed to develop site-specific mitigation measures and BMPs to be incorporated into the final APDs.

Additionally, a survey for raptors and raptor nests within 0.5 miles of project disturbance areas was conducted by Kadrmas, Lee & Jackson on May 26-27, 2010, with additional visits occurring June 7-8, 2010, and June 22, 2010. These surveys consisted of pedestrian transects focusing specifically on potential nesting sites within 0.5 miles of project disturbance areas, including cliffs and wooded draws. Wooded draws were observed both from the upland areas overlooking the draws and from bottomlands within the actual draws.

3.7.1 Wetlands

Wetlands are defined in both the 1977 Executive Order 11990, Protection of Wetlands, and in Section 404 of the Clean Water Act of 1986, as those areas that are inundated by surface or groundwater with a frequency to support and under normal circumstances do or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Three parameters that define a wetland, as outlined in the Federal Manual for Delineating Jurisdictional Wetlands (US Army Corps of Engineers, 1987), are hydric soils, hydrophytic vegetation, and hydrology. Wetlands are an important natural resource serving many functions, such as providing habitat for wildlife, storing floodwaters, recharging groundwater, and improving water quality through purification.

No wetlands or riparian areas were identified within the proposed well pad or access road project areas during the field surveys.

3.7.1.1 Wetland Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact wetlands.

Alternative B (Proposed Action) – Due to the absence of wetlands within the proposed project areas, Alternative B would not impact wetlands.

3.7.2 Bald and Golden Eagles

Protection is provided for the bald and golden eagle through the BGEPA (Bald and Golden Eagle Protection Act). The BGEPA of 1940, 16 U.S.C. 668–668d, as amended, was written with the intent to protect and preserve bald and golden eagles, both of which are treated as species of concern within the Department of the Interior. The BGEPA affords additional protection to all bald and golden eagles. Under the BGEPA, to "take" includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb, wherein "disturb" means to agitate or bother a bald or golden eagle to the degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, causing injury, death, or nest abandonment.

The bald eagle (*Haliaeetus leucocephalus*) is sighted in North Dakota along the Missouri River during spring and fall migration periods and periodically in other places in the state such as the Devils Lake and Red River areas. In addition, the ND Game and Fish Department estimated in 2009 that 66 nests were occupied by bald eagles, though not all eagle nests were visited and verified[4]. Preferred habitat for the bald eagle includes open areas, forests, rivers, and large lakes. Bald eagles tend to use the same nest year after year, building atop the previous year's nest. No bald eagles or nests were observed within 0.5 miles of proposed project disturbance areas during the field surveys conducted on May 26-27 or June 7, 8, and 22, 2010.

The golden eagle (*Aquila chrysaetos*) can be spotted in North Dakota throughout the badlands and along the upper reaches of the Missouri River in the western part of the state. Golden eagle pairs maintain territories that can be as large as 60 square miles and nest in high places including cliffs, trees, and human-made structures. They perch on ledges and rocky outcrops and use soaring to search for prey. Golden eagle preferred habitat includes open prairie, plains, and forested areas. No golden eagles or nests were observed within 0.5 miles of proposed project disturbance areas during the field surveys conducted on May 26-27 or June 7, 8, and 22, 2010.

The USGS (United States Geological Survey) Northern Prairie Wildlife Research Center maintains information on bald eagle and golden eagle habitat within the state of North Dakota. According to the USGS data, the 0.5 mile buffered survey area for each proposed well site does contain recorded habitat for both the bald eagle and the golden eagle. In addition, Dr. Anne Marguerite Coyle of Dickinson State University has completed focused research on golden eagles and maintains a database of golden eagle nest sightings. According to Dr. Coyle's information, the closest recorded golden eagle nest is located approximately 2.5 miles southwest of the proposed Hall 23-21H site. ***Please refer to Figure 3-4, Bald and Golden Eagle Habitat and Nest Sightings.***

[4] Source: "Nesting in Numbers." ND Outdoors February 2010 issue.

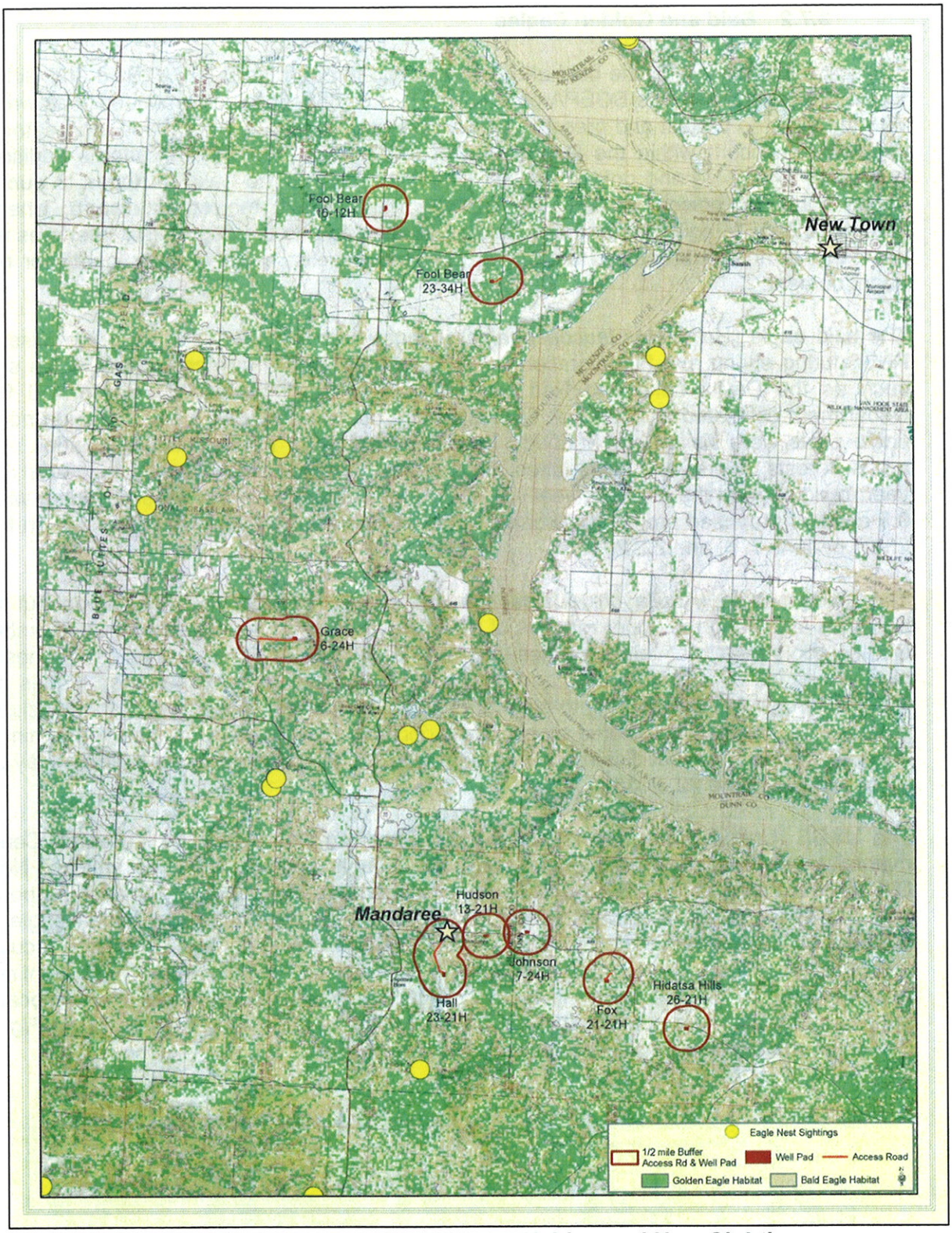

Figure 3-4, Bald and Golden Eagle Habitat and Nest Sightings

3.7.2.1 Bald and Golden Eagle Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact bald or golden eagles.

Alternative B (Proposed Action) – No golden or bald eagles were observed during the field investigations and no evidence of eagle nests was found within 0.5 miles of the project areas. If a bald or golden eagle or eagle nest is sighted within 0.5 miles of the project construction area, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.

3.7.3 Migratory Birds and Other Wildlife

The MBTA (Migratory Bird Treaty Act), 916 U.S.C. 703–711, provides protection for 1,007 migratory bird species, 58 of which are legally hunted. The MBTA regulates impacts to these species such as direct mortality, habitat degradation, and/or displacement of individual birds. The MBTA defines "taking" to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing, or transporting any migratory bird, nest, egg, or part thereof, except when specifically permitted by regulations.

The proposed project study area lies in the prairie pothole region of North Dakota and the Central Flyway of North America. As such, this area is used as resting grounds for many birds on their spring and fall migrations, as well as nesting and breeding grounds for many waterfowl species. Other non-game bird species are known to fly through and inhabit this region. In addition, the project areas contain suitable habitat for mule deer (*Odocoileus hemionus*), whitetail deer (*Odocoileus virginianus*), plains sharptail grouse (*Tympanuchus phasianellus*), ring-necked pheasant (*Phasianus colchicas*), wild turkey (*Meleagris gallopavo*), red tail hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*) song birds, coyote (*Canis latrans*), red fox (*Vulpes vulpes*), American badger (*Taxidea taxus*), Eastern cottontail rabbit (*Sylvilagus floridanus*) white-tailed jackrabbit (*Lepus townsendii*), North American porcupine (*Erethizon dorsatum*), and mountain lion (*Puma concolor*).

During the pedestrian field surveys, migratory birds, raptors, big and small game species, non-game species, potential wildlife habitats, and and/or nests were identified if present. Observed species for each well site are identified in ***Table 3.7, Observed Wildlife Species.***

Table 3.7
Observed Wildlife Species

Well Name	Wildlife Species Observed During Field Survey
Fool Bear #16-12H	3 Franklin's gulls, small group of cow birds
Fool Bear #23-34H	No species observed
Fox #21-21H	2 song sparrows, 1 pronghorn, 1 eastern kingbird, 1 cabbage butterfly
Grace #6-24H	1 coyote, 1 mule deer, 1 sharp-tailed grouse
Hall #23-21H	1 thirteen-lined ground squirrel, 1 cabbage butterfly
Hidatsa Hills #26-21H	2 song sparrows, 1 sharp-tailed grouse, 1 sharp-tailed grouse nest (15 eggs)
Hudson #13-21H	No species observed
Johnson #7-24H	2 western meadowlarks, 2 cowbirds

No other wildlife species, including migratory birds or their nests, were observed during the field surveys. ***Please refer to Figure 3-5 Thirteen-Lined Ground Squirrel, and Figure 3-6, Sharp-Tailed Grouse Nest.***

Figure 3-5, Thirteen-Lined Ground Squirrel

Figure 3-6, Sharp-Tailed Grouse Nest

3.7.3.1 Migratory Birds and Other Wildlife Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact migratory birds or other wildlife.

Alternative B (Proposed Action) – Due to the presence of suitable habitat at the Peak sites for many wildlife and avian species, ground clearing activities associated with the proposed project may impact individuals or suitable habitat for the wildlife species discussed above. No migratory bird nests are expected to be impacted by construction of the proposed project as construction of the wells is anticipated to begin after July 15 and end prior to February 1, and would therefore avoid the migratory bird nesting and breeding season. In the event that a construction activity needs to take place within the nesting and breeding season, pre-construction surveys for migratory birds or their nests would be conducted within five days prior to the initiation of construction activities.

While wildlife may use the project area for breeding and feeding, wildlife are generally expected to adapt to changing conditions and continue to thrive. The proposed project may affect individuals within these wildlife species, but is not likely to adversely affect any populations or to result in a trend towards listing of any of the species identified. As no grouse leks were observed in the project area, additional timing restrictions for construction are not required.

The proposed Peak sites are located on upland areas that are at a considerably higher elevation than the Lake Sakakawea shoreline. Additionally, the nearest site to Lake Sakakawea is approximately 1.6 miles. This distance, along with the topographic features of the area, should assist in providing sight and sound buffers for shoreline-nesting birds.

During drilling activities, the noise, movements, and lights associated with the drilling are expected to deter wildlife from entering the areas. In addition, the reserve pits would be used primarily for solid material storage, and it is expected that very minimal free fluid will be present in the pits. The absence of exposed liquids in the pits would minimize their

attractiveness to wildlife. Immediately after the drilling rig leaves the location, reserve pits would be netted with State and Federal approved nets. These would remain in place until the closure of the reserve pits.

In addition, design considerations will be implemented to further protect against potential habitat degradation. The storage tanks and heater/treater would be surrounded by an impermeable berm that would act as secondary containment to guard against possible spills. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. BMPs to minimize wind and water erosion of soil resources, as well as implementing a semi-closed loop system during drilling would also be put into practice.

All efforts will be made for construction activities to begin after July 15 and end prior to February 1, in order to avoid impacts to migratory birds during the breeding/nesting season. In the event that a construction activity needs to take place within the nesting and breeding season, pre-construction surveys for migratory birds or their nests would be conducted within five days prior to the initiation of construction activities. Additionally, all reasonable, prudent, and effective measures to avoid the taking of migratory bird species would be implemented during the construction and operation phases. These measures would include: the use of suitable mufflers on all internal combustion engines; certain compressor components to mitigate noise; only utilizing approved roadways; placing wire mesh or grate covers over barrels or buckets placed under valves and spigots to collect dripped oil; maintaining open pits and ponds that are free from oil, and netting cuttings pits with netting that has a maximum mesh size of 1.5 inches.

3.7.4 Vegetation

Botanical resources were evaluated using visual inspection. The project area was also investigated for the presence of invasive plant species.

Vegetation at the Fool Bear #16-12H well site consisted of cultivated small grain crops. The roadway ditch on the western portion of the study area was dominated by smooth bromegrass (*Bromus inermis*). Purple cone flower (*Echinacea angusifolia*), yellow sweet clover (*Melilotus officinalis*), crested wheatgrass (*Agropyron cristatum*), and blue lettuce (*Lactuca tatarica*) were all observed in small quantities throughout the site. No wetland species were observed. Canada thistle (*Cirsium arvense*), a noxious weed species, was observed near the center of the well pad, in small patches. ***Please refer to Figure 3-7, Small Grain Crops, and Figure 3-8, Crested Wheat Community*** for examples of vegetation observed at the Fool Bear #16-12H site.

Figure 3-7, Small Grain Crops
Fool Bear #16-12H

Figure 3-8, Crested Wheat Community
Fool Bear #16-12H

Vegetation at the Fool Bear #23-34H well site consisted of short-grass prairie used for grazing. The access road and well pad were dominated by Kentucky bluegrass (*Poa pratensis*) and Western wheatgrass (*Agropyron smithii*). Purple cone flower (*Echinacea angusifolia*), blue grama (*Bouteloua gracilis*), crested wheatgrass (*Agropyron cristatum*), western snowberry (*Symphoricarpos occidentalis*) and little bluestem (*Andropogon scoparius*) were all found in small quantities throughout the site. No wetland species were observed. Canada thistle (*Cirsium arvense*), a noxious weed species, was observed in small patches. ***Please refer to Figure 3-9, Short-Grass Prairie, and Figure 3-10, Western Snowberry Community*** for examples of vegetation observed at the Fool Bear #23-34H site.

Figure 3-9, Short-Grass Prairie
Fool Bear #23-34H

Figure 3-10, Western Snowberry
Community, Fool Bear #23-34H

Vegetation at the Fox #21-21H well site consisted of short-grass prairie that has been used for grazing. The access road and well pad were dominated by Kentucky bluegrass (*Poa pratensis*) with large patches of little bluestem (*Andropogon scoparius*) and western snowberry (*Symphoricarpos occidentalis*). Native forbs such as shining arnica (*Arnica fulgens*), purple coneflower (*Echinacea angusifolia*), and common yarrow (*Achillea millefolium*) were also seen in small quantities. ***Please refer to Figure 3-11, Little Bluestem Community, and Figure 3-12, Mixed-Grass Prairie & Western Snowberry Community*** for examples of vegetation observed at the Fox #21-21H site.

Figure 3-11, Little Bluestem Community Fox #21-21H

Figure 3-12, Mixed-Grass Prairie/Western Snowberry Community, Fox #21-21H

Vegetation at the Grace #6-24H well site consisted of short-grass prairie that appeared to have been used for haying. The access road and well pad were dominated by Kentucky bluegrass (*Poa pratensis*), prairie junegrass (*Koeleia pyramidata*), and green needle grass (*Stipa viridula*). Native forbs such as Missouri milkvetch (*Astragalus missouriensis*), purple coneflower (*Echinacea angusifolia*), and field pussytoes (*Antennaria neglecta*) were also abundant. ***Please refer to Figure 3-13, Short-Grass Prairie, and Figure 3-14, Field Pussytoes Community*** for examples of vegetation observed at the Grace #6-24H site.

Figure 3-13, Short-Grass Prairie Grace #6-24H

Figure 3-14, Field Pussytoes Community Grace #6-24H

Vegetation at the Hall #23-21H well site occurred on land that was being used as a hayfield. The access road and well pad were dominated by smooth bromegrass (*Bromus inermis*). Other species present included quackgrass (*Agropyron repens*), field pussytoes (*Antennaria neglecta*), black medic (*Medicago lupulina*), common yarrow (*Achillea millefolium*), chokecherry (*Prunus virginiana*) and Canada thistle (*Cirsium vulgare*). ***Please refer to Figure 3-15, Smooth Bromegrass, and Figure 3-16, Canada Thistle*** for examples of vegetation observed at the Hall #23-21H site.

Figure 3-15, Smooth Bromegrass Hall #23-21H

Figure 3-16, Canada Thistle Hall #23-21H

Vegetation at the Hidatsa Hills #26-21H well site consisted of short-grass prairie that was used for grazing. The access road and well pad were dominated by Kentucky bluegrass (*Poa pratensis*) and green needlegrass (*Stipa viridula*) with large patches of little bluestem (*Andropogon scoparius*) and western snowberry (*Symphoricarpos occidentalis*) present. Native forbs such as prairie wild rose (*Rosa arkansana*), purple coneflower (*Echinacea angusifolia*), cudweed sagewort (*Artemisia ludoviciana*), and western sagewort (*Artemisia campestris*) were also present. ***Please refer to Figure 3-17, Little Bluestem Community, and Figure 3-18, Western Snowberry Community*** for examples of vegetation observed at the Hidatsa Hills #26-21H site.

Figure 3-17, Little Bluestem Community Hidatsa Hills #26-21H

Figure 3-18, Western Snowberry Community, Hidatsa Hills #26-21H

Vegetation at the Hudson #13-21H well site consisted of short-grass prairie used for grazing. The access road and well pad were dominated by prairie junegrass (*Koeleia pyramidata*), green needlegrass (*Stipa viridula*), and Kentucky bluegrass (*Poa pratensis*), with large patches of little bluestem (*Andropogon scoparius*) located on hill tops. Native forbs such as western wallflower (*Erysimum asperum*), purple coneflower (*Echinacea angusifolia*), and Missouri milkvetch (*Astragalus missouriensis*) were also present in small quantities. ***Please refer to Figure 3-19, Short-Grass Prairie, and Figure 3-20, Little Bluestem Community*** for examples of vegetation observed at the Hudson #13-21H site.

Figure 3-19, Short-Grass Prairie
Hudson #13-21H

Figure 3-20, Little Bluestem Community
Hudson #13-21H

The Johnson #7-24H well site was dominated by short-grass prairie used for grazing. The access road and well pad were dominated by Kentucky bluegrass (*Poa pratensis*) and smooth bromegrass (*Bromus inermis*). Absinth wormwood (*Artemisia absinthium*) and Canada thistle (*Cirsium arvense*), both invasive species in North Dakota, occurred in patches within the well pad site. ***Please refer to Figure 3-21, Grazed Short-Grass Prairie, and Figure 3-22, Canada Thistle*** for examples of vegetation observed at the Johnson #7-24H site.

Figure 3-21, Grazed Short-Grass Prairie
Johnson #7-24H

Figure 3-22, Canada Thistle
Johnson #7-24H

In addition, the project area was surveyed for the presence of noxious weeds. Of the 11 species declared noxious under the North Dakota Century Code (Chapter 63-01.0), 3 are known to occur in Dunn County and 7 are known to occur in McKenzie County. ***Please refer to Table 3.8, Noxious Weed Species.*** In addition, counties and cities have the option to add species to the list to be enforced within their jurisdictions. McKenzie County has added baby's breath, black henbane, common burdock, halogeton, and houndstongue.

Table 3.8 Noxious Weed Species			
Common Name	**Scientific Name**	**Dunn County Acres**	**McKenzie County Acres**
Absinth wormwood	*Artemesia abinthium* L.	39,300	15
Baby's breath	*Gypsophila paniculata L.*	—	—
Black henbane	*Hyoscyamus niger*	—	—
Canada thistle	*Cirsium arvense* (L.) Scop	28,500	33,600
Common burdock	*Arctium minus*	—	—
Dalmation toadflax	*Linaria genistifolia* ssp. *Dalmatica*	—	1
Diffuse knapweed	*Centaurea diffusa* Lam	—	1
Halogeton	*Halogeton glomeratus*	—	—
Houndstongue	*Cynoglossum officinale*	—	—
Leafy spurge	*Euphorbia esula* L.	18,300	26,200
Musk thistle	*Carduus nutans* L.	—	—
Purple loosestrife	*Lythrum salicaria*	—	—
Russian knapweed	*Acroptilon repens* (L.) DC.	—	—
Saltcedar (tamarisk)	*Tamarix ramosissima*	—	2,400
Spotted knapweed	*Centaurea maculosa* Lam.	—	5
Yellow starthistle	*Centaurea solstitalis* L.	—	—

Canada thistle and absinth wormwood were observed during the field survey occurring either as individual plants or small quantities of plants grouped together. ***Please refer to Figure 3-23, Observed Canada Thistle and Figure 3-24, Observed Absinth Wormwood.***

Figure 3-23, Canada Thistle, Hall #23-21H

Figure 3-24, Absinth Wormwood, Johnson #7-24H

3.7.4.1 Vegetation Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact vegetation.

Alternative B (Proposed Action) – Ground clearing activities associated with construction of the proposed wells and access roads would result in vegetation disturbance; however, the areas of proposed surface disturbances are minimal in the context of the setting, and these impacts would be further minimized in accord with the BLM Gold Book standards for well

reclamation. Following construction, interim reclamation measures to be implemented include reduction of cut and fill slopes, redistribution of stockpiled topsoil, and re-seeding of disturbed areas with a native grass seed mixture consistent with surrounding vegetation. If commercial production equipment is installed, each well site would be reduced in size to accommodate the production facilities, while leaving adequate room to conduct normal well maintenance and potential recompletion operations, with the remainder of the well pads reclaimed. Reclamation activities would include leveling, re-contouring, treating, backfill, and re-seeding with a native grass seed mixture from a BIA/BLM-approved source. Erosion control measures would be installed as appropriate. Stockpiled topsoil would be redistributed and re-seeded as recommended by the BIA.

If no commercial production developed from one or more of the proposed wells, or upon final abandonment of commercial operations, all disturbed areas would be promptly reclaimed. Access roads and well pad areas would be re-contoured to match topography of the original landscape as closely as possible and re-seeded with vegetation consistent with surrounding native species to ensure a healthy and diverse mix free of noxious weeds. Seed would be obtained from a BIA/BLM-approved source. Re-vegetation of the site would be consistent with the BLM Gold Book standards. Erosion control measures would be installed as appropriate in a manner that is consistent with the BLM Gold Book standards. Maintenance of the re-vegetated site would continue until such time that the stand was consistent with the surrounding undisturbed vegetation and the site free of noxious weeds. The surface management agency would provide final inspection of the site to deem the reclamation effort complete.

3.8 Cultural Resources

Section 106 of the National Historic Preservation Act of 1966, as amended, requires that projects needing federal approval and/or federal permits be evaluated for the effects on historic and cultural properties included or eligible for listing on the NRHP (National Register of Historic Places). The Archaeological and Historic Preservation Act of 1974 provides for the survey, recovery, and preservation of significant scientific, prehistoric, archaeological, or paleontological data when such data may be destroyed or irreparably lost due to a Federal, federally licensed, or federally funded project.

The NAGPRA (Native American Graves Protection and Repatriation Act) of 1990 is triggered by the possession of human remains or cultural items by a Federally-funded repository or by the discovery of human remains or cultural items on Federal or Tribal lands and provides for the inventory, protection, and return of cultural items to affiliated Native American groups. Permits are required for intentional excavation and removal of Native American cultural items from Federal or Tribal lands.

The American Indian Religious Freedom Act of 1978 requires consultation with Native American groups concerning proposed actions on sacred sites on Federal land or affecting access to sacred sites. It establishes Federal policy to protect and preserve for American Indians, Eskimos, Aleuts, and Native Hawaiians the right to free exercise of their religion in the form of site access, use and possession of sacred objects, as well as the freedom to worship through ceremonial and traditional rites. The Act requires Federal agencies to consider the impacts of their actions on religious sites and objects important to these peoples, regardless of eligibility for listing on the NRHP.

In accordance with 16 U.S.C. 470hh(a), information concerning the nature and location of archaeological resources and traditional cultural properties, and detailed information

regarding archaeological and cultural resources, is confidential. Such information is exempt from the Freedom of Information Act and is not included in this EA.

A Class I Literature Review for the proposed wells was conducted by Beaver Creek Archaeology on May 6 and May 26, 2010. Class III Cultural Resources Surveys were conducted by Beaver Creek Archaeology on June 7, 2010 to confirm the presence of cultural resources. All cultural resources investigations were completed with tribal monitors from the Three Affiliated Tribes THPO. In addition, THPO staff conducted Traditional Cultural Property Surveys of the site. The APE (Area of Potential Effect), or area surveyed, consisted of a 20-acre site around the well pads, as well as a 100-foot corridor along all access roads.

3.8.1 Cultural Resources Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact cultural resources.

Alternative B (Proposed Action) – Proposed well sites and access roads have been positioned using setbacks of 70-feet or greater to avoid impacts to cultural resources. As such, cultural resources impacts are not anticipated. A determination of effect is pending from BIA. If cultural resources are discovered during construction or operation, work shall immediately be stopped, the affected site secured, and BIA and THPO notified. In the event of a discovery, work shall not resume until written authorization to proceed has been received from the BIA. All project workers are prohibited from collecting artifacts or disturbing cultural resources in any area under any circumstances.

3.9 Socioeconomic Conditions

Socioeconomic conditions depend on the character, habits, and economic conditions of people living within the proposed project area. Business, employment, transportation, utilities, etc. are factors that affect the social climate of a community. Other factors that distinguish the social habits of one particular area from another include the geography, geology, and climate of the area.

The Fort Berthold Reservation is home to six major communities, consisting of New Town, White Shield, Mandaree, Four Bears, Twin Buttes, and Parshall. These communities provide small business amenities such as restaurants, grocery stores, and gas stations; however, they lack the larger shopping centers that are typically found in larger cities of the region such as Minot and Bismarck. According to 2000 US Census data, educational/health/social services is the largest industry on the Reservation, followed by the entertainment/recreation/accommodation/food industry[5]. The Four Bears Casino, Convenience Store, and Recreation Park are also major employers with over 320 employees, 90% of whom are tribal members. In addition, several industries are located on the Reservation, including Northrop Manufacturing, Mandaree Electrical Cooperative, Three Affiliated Tribes Lumber Construction Manufacturing Corporation, and Uniband.

Several paved state highways provide access to the Reservation including ND Highways 22 and 23 and Highway 1804. These highways provide access to larger communities such as

[5] It should be noted that the most recent US Census data dates from 2000. Since 2000, there has been an increasing focus on oil and gas development on the Fort Berthold Reservation. As such, it is anticipated that these trends have likely shifted; however, no new data is available until the 2010 US Census is completed and published.

Bismarck, Minot and Williston. Paved and gravel BIA Route roadways serve as primary connector routes within the Reservation. In addition, networks of rural gravel roadways are located throughout Reservation boundaries providing access to residences, oil and gas developments, and agricultural land. Major commercial air service is provided out of Bismarck and Minot, with small-scale regional air service provided out of New Town and Williston.

3.9.1 Socioeconomic Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact the socioeconomic conditions in the project areas. However, Alternative A would not permit the development of oil and gas resources, which could have positive effects on employment and income through the creation of jobs and payment of leases, easement, and/or royalties to Tribal members.

Alternative B (Proposed Action) – Alternative B is not anticipated to substantially impact the socioeconomic conditions in the project areas, but it does have the potential to yield beneficial impacts on Tribal employment and income. Qualified individual tribal members may find employment through oil and gas development and increase their individual incomes. Additionally, the proposed action may result in indirect economic benefits to tribal business owners resulting from construction workers expending money on food, lodging, and other necessities. The increased traffic during construction may create more congested traffic conditions for residents. Peak will follow Dunn County, McKenzie County, BIA, and North Dakota Department of Transportation rules and regulations regarding rig moves and oversize/overweight loads on state and county roads used as haul roads in order to maintain safe driving conditions.

3.10 Environmental Justice

Per Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, measures must be taken to avoid disproportionately high adverse impacts on minority or low-income communities.

Generally, the Three Affiliated Tribes qualify for environmental justice consideration as both a minority and low-income population. The population of North Dakota is predominantly Caucasian. Tribal members compromise 5% of North Dakota residents, 12.4% of the population of Dunn County, and 21.2% of the population of McKenzie County.

As of 2000, the Fort Berthold Reservation, Dunn County, and McKenzie County had lower than statewide averages of per capita income and median household income. In addition, Dunn County and McKenzie County had slightly lower rates of unemployment than the state average, while Fort Berthold's rate of unemployment was significantly greater[6]. ***Please refer to Table 3.9, Employment and Income.***

[6] While more current data reflecting income, unemployment, and poverty levels within the Fort Berthold Reservation are not available, it is anticipated that 2010 numbers may show different trends. The exploration and production of oil and gas resources on the Reservation since 2006 have created employment opportunities and have likely affected these economic indicators. However, this assessment uses the best available data.

Table 3.9 Employment and Income				
Location	**Per Capita Income**	**Median Household Income**	**Unemployment Rate**	**Individuals Living Below Poverty Level**
Dunn County	$14,624	$30,015	4.0%	17.5%
McKenzie County	$14,732	$29,342	4.1%	17.2%
Fort Berthold Reservation	$10,291	$26,274	11.1%	28.1%
Statewide	**$17,769**	**$34,604**	**4.6%**	**11.9%**

Source: U.S. Census Bureau of the Census, Census 2000.

Population decline in rural areas of North Dakota has been a growing trend as individuals move toward metropolitan areas of the state, such as Bismarck and Fargo. While populations of Dunn County and McKenzie County have been slowly declining, the Fort Berthold Reservation has witnessed a steady increase in population. American Indians are the majority population on the Fort Berthold Reservation but are the minority population in Dunn County and McKenzie County as well as the state of North Dakota. ***Please refer to Table 3.10, Demographic Trends***.

Table 3.10 Demographic Trends					
Location	**Population in 2000**	**% of State Population**	**% Change 1990–2000**	**Predominant Race**	**Predominant Minority**
Dunn County	3,600	0.56%	-10.1%	White	American Indian (12.4%)
McKenzie County	5,737	0.89%	-10.1%	White	American Indian (21.2%)
Fort Berthold Reservation	5,915	0.92%	+9.8%	American Indian[7]	White (26.9%)
Statewide	**642,200**	**--**	**+0.5%**	**White**	**American Indian (5%)**

Source: U.S. Census Bureau of the Census, Census 2000.

3.10.1 Environmental Justice Impacts/Mitigation

Alternative A (No Action) – Alternative A would not result in environmental justice impacts.

Alternative B (Proposed Action) – Alternative B would not require relocation of homes or businesses, cause community disruptions, or cause disproportionately adverse impacts to members of the Three Affiliated Tribes. The proposed project has not been found to pose significant impacts to any other critical element (public health and safety, water, wetlands,

[7] According to the North Dakota Tourism Division, there are 10,400 enrolled members of the Three Affiliated Tribes.

wildlife, soils, or vegetation) within the human environment. The proposed project is not anticipated to result in disproportionately adverse impacts to minority or low-income populations. Oil and gas development of the Bakken Formation is occurring both on and off the Fort Berthold Reservation. Employment opportunities related to oil and gas development may lower the unemployment rate and increase the income levels on the Fort Berthold Reservation. In addition, the Three Affiliated Tribes and allotted owners of mineral interests may receive income from oil and gas development on the Fort Berthold Reservation in the form of royalties, if drilling and production are successful, as well as from TERO (Tribal Employee Rights Office) taxes on construction of drilling facilities.

3.11 Infrastructure and Utilities

The Fort Berthold Reservation's infrastructure consists of roads, bridges, utilities, and facilities for water, wastewater, and solid waste. Known utilities and infrastructure within the vicinity of the proposed projects include existing water pipelines and paved and gravel roadways.

3.11.1 Infrastructure and Utility Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact infrastructure or utilities.

Alternative B (Proposed Action) – Alternative B would require construction of several new roadways. Additionally, vehicular traffic associated with construction, operation, and maintenance of the proposed action would increase the overall traffic on the local roadway network. To minimize potential impacts to the roadway conditions and traffic patterns in the area, all haul routes used would either be private roads or roads that have been approved for this type of transportation use by the local governing tribal, township, county, and/or state entities. Peak would follow Dunn County, McKenzie County, BIA, and North Dakota Department of Transportation rules and regulations regarding rig moves and oversize/overweight loads on state and county roads used as haul roads. All contractors are required to permit their oversize/overweight roads through these entities. Peak's contractors would be required to adhere to all local, county, tribal, and state regulations regarding rig moves, oversize/overweight loads, and frost restrictions.

The well sites may also require the installation of supporting aboveground/underground electrical lines. In addition, if commercially recoverable oil and gas are discovered at the well sites, a natural gas gathering system may need to be installed. It is expected that electric lines and other pipelines would be constructed within the existing right-of-way, or additional NEPA analysis and BIA approval would be completed prior to construction of these utilities. Other utility modifications would be identified during design and coordinated with the appropriate utility company.

Drilling operations at the proposed well sites may generate produced water. In accordance with the BLM Gold Book and BLM Onshore Oil and Gas Order Number 7, produced water would be disposed of via subsurface injection, or other appropriate methods that would prevent spills or seepage. Produced water may be trucked to nearby oil fields where injection wells are available.

Safety hazards posed from increased traffic during the drilling phase are anticipated to be short-term and minimal for each proposed site. It is anticipated that approximately 30 to 40 trips, over the course of several days, would be required to transport the drilling rig and

associated equipment to each proposed well site. If commercial operations are established at any of the proposed sites following drilling activities, the pump would be checked daily and oil and water hauling activities would commence. Oil would be hauled using a semi tanker trailer, typically capable of hauling 140 barrels of oil per load. Traffic to and from the well site would depend upon the productivity of the well. A 1,000 barrel per day well would require approximately seven tanker visits per day, while a 300 barrel per day well would require approximately two visits per day[8]. Produced water would also be hauled from the site using a tanker, which would typically haul 110 barrels of water per load. The number of visits would be dependent upon daily water production[9]. Established load restrictions for state and BIA roadways would be followed and haul permits would be acquired as appropriate.

3.12 Public Health and Safety

Health and safety concerns include hydrogen sulfide (H_2S) gas[10], hazardous materials used or generated during well installation or production, and traffic hazards associated with heavy drill rigs and tankers.

3.12.1 Public Health and Safety Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact public health and safety.

Alternative B (Proposed Action) – Project design and operational precautions would minimize the likelihood of impacts from H_2S gases, hazardous materials, and traffic, as described below.

H_2S Gases. It is unlikely that the proposed action would result in release of H_2S at dangerous concentrations; however, Peak will submit H_2S Contingency Plans to the BLM as part of the site APDs. These plans establish safety measures to be implemented throughout the drilling process to prevent accidental release of H_2S into the atmosphere. The Contingency Plans are designed to protect persons living and/or working within 3,000 feet (0.57 miles) of each well location and include emergency response procedures and safety precautions to minimize the potential for an H_2S gas leak during drilling activities. Satellite imagery revealed that there are residences/buildings within 3,000 feet of five of the proposed well sites. Their location in relation to the proposed well sites is as follows:

- Fool Bear #16-12H – No residences/buildings within 3,000 feet.
- Fool Bear #23-34H – Four residences/buildings were observed at 0.3 miles east-northeast, 0.36 miles northeast, 0.46 miles northeast, and 0.48 miles northeast of the proposed well site.
- Fox #21-21H – Three residences/buildings were observed at 0.53 miles southeast, 0.54 miles east, and 0.49 miles north of the proposed well site.

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[8] A typical Bakken oil well initially produces at a high rate and then declines rapidly over the next several months to a more moderate rate. In the vicinity of the proposed project areas, initial rates of 500 to 1,000 BOPD (barrels of oil per day) could be expected, dropping to 200 to 400 BOPD after several months.

[9] A typical Bakken oil well initially produces water at 200 bbls per day and then declines rapidly over the next several months to a more moderate rate. In the vicinity of the proposed project areas, initial rates of 200 BWPD (barrels of water per day) could be expected, dropping to 30 to 70 BWPD after several months.

[10] H_2S is extremely toxic in concentrations above 500 parts per million. H_2S has not been found in measurable quantities in the Bakken Formation. However, before reaching the Bakken, drilling would penetrate the Mission Canyon Formation, which is known to contain varying concentrations of H_2S.

- Grace #6-24H – No residences/buildings within 3,000 feet.
- Hall #23-21H – No residences/buildings within 3,000 feet.
- Hidatsa Hills #26-21H – Four residences/buildings were observed at 0.42 miles west, 0.44 miles east-southeast, 0.46 miles west, and 0.55 miles east of the proposed well site.
- Hudson #13-21H – One residence/building was observed at 0.5 miles west-northwest of the proposed well site.
- Johnson #7-24H – Three residences/buildings were observed at 0.30 miles north, 0.42 miles east, and 0.47 miles south-southeast of the proposed well site.

Hazardous Materials. The EPA (Environmental Protection Agency) specifies chemical reporting requirements under the Superfund Amendments and Reauthorization Act of 1986, as amended. No materials used or generated by this project for production, use, storage, transport, or disposal are on either the Superfund list or on the EPA's list of extremely hazardous substances in 40 CFR 355.

The SPCC (Spill Prevention, Control, and Countermeasure) rule includes EPA requirements for oil spill prevention, preparedness, and response to prevent oil discharges to navigable waters and adjoining shorelines. The rule requires specific facilities to prepare, amend, and implement SPCC Plans.

3.13 Cumulative Considerations

Cumulative impacts result from the incremental consequences of an action "when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions" (40 CFR 1508.7). Effects of an action may be minor when evaluated in an individual context, but these effects can add to other disturbances and collectively may lead to a measureable environmental change. By evaluating the impacts of the proposed action with the effects of other actions, the relative contribution of the proposed action to a projected cumulative impact can be estimated.

3.13.1 Past, Present, and Reasonably Foreseeable Actions

Oil and gas development in western North Dakota has occurred with varying intensity for the past 100 years. Gas development began in the area in 1909, and the first recorded oil well was drilled in 1920. North Dakota's oil production has boomed twice prior to the current boom; first in the 1950s, peaking in the 1960s, and again in the 1970s, peaking in the 1980s. North Dakota is currently experiencing its third oil boom, which has already far surpassed the previous booms in magnitude. This oil boom is occurring both within and outside the Fort Berthold Reservation.

According to the NDIC, as of June 20, 2010, there were approximately 316 active and/or proposed oil and gas wells within the Fort Berthold Reservation and 1,106 within the 20-mile radius outside the boundaries of the Fort Berthold Reservation. ***Please refer to Figure 3-25, Existing and Proposed Oil and Gas Wells.*** There are two known oil and gas wells within a one mile radius of the Fool Bear #16-12H site; one within a mile of the Fool Bear #23-34H site; one within a mile of the Hall #23-21H site; one within a mile of the Hudson #13-21H site; two within a mile of the Johnson #7-24H site; two within a mile of the Fox #21-21H site; and none within a mile of the Grace #6-24 site. ***Please refer to Table 3.11, Summary of Active and Proposed Wells.***

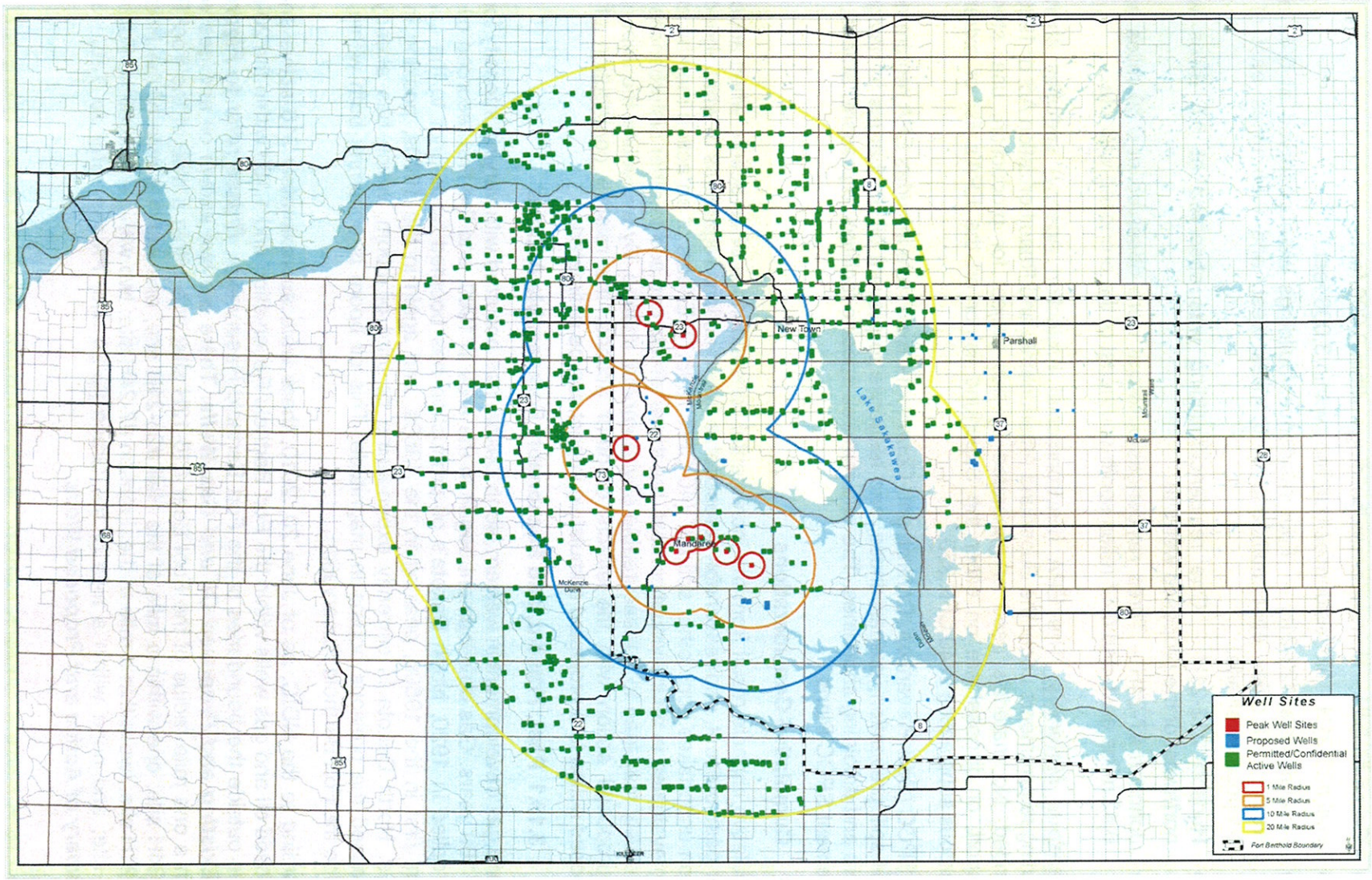

Figure 3-25, Existing and Proposed Oil and Gas Wells

Table 3.11 Summary of Active and Proposed Wells	
Distance from Site	**Number of Active or Proposed Wells**
1 mile radius	9
5 mile radius	130
10 mile radius	393
20 mile radius	1,106

As mentioned previously in this EA, the Bakken Formation (the target of the proposed action) covers approximately 25,000 square miles beneath North Dakota, Montana, Saskatchewan, and Manitoba, with approximately two-thirds of the acreage beneath North Dakota. The Three Forks Formation lies beneath the Bakken. The North Dakota Department of Mineral Resources estimates that there are approximately 2 billion barrels of recoverable oil in each of these Formations and that there will be 30-40 remaining years of production, or more if technology improves.

Commercial success at any new well can be reasonably expected to result in additional nearby oil/gas exploration proposals; however, it is speculative to anticipate the specific details of such proposals. While such developments remain speculative until APDs have been submitted to the BLM or BIA, it is reasonable to assume based on the estimated availability of the oil and gas resources that further development will continue in the area for the next 30-40 years. It is also reasonable to assume that natural gas and oil gathering and/or transportation systems will be proposed and likely built in the future to facilitate the movement of products to market. Currently, natural gas gathering systems are being considered and/or proposed on the Fort Berthold Reservation, but as there are no approved projects, that information remains proprietary.

3.13.2 Cumulative Impact Assessment

The proposed project is not anticipated to directly impact other oil and gas projects. It is a reasonable generalization that, while oil and gas development proposals and projects vary based on the developer, well location, permit conditions, site constraints, and other factors, this proposed action is not unique among others of its kind. It is also a reasonable generalization based on regulatory oversight by the BIA, BLM, NDIC, and other agencies as appropriate, that this proposed action is not unique in its attempts to avoid, minimize, or mitigate harm to the environment through the use of BMPs and site-specific environmental commitments. The following discussion addresses potential cumulative environmental impacts associated with the proposed project and other past, present, and reasonably foreseeable actions.

Land Use — As oil and gas exploration and production of the Bakken and Three Forks Formations proceed, lands atop these formations are converted from existing uses (often agricultural or vacant) to industrial, energy-producing uses. The proposed project would convert grasslands and cultivated agricultural lands to well pads, access roads, and associated uses. However, the well pads and access roads have been selected to avoid or minimize sensitive land uses and to maintain the minimum impact footprint possible. In addition, the BIA views these developments to be temporary in nature as impacted areas would be restored to original conditions upon completion of oil and gas activity. When added to existing and proposed water distribution lines and natural gas gathering systems, no cumulative impacts are anticipated as these lines have, or would, result in a temporary disturbance and would not permanently convert existing land uses.

Air Quality — Air emissions related to construction and operation of past, present, or reasonably foreseeable oil and gas wells, when added to emissions resulting from the proposed project, are anticipated to be a negligible cumulative impact. Dunn County and McKenzie County are both currently well below the Ambient Air Quality Standards, and it is anticipated that mobile air source toxics from truck traffic for the proposed project and other projects, as well as air emissions related to gas flaring, would be minor; therefore, the contribution of the proposed project to air emissions is not expected to be significant.

Wetlands, Wildlife, and Vegetation — The proposed project, when added to previously constructed and reasonably foreseeable oil and gas wells, would contribute to habitat loss and fragmentation associated with construction of well pads, access roads, and associated development. The North Dakota Parks and Recreation Department notes in its undated publication, "North Dakota Prairie: Our Natural Heritage" that approximately 80% of the state's native prairie has been lost to agriculture, with most of the remaining areas found in the arid west; ongoing oil and gas activity has the potential to threaten remaining native prairie resources. However, the proposed action and other similar actions are carefully planned to avoid or minimize these impacts. Multiple components of the process used by the BIA to evaluate and approve such actions, including biological and botanical surveys, on-site assessments with representatives from multiple agencies and entities, public and agency comment periods on this EA, and the use of BMPs and site-specific environmental commitments are in place to ensure that environmental impacts associated with oil and gas development are minimized. The practice of utilizing existing roadways to the greatest extent practicable further minimizes impacts to wildlife habitats and prairie ecosystems. The proposed exploratory wells have been sited to avoid sensitive areas such as surface water, wetlands, and riparian areas. Reclamation activities are anticipated to minimize and mitigate disturbed habitat.

Infrastructure and Utilities — The proposed action, along with other oil and gas wells proposed and drilled in the Bakken and Three Forks Formations, requires infrastructure and utilities to provide needed resource inputs and accommodate outputs such as fresh water, power, site access, transportation for products to market, disposal for produced water and other waste materials. As with the proposed action, many other well sites currently being proposed and/or built are positioned to make the best use of existing roads and to minimize the construction of new roads; however, some length of new access roads are commonly associated with new wells. Well pads have been positioned in close proximity to existing roadways wherever possible to minimize the extent of access road impacts in the immediate area. Additionally, existing two-track roadways have been utilized wherever possible to minimize impacts to the surrounding landscape. The contribution of the proposed project and other projects to stress on local roadways used for hauling materials may result in a cumulative impact to local roadways. However, abiding by permitting requirements and roadway restrictions with the jurisdictional entities are anticipated to offset any cumulative impact that may result from the proposed project and other past, present, or future projects. BMPs would be implemented at each site to minimize impacts of the proposed project.

The proposed action has been planned to avoid impacts to resources such as wetlands, floodplains, surface water, cultural resources, and threatened and endangered species. Unavoidable impacts to these or other resources would be minimized and/or mitigated in accordance with applicable regulations.

3.14 Irreversible and Irretrievable Commitment of Resources

Removal and consumption of oil or gas from the Bakken Formation would be an irreversible and irretrievable commitment of resources. Other potential resource commitments include acreage devoted to disposal of cuttings, soil lost through wind and water erosion, cultural resources inadvertently destroyed, wildlife killed during earth-moving operations or in collisions with vehicles, and energy expended during construction and operation.

3.15 Short-term Use of the Environment Versus Long-term Productivity

Short-term activities would not significantly detract from long-term productivity of the project area. The area dedicated to the access roads and well pads would be unavailable for livestock grazing, wildlife habitat, or other uses. However, allottees with surface rights would be compensated for loss of productive acreage and project footprints would shrink considerably once the wells were drilled and non-working areas reclaimed and re-seeded. Successful and ongoing reclamation of the landscape would reestablish the land's use for wildlife and livestock grazing, stabilize the soil, and reduce the potential for erosion and sedimentation. The primary long-term resource loss would be the extraction of oil and gas resources from the Bakken Formation, which is the purpose of this project.

3.16 Permits

Peak will be required to acquire the following permits prior to construction:

- *Application for Permit to Drill* — Bureau of Land Management
- *Application for Permit to Drill* —North Dakota Industrial Commission

3.17 Environmental Commitments/Mitigation

The following commitments have been made by Peak North Dakota, LLC:

- Topsoil will be segregated and stored on-site to be used in the reclamation process. All disturbed areas would be re-contoured to original elevations as close as possible as part of the reclamation process.
- Woody vegetation cleared from the site will be chipped on-site and incorporated into topsoil stockpiles.
- BMPs (may include, but are not limited to, hydro-seeding, erosion mats and biologs) will be implemented to minimize wind and water erosion of soil resources. Soil stockpiles will be positioned to help divert runoff around the well pads.
- Well sites and access roads will avoid surface waters. The proposed project will not alter stream channels or change drainage patterns.
- The drill cuttings pits will be located on the cut side of the locations and away from areas of shallow ground water and have a reinforced synthetic liner to prevent potential leaks. All spills or leaks of chemicals and other pollutants will be reported to the BLM and EPA. The procedures of the surface management agency shall be followed to contain leaks or spills.
- All proposed wells will be cemented and cased to isolate aquifers from potentially productive hydrocarbon and disposal/injection zones.

- Wetlands and riparian areas will be avoided.
- Disturbed vegetation will be re-seeded in kind upon completion of the project, and a noxious weed management plan would be implemented. The re-seeded site would be maintained until such time that the vegetation is consistent with surrounding undisturbed areas and the site is free of noxious weeds. Seed will be obtained from a BIA/BLM approved source.
- Well sites and access roads will avoid impacts to cultural resources. If cultural resources are discovered during construction or operation, work shall immediately be stopped, the affected site secured, and BIA and THPO notified. In the event of a discovery, work shall not resume until written authorization to proceed has been received from the BIA.
- Access roads will be located at least 70 feet away from identified cultural resources. The boundaries of these 70-foot "exclusion zones" would be pin-flagged as an extra measure to ensure that inadvertent impacts to cultural resources are avoided.
- All project workers are prohibited from collecting artifacts or disturbing cultural resources in any area under any circumstances.
- Peak will ensure all contractors working for the company will adhere to all local, county, tribal, and state regulations and ordinances regarding rig moves, oversize/overweight loads, and frost law restrictions.
- Utility modifications will be identified during design and coordinated with the appropriate utility company. All pipelines and utility/electric lines will be installed underground.
- Disposal areas would be properly fenced to prevent human or animal access.
- H_2S Contingency Plans for each well site will be submitted to the BLM as part of the APD
- Established load restrictions for state and BIA roadways will be followed and haul permits would be acquired as appropriate.
- Suitable mufflers will be put on all internal combustion engines and certain compressor components to mitigate noise levels.
- Well sites and associated facilities will be painted in earth tones, based on standard colors recommended by the BLM, to allow them to better blend in with the natural background color of the surrounding landscape.
- BMPs will be used during construction to ensure contaminants do not move off site.
- The cuttings pit will be netted while not actively being used.
- A semi-closed loop system will be used during drilling. Liquids from drilling will be transported off site and dry cuttings will be stabilized in place.
- If a whooping crane is sighted within one-mile of a well site or associated facilities while it is under construction, all work will cease within one-mile of that part of the project and the USFWS will be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area.
- All efforts will be made for construction activities to begin after July 15 and end prior to February 1, in order to avoid impacts to migratory birds during the breeding/nesting season. In the event that a construction activity needs to take place

within the nesting and breeding season, pre-construction surveys for migratory birds or their nests would be conducted within five days prior to the initiation of construction activities.

- If a bald or golden eagle or eagle nest is sighted within 0.5 miles of the project construction area, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.
- Wire mesh or grate covers will be placed over barrels or buckets placed under valves and spigots to collect dripped oil.
- Netting, with a maximum mesh size of 1.5 inches will be used to keep birds and other small animals out of open pits.
- All Storage tanks and heater/treater will be surrounded by an impermeable berm that would act as secondary containment to guard against possible spills. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production.
- The northeast corner of the Grace #6-24H well pad will be bermed to control runoff from the pad.
- The southern corners of the Fox #21-21H pad and the southeast corner of the Hudson 13-21H pad will be rounded to avoid drainages.
- The southwest corner of the Johnson #7-24H pad will be rounded to avoid drainages.
- Re-seeding of native species shall occur as needed on stockpile areas and slope areas during reclamation.

Chapter 4. Preparers and Agency Coordination

4.1 Introduction

This chapter identifies the names and qualifications of the principal people contributing information to this EA. In accordance with Part 1502.6 of the CEQ (Council on Environmental Quality) regulations for implementing the National Environmental Policy Act, the efforts of an interdisciplinary team comprising technicians and experts in various fields were required to accomplish this study.

This chapter also provides information about consultation and coordination efforts with agencies and interested parties, which has been ongoing throughout the development of this EA.

4.2 Preparers

Kadrmas, Lee & Jackson, Inc. prepared this EA under a contractual agreement between Peak North Dakota, LLC and Kadrmas, Lee & Jackson, Inc. A list of individuals with the primary responsibility for conducting this study, preparing the documentation, and providing technical reviews is contained in ***Table 4.1, Preparers.***

Table 4.1
Preparers

Affiliation	Name	Title	Project Role
Bureau of Indian Affairs	Marilyn Bercier	Regional Environmental Scientist	Review of Draft EA and recommendation to Regional Director regarding FONSI or EIS
	Mark Herman	Environmental Engineer	
Peak North Dakota, LLC	Alex McLean	President	Project development, alternatives, document review
	Sheila Thompson	Manager, Regulatory Affairs	Project development, alternatives, document review
Kadrmas, Lee & Jackson, Inc.	Shanna Braun	Environmental Scientist	Client and agency coordination, senior review
	Charlotte Brett	Environmental Planner	Senior review
	John Cannon	Environmental Planner	Impact assessment, field resources surveys, principal author
	Steve Czeczok	Environmental Scientist	Field resources surveys, impact assessment
	Jerry Reinisch	Environmental Planner	Field resources surveys
	Skip Skattum	GIS Analyst	Impact assessment, exhibit creation
	Rick Leach	Surveyor	Site Plats
Beaver Creek Archaeology	Beaver Creek Archaeology	Principal Investigator	Cultural Resources Surveys

4.3 Agency Coordination

To initiate early communication and coordination, an early notification package to tribal, federal, state, and local agencies and other interested parties was distributed on June 11, 2010. This scoping package included a brief description of the proposed project, as well as a location map. Pursuant to Section 102(2) (D) (IV) of the National Environmental Policy Act of 1969, a solicitation of views was requested to ensure that social, economic, and environmental effects were considered in the development of this project. ***Appendix A contains Agency Scoping Materials.***

At the conclusion of the 30-day comment period, seven responses were received. These comments provide valuable insight into the evaluation of potential environmental impacts. The comments were referenced and incorporated where appropriate within the environmental impact categories addressed in this document. ***Appendix B contains Agency Scoping Responses.***

4.4 Public Involvement

Provided the BIA approves this document and determines that no significant environmental impacts would result from the proposed action, a FONSI (Finding of No Significant Impact) will be issued. The FONSI is followed by a 30-day public appeal period. BIA will advertise the FONSI and public appeal period by posting notices in public locations throughout the Reservation. No construction activities may commence until the 30-day public appeal period has expired.

Chapter 5. References

5.1 References

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Appendix A

Agency Scoping Materials

June 11, 2010

<<NAME>>
<<ADDRESS>>
<<CITY>><<STATE>><<ZIP>>

Re: Up to Sixteen Proposed Oil and Gas Exploratory Wells
Fort Berthold Reservation
Dunn County and McKenzie County, North Dakota

Dear <<NAME>>,

On behalf of Peak North Dakota, LLC, Kadrmas, Lee & Jackson, Inc. (KL&J) is preparing an EA (Environmental Assessment) under NEPA (the National Environmental Policy Act) for the BIA (Bureau of Indian Affairs) and BLM (Bureau of Land Management). The proposed action includes approval by the BIA and BLM of the development of eight dual well pads, resulting in the drilling and completion of up to sixteen exploratory oil and gas wells on the Fort Berthold Reservation. These well pads are proposed to be positioned in the following locations:

- Fool Bear #16-12H located in T152N, R94W, Section 16
- Fool Bear #23-34H located in T152N, R94W, Section 23
- Fox #21-21H located in T149N, R93W, Section 21
- Grace #6-24H located in T150N, R94W, Section 6
- Hall #23-21H located in T149N, R94W, Section 23
- Hidatsa Hills #26-21H located in T149N, R93W, Section 26
- Hudson #13-21H located in T149N, R94W, Section 13
- Johnson #7-24H located in T149N, R93W, Section 7

Please refer to the enclosed project location map.

The proposed action would advance the exploration and production of oil from the Bakken Pool. The well sites have been positioned to utilize existing roadways for access to the extent possible. The drilling of these well sites is proposed to begin as early as summer 2010.

To ensure that social, economic, and environmental effects are considered in the development of this project, we are soliciting your views and comments on the proposed development of this project, pursuant to Section 102(2) (D) (IV) of the National Environmental Policy Act of 1969, as amended. We are particularly interested in any property that your department may own, or have an interest in, located within the project area. We would also appreciate being made aware of any proposed development your department may be contemplating in the area of the proposed project. Any information that might help us in our study would be appreciated.

It is requested that any comments or information be forwarded to our office on or before **July 12, 2010**. We request your comments by that date to ensure that we will have ample time to review them and incorporate them into the necessary environmental documentation.

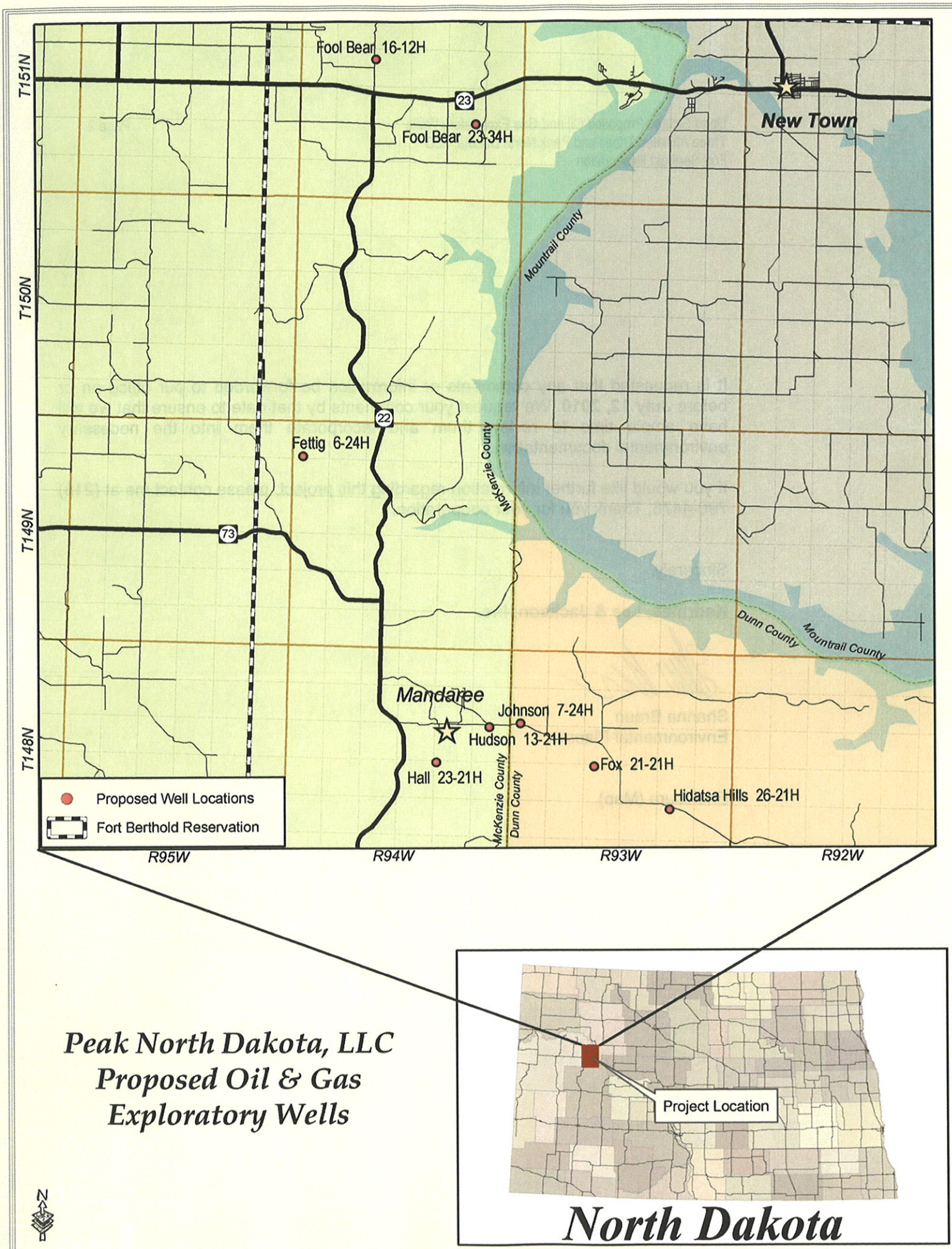
If you would like further information regarding this project, please contact me at (218) 790-4476. Thank you for your cooperation.

Sincerely,

Kadrmas, Lee & Jackson, Inc.

Shanna Braun
Environmental Planner

Enclosure (Map)



Peak North Dakota, LLC
Proposed Oil & Gas
Exploratory Wells

SOV MASTER LIST

Save as new file for each project and edit accordingly with project specific contacts

CTitle	First	Last	Title	Department	Agency	Address	City	State	Zip
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Mr.	Mark	Zimmerman	Director		ND Parks & Recreation Dept.	1600 E. Century Ave., Suite 3	Bismarck	ND	58503-0649
Mr.	Dale	Frink	State Engineer		ND State Water Commission	900 E. Blvd. Ave.	Bismarck	ND	58505-0850
Mr.	Bill	Boyd	Construction Manager		Midcontinent Cable Company	719 Memorial Hwy	Bismarck	ND	58501
Mr.	Doug	Dixon	General Manager	Badlands Region	Montana Dakota Utilities	PO Box 1406	Williston	ND	58802-1406
Mr.	George	Berg	Manager		NoDak Electric Coop., Inc.	Box 13000	Grand Forks	ND	58208-3000
Mr.	Ken	Miller		Land Department	Northern Border Pipeline Company	13710 FNB Parkway	Omaha	NE	68154-5200
Mr.	Ray	Christenson	Manager/CEO		Southwest Water Authority	4665 2nd St. W.	Dickinson	ND	58601
Mr.	David C.	Schelkoph	CEO		West Plains Electric Coop., Inc.	PO Box 1038	Dickinson	ND	58602-1038
Sir		*or Madam*	Manager		Xcel Energy	PO Box 2747	Fargo	ND	58108-2747
Sir		*or Madam*	Manager		Mountrail-Williams Electric Cooperative	355 Main St	New Town	ND	58763
Mr.	Walt	Peterson	District Engineer	Williston District	ND Department of Transportation	605 Dakota Parkway West	Williston	ND	58802-0698
Mr.	Lonny	Bagley	Field Office Manager	North Dakota Field Office	Bureau of Land Management	99 23rd Ave W, Suite A	Dickinson	ND	58601
Mr.	Mike	Nash	Assistant Field Office Manager	Division on Mineral Resources	Bureau of Land Management	99 23rd Ave W, Suite A	Dickinson	ND	58601
Mr.	Michael	Selvage	Tribal Chairman		Sisseton-Wahpeton Sioux Tribe	PO Box 509	Sisseton	SD	57262-0267
Mr.	Myra	Pearson	Tribal Chairman	Ft. Totten Tribal Business Office	Spirit Lake Sioux Tribe	PO Box 359	Ft. Totten	ND	58325
Mr.	Ron	His Horse Is Thunder	Tribal Chairman		Standing Rock Sioux Tribe	PO Box D	Fort Yates	ND	58538
Mr.	Perry	Brady	Tribal Historic Preservation Officer		Three Affiliated Tribes	HC3 Box 2	New Town	ND	58763
Mr.	Marcus	Levings	Tribal Chairman		Three Affiliated Tribes	HC3 Box 2	New Town	ND	58763
Mr.	David	Brien	Tribal Chairman		Turtle Mountain Chippewa	PO Box 900	Belcourt	ND	58316-0900
Mr.	Damon	Williams	Tribal Attorney		Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Fred	Fox	Director	Energy Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
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Mr.	Arnold	Strahs	Representative	Mandaree Segment	Three Affiliated Tribes	PO Box 665	Mandaree	ND	58757
Mr.	Scott	Eagle	Representative	Shell Creek Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
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Mr.	Frank	Whitecalf	Representative	White Shield Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Barry	Benson	Representative	Twin Buttes Segment	Three Affiliated Tribes	70879 E Ave NW	Halliday	ND	58636
Mr.	Fred	Poitra		Game and Fish Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Sir		*or Madam*	Director	Natural Resources Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Roger	Hovda	Operations Manager		Reservation Telephone Cooperative	PO Box 68	Parshall	ND	58770-0068
Ms.	Francis	Olson	Auditor		McKenzie County	201 5th Street NW	Watford City	ND	58854
Mr.	Rick	Lawlar	Chair	County Commission	McKenzie County	201 5th Street NW	Watford City	ND	58854

June 15, 2010

Jeffrey Towner
U.S. Fish and Wildlife Service
North Dakota Field Office
3425 Miriam Avenue
Bismarck, North Dakota 58501-7926

Re: Up to Sixteen Proposed Oil and Gas Exploratory Wells
Fort Berthold Reservation
Dunn County and McKenzie County, North Dakota

Dear Mr. Towner,

On behalf of Peak North Dakota, LLC, Kadrmas, Lee & Jackson, Inc. (KL&J) is preparing an EA (Environmental Assessment) under NEPA (the National Environmental Policy Act) for the BIA (Bureau of Indian Affairs) and BLM (Bureau of Land Management). The proposed action includes approval by the BIA and BLM of the development of eight dual well pads, resulting in the drilling and completion of up to sixteen exploratory oil and gas wells on the Fort Berthold Reservation. These well pads are proposed to be positioned in the following locations:

- Fool Bear #16-12H located in T152N, R94W, Section 16 (McKenzie County)
- Fool Bear #23-34H located in T152N, R94W, Section 23 (McKenzie County)
- Fox #21-21H located in T149N, R93W, Section 21 (Dunn County)
- Grace #6-24H located in T150N, R94W, Section 6 (McKenzie County)
- Hall #23-21H located in T149N, R94W, Section 23 (McKenzie County)
- Hidatsa Hills #26-21H located in T149N, R93W, Section 26 (Dunn County)
- Hudson #13-21H located in T149N, R94W, Section 13 (McKenzie County)
- Johnson #7-24H located in T149N, R93W, Section 7 (Dunn County)

Please refer to the enclosed project location map.

The proposed action would advance the exploration and production of oil from the Bakken Pool. The well sites have been positioned to utilize existing roadways for access to the extent possible. The drilling of these well sites is proposed to begin as early as summer 2010.

An intensive, pedestrian resource survey of each well pad and access road was conducted on May 26-27, 2010 by KL&J. The purpose of this survey was to gather site-specific data and photos with regards to botanical, biological, and water resources. A study area of 10 acres centered on the well pad center point, a 200-foot wide access road corridor, and a 0.50 mile wide corridor in areas of wooded draws were evaluated for each site. Resources were evaluated using visual inspection and pedestrian transects across the site.

Subsequent on-site assessments of the well pad and access road sites were conducted on June 7-8, 2010. The BIA Environmental Protection Specialist, as well as representatives from the Tribal Historic Preservation Office, Peak North Dakota, Beaver Creek Archeology, and KL&J were present. During these assessments, construction suitability with respect to topography, stockpiling, drainage, erosion control, and other surface issues were considered. Well pad and access road locations were adjusted, as appropriate, to avoid conflicts with identified environmental areas of concern. **Please refer to the suggested BMP's discussion below for each well site.** Those present at the on-site assessment agreed that the chosen locations, along with the minimization measures Peak plans to implement, are positioned in areas which would minimize impacts to sensitive wildlife and botany resources.

Threatened and Endangered Species: The proposed well sites occur in Dunn and McKenzie County. In both these counties, the interior least tern, whooping crane, black-footed ferret, pallid sturgeon, and gray wolf are all listed as endangered species. The piping plover is listed as a threatened species, and the Dakota skipper is listed as a candidate species. Dunn and McKenzie County also contain designated critical habitat for the piping plover.

Suitable habitat for the interior least tern, pallid sturgeon, and piping plover is largely associated with Lake Sakakawea and its shoreline. Historically, the gray wolf's preferred habitat includes biomes such as boreal forest, temperate deciduous forest, and temperate grassland. While the gray wolf is not common in North Dakota, occasionally individual wolves do pass through the state. The preferred habitat for the Dakota skipper consists of flat, moist bluestem prairies and upland prairies with an abundance of wildflowers. Preferred habitat for the black-footed ferret includes areas around prairie dog towns, as they rely on prairie dogs for food and live in prairie dog burrows. Whooping cranes use shallow, seasonally and semi-permanently flooded palustrine (marshy) wetlands for roosting, and various cropland and emergent wetlands for feeding.

There were no sightings of the above mentioned species during any of the surveys.

The following describes the survey results for each project site with regards to botanical, biological, and water resources. Site-specific BMPs discussed at the onsite visit are also described below.

Fool Bear #16-12H

Botanical Resources: The Fool Bear #16-12H well site consisted of cultivated small grain crops. The roadway ditch on the western portion of the study area was dominated by smooth bromegrass. Purple cone flower, yellow sweet clover, crested wheat, and blue lettuce were all found in small quantities throughout the site. No

wetland species were observed. Canada thistle, a noxious weed species, was observed near the center of the well pad, in small patches. There are no threatened or endangered (T&E) plant species listed for McKenzie County.

Biological Resources:
As Lake Sakakawea is located approximately 4.5 miles from the project site, the site does not contain suitable habitat for the interior least tern, pallid sturgeon, and piping plover and no indicators of these species were observed during field survey. Similarly, suitable habitat was not observed for the gray wolf, black-footed ferret, or Dakota skipper, as the site was primarily cultivated for small grain crops. In addition, no indicators of these species were observed during field survey. Although no whooping cranes were observed during the field survey, the small grain crop field could potentially be used as a stopover food source during migration.

No big game, small game, raptor species, raptor or migratory bird nests were observed in the field; however, three Franklin's gulls and a small group of cowbirds were identified.

Water Resources: The study area was generally flat. There was a slight bowl shape that drained water to the center of the well pad. A small portion of the southeast corner of the study area sloped southeast away from the well pad. No wetlands were observed in the study area.

Suggested BMPs: BMPs for soil and wind erosion would be implemented as needed to include over-seeding of cut areas and spoil piles, as well as the use of silt fences and/or mats. Culverts to protect drainages would also be installed where needed.

Fool Bear #23-34H

Botanical Resources: The Fool Bear #23-34H well site consisted of short-grass prairie that was currently being grazed. The access road and well pad were dominated by Kentucky bluegrass and Western wheatgrass. Purple cone flower, blue grama, crested wheatgrass, and little bluestem were all found in small quantities throughout the site. No wetland species were observed. Canada thistle, a noxious weed species, was observed in small patches. There are no T&E plant species listed for McKenzie County.

Biological Resources: As Lake Sakakawea is located approximately 1.5 miles from the project site, the site does not contain suitable habitat for the interior least tern, pallid sturgeon, and piping plover and no indicators of these species were observed during field survey. Similarly, suitable habitat was not observed for the gray wolf at the site. No suitable habitat for the black-footed ferret, in the form of prairie dog towns, was observed during the survey In addition, no indicators of these species were observed during field surveys. Due to the level of grazing activity, it is unlikely that the sites contain the high quality prairie necessary to provide suitable Dakota

skipper habitat. No whooping cranes were observed during the field survey; it is unlikely that whooping cranes would use the short-grass prairie as stopover habitat during migration as it does not contain wetlands to provide protection or cropland to provide a suitable food source.

No big game, small game, raptor species, raptor or migratory bird nests were observed in the field.

Water Resources: The study area was generally flat. The drainage pattern was to the southeast corner of the pad. No wetlands were observed in the study area.

Suggested BMPs: BMPs for soil and wind erosion would be implemented as needed to include over-seeding of cut areas and spoil piles and the use of silt fences and/or mats. Culverts to protect drainages would also be installed where needed. The area would be reseeded with a native grass mixture during the reclamation process.

Fox #21-21H

Botanical Resources: The Fox #21-21H well site consisted of short-grass prairie that has been used for grazing. The access road and well pad were dominated by Kentucky bluegrass with large patches of little bluestem and Western snowberry. Native forbs such as shining arnica, purple coneflower, and common yarrow were also seen in small quantities. There are no T&E plant species listed for Dunn County.

Biological Resources: As Lake Sakakawea is located approximately 4.0 miles from the project site, the site does not contain suitable habitat for the interior least tern, pallid sturgeon, and piping plover and no indicators of these species were observed during field survey. Similarly, suitable habitat was not observed for the gray wolf at the site. No suitable habitat for the black-footed ferret, in the form of prairie dog towns, was observed during the survey. In addition, no indicators of these species were observed during field surveys. Due to the minimal level of grazing and presence of wildflowers, the site may contain suitable habitat for the Dakota skipper. No Dakota skippers were observed during the field visits, however a timely survey when the Dakota Skipper would be most visible was not completed. No whooping cranes were observed during the field survey; it is unlikely that whooping cranes would use the shortgrass prairie as stopover habitat during migration.

Species observed within the study area include two song sparrows, an antelope, an Eastern kingbird, and a cabbage butterfly within. An unidentified hawk was observed approximately 0.5 miles south of the project area. No nests were identified during the visit.

Water Resources: The study area occurred on a slender slope. The drainage pattern was to the south across the pad. No wetlands were observed in the study area.

Suggested BMPs: BMPs for soil and wind erosion would be implemented as needed to include over-seeding of cut areas and spoil piles, as well as silt fences and/or mats. The southern corners would be rounded to avoid drainages, and a two-foot berm would be installed on the south and east sides of the pad to catch runoff from the pad. Culverts to protect drainages would also be installed where needed. The area would be reseeded with a native grass mixture during the reclamation process.

Grace #6-24H

Botanical Resources: The Grace #6-24H well site consisted of short-grass prairie that appears to have been used for haying. The access road and well pad were dominated by Kentucky bluegrass, junegrass, and green needle grass. Native forbs such as Missouri vetch, purple coneflower, and field pussytoes were also abundant. There are no T&E plant species listed for McKenzie County.

Biological Resources: As Lake Sakakawea is located approximately 3.25 miles from the project site, the site does not contain suitable habitat for the interior least tern, pallid sturgeon, and piping plover and no indicators of these species were observed during field survey. Similarly, suitable habitat was not observed for the gray wolf at the site. No suitable habitat for the black-footed ferret, in the form of prairie dog towns, was observed during the survey In addition, no indicators of these species were observed during field surveys. Areas along the access road provide sufficient wildflowers and bluestem grasses that may contain suitable habitat for the Dakota skipper. No Dakota skippers were observed during the field visits, however a timely survey when the Dakota skipper would be most visible was not completed. No whooping cranes were observed during the field survey; it is unlikely that whooping cranes would use the shortgrass prairie as stopover habitat during migration.

No raptor species, raptor nests, or migratory bird nests were observed in the field; however, a coyote, sharptailed grouse, and a mule deer were observed a short distance from the study area.

Water Resources: The study area occurred on a gentle slope. The drainage pattern was to the northeast across the pad. No wetlands were observed in the study area.

Suggested BMPs: BMPs for soil and wind erosion would be implemented as needed to include over-seeding of cut areas and spoil piles, as well as the use of silt fences and/or mats. Culverts to protect drainages would also be installed where needed. The area would be reseeded with a native grass mixture during the reclamation process.A berm would be installed along the northeast corner of the pad to catch runoff from the pad.

Hall #31-21H

Botanical Resources: The Hall #31-21H well site occurred on land that is currently being utilized as a hayfield. The access road and well pad were dominated by smooth bromegrass. Other species present included prairie cone flower, field pussytoes, blackmedic, common yarrow and goats beard. There are no T&E plant species listed for McKenzie County.

Biological Resources: As Lake Sakakawea is located approximately 4.5 miles from the project site, the site does not contain suitable habitat for the interior least tern, pallid sturgeon, and piping plover and no indicators of these species were observed during field survey. Similarly, suitable habitat was not observed for the gray wolf, black-footed ferret, or Dakota skipper, as the site was primarily utilized as a smooth bromegrass hayfield. In addition, no indicators of these species were observed during field survey. No whooping cranes were observed during the field survey. It is not anticipated that whooping cranes would utilize the stream drainage areas as they prefer shallow, marshy areas good sight visibility, which the drainage area does not possess.

No big game, small game, raptor species, raptor or migratory bird nests were observed in the field.

Water Resources: The study area occurred mainly on a flat landscape. A small drainage occurred on the west side of the pad which pad runoff would flow into. Standing water was observed in the drainage at the time of the survey. Sparse wetland vegetation around the drainage indicated that it may likely contain water throughout the year.

Suggested BMPs: BMPs for soil and wind erosion would be implemented as needed to include over-seeding of cut areas and spoil piles, as well as silt fences and/or mats. Culverts to protect drainages would also be installed where needed.

Hidatsa Hills #26-21H

Botanical Resources: The Hidatsa Hills #26-21H well site consisted of short-grass prairie that has been used for grazing. The access road and well pad were dominated by Kentucky bluegrass and green needlegrass with large patches of little bluestem and Western snowberry present. Native forbs such as prairie rose, purple coneflower, cudweed sagewort, and western sagewort were also present. There are no T&E plant species listed for Dunn County.

Biological Resources: As Lake Sakakawea is located approximately 4 miles from the project site, the site does not contain suitable habitat for the interior least tern, pallid sturgeon, and piping plover and no indicators of these species were observed during field survey. Similarly, suitable habitat was not observed for the gray wolf at the site.

No suitable habitat for the black-footed ferret, in the form of prairie dog towns, was observed during the survey In addition, no indicators of these species were observed during field surveys. The site has an assortment of wildflowers and several patches of little bluestem which may contain suitable habitat for the Dakota skipper. No Dakota Skipper's were observed during the field visits, however a timely survey when the Dakota Skipper would be most visible was not completed. No whooping cranes were observed during the field survey; it is unlikely that whooping cranes would use the short-grass prairie as stopover habitat during migration.

No big game, raptor species, or raptor nests were observed in the field; however, two song sparrows and a sharp-tailed grouse were observed within the study area. In addition, a grouse nest was found containing 15 eggs. Construction of the proposed wells avoid the nesting and breeding season of migratory birds (February 15 to July 15).

Water Resources: The study area occurred on and around the side slopes of a hill top. Surface runoff would drain away from the center of the well pad. Runoff from the north side of the well pad would flow to the northeast, while drainage from the south side of the pad would flow to the southwest. No wetlands were observed in the study area.

Suggested BMPs: BMPs for soil and wind erosion would be implemented as needed to include over-seeding of cut areas and spoil piles, as well as silt fences and/or mats. Culverts to protect drainages would also be installed where needed. The area would be reseeded with a native grass mixture during the reclamation process.

Hudson #13-21H

Botanical Resources: The Hudson #13-21H well site consisted of short-grass prairie that has been used for grazing. The access road and well pad were dominated by junegrass, green needle grass, and Kentucky bluegrass, with large patches of little bluestem located on hill tops. Native forbs such as western wallflower, purple coneflower, and Missouri vetch were also present in small quantities. There are no T&E plant species listed for McKenzie County.

Biological Resources: As Lake Sakakawea is located approximately 3.25 miles from the project site, the site does not contain suitable habitat for the interior least tern, pallid sturgeon, and piping plover and no indicators of these species were observed during field survey. Similarly, suitable habitat was not observed for the gray wolf at the site. No suitable habitat for the black-footed ferret, in the form of prairie dog towns, was observed during the survey. In addition, no indicators of these species were observed during field surveys. The site has an assortment of wildflowers and patches of little bluestem which may contain suitable habitat for the Dakota skipper. No Dakota Skipper's were observed during the field visits, however a timely survey when the Dakota Skipper would be most visible was not completed. No whooping

cranes were observed during the field survey; it is unlikely that whooping cranes would use the short-grass prairie as stopover habitat during migration.

No big game, small game, raptor species, raptor or migratory bird nests were observed in the field.

Water Resources: The study area occurred on a hilltop. The drainage pattern was mostly to the south and west across the pad. No wetlands were observed in the study area.

Suggested BMPs: BMPs for soil and wind erosion would be implemented as needed to include over-seeding of cut areas and spoil piles, as well as silt fences and/or mats. Culverts to protect drainages would also be installed where needed. The area would be reseeded with a native grass mixture during the reclamation process. The southeast corner of the pad would be rounded to avoid a drainage area.

Johnson #7-24H

Botanical Resources: The Johnson #7-24H well site was dominated by short-grass prairie that has been used for grazing. The access road and well pad was dominated by Kentucky bluegrass and smooth bromegrass. Absinth wormwood and Canada thistle, both listed as invasive species in North Dakota, were occurred in patches within the well pad. There are no threatened or endangered (T&E) plant species listed for Dunn County.

Biological Resources: As Lake Sakakawea is located approximately 3.75 miles from the project site, the site does not contain suitable habitat for the interior least tern, pallid sturgeon, and piping plover and no indicators of these species were observed during field survey. Similarly, suitable habitat was not observed for the gray wolf at the site. No suitable habitat for the black-footed ferret, in the form of prairie dog towns, was observed during the survey In addition, no indicators of these species were observed during field surveys. Due to the level of grazing activity, it is unlikely to contain habitat suitable for the Dakota skipper. No whooping cranes were observed during the field survey; it is unlikely that whooping cranes would use the shortgrass prairie as stopover habitat during migration.

No big game, small game, raptor species, raptor or migratory bird nests were observed in the field; however, two western meadowlarks and two cowbirds were observed on the well pad site.

Water Resources: The study area occurred mainly on a gradual slope. A small ridge divided the pad. The drainage pattern on the south side of the ridge was to the southwest across the pad, and the drainage on the north side of the ridge was to the north. No wetlands were observed in the study area.

Suggested BMPs: BMPs for soil and wind erosion would be implemented as needed to include over-seeding of cut areas and spoil piles, as well as silt fences and/or mats. Culverts to protect drainages would also be installed where needed. The area would be reseeded with a native grass mixture during the reclamation process.

To ensure that social, economic, and environmental effects are considered in the development of this project, we are soliciting your views and comments on the proposed development of this project, pursuant to Section 102(2) (D) (IV) of the National Environmental Policy Act of 1969, as amended. We are particularly interested in any property that your department may own, or have an interest in, located within the project area. We would also appreciate being made aware of any proposed development your department may be contemplating in the area of the proposed project. Any information that might help us in our study would be appreciated.

It is requested that any comments or information be forwarded to our office on or before **July 15, 2010**. We request your comments by that date to ensure that we will have ample time to review them and incorporate them into the necessary environmental documentation. A draft copy of the Environmental Assessment document will be provided to your office once complete.

If you would like further information regarding this project, please contact me at (218) 790-4476. Thank you for your cooperation.

Sincerely,

Kadrmas, Lee & Jackson, Inc.

Shanna Braun
Environmental Planner

Enclosure (Map)

Peak North Dakota, LLC
Proposed Oil & Gas
Exploratory Wells

Appendix B

Agency Scoping Responses

List of Scoping Responses
Peak North Dakota, LLC
EA for Eight Dual Well Pads

Federal
US Department of the Army – Corps of Engineers, Omaha District Office
US Department of Transportation – Federal Aviation Administration

Tribal
Tribal Historic Preservation Office

State
North Dakota Department of Health
North Dakota Game and Fish Department
North Dakota Parks and Recreation Department
North Dakota State Water Commission

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
1616 CAPITOL AVENUE
OMAHA NE 68102-4901

REPLY TO
ATTENTION OF

July 7, 2010

Planning, Programs, and Project Management Division

Ms. Shanna Braun
Kadrmas, Lee & Jackson
1505 South 30th Avenue
Moorhead, Minnesota 56561

Dear Ms. Braun:

The U.S. Army Corps of Engineers, Omaha District (Corps) has reviewed your letter dated June 11, 2010, regarding the proposed drilling and completion of up to sixteen exploratory oil and gas wells at eight locations on the Fort Berthold Reservation in McKenzie County, North Dakota. The Corps offers the following comments:

Since the proposed project does not appear to be located within Corps owned or operated lands, we are providing no floodplain or flood risk information. To determine if the proposed project may impact areas designated as a Federal Emergency Management Agency special flood hazard area, please consult the following floodplain management office:

North Dakota State Water Commission
Attention: Jeff Klein
900 East Boulevard Avenue
Bismarck, North Dakota 58505-0850
jjkein@nd.gov
T-701-328-4898
F-701-328-3747

Your plans should be coordinated with the U.S. Environmental Protection Agency, which is currently involved in a program to protect groundwater resources. If you have not already done so, it is recommended you consult with the U.S. Fish and Wildlife Service and the North Dakota Game and Fish Department regarding fish and wildlife resources. In addition, the North Dakota State Historic Preservation Office should be contacted for information and recommendations on potential cultural resources in the project area.

Any proposed placement of dredged or fill material into waters of the United States (including jurisdictional wetlands) requires Department of the Army authorization under Section 404 of the Clean Water Act. You can visit the Omaha District's Regulatory website for permit applications and related information. Please review the information on the provided web site (https://www.nwo.usace.army.mil/html/od-r/district.htm) to determine if this project requires a 404 permit. For a detailed review of permit requirements, preliminary and final project plans should be sent to:

U.S. Army Corps of Engineers
Bismarck Regulatory Office
Attention: CENWO-OD-R-ND/Cimarosti
1513 South 12th Street
Bismarck, North Dakota 58504

In addition, please update your records with our current mailing address:

U.S. Army Corps of Engineers, Omaha District
Planning Branch
Attention: CENWO-PM-AC
1616 Capitol Avenue
Omaha, Nebraska 68102-4901

If you have any questions, please contact Mr. John Shelman of my staff at (402) 995-2708.

Sincerely,

Brad Thompson
Chief, Environmental Resources and Missouri Recovery
Program and Plan Formulation, Planning Branch
Planning, Programs and Project Management Division

Kadrmas
Lee &
Jackson
Engineers Surveyors
Planners

June 11, 2010

Manager Steve Obenauer
Federal Aviation Administration
2301 University Drive, Bldg 23B
Bismarck, ND 58504

Re: Up to Sixteen Proposed Oil and Gas Exploratory Wells
Fort Berthold Reservation
Dunn County and McKenzie County, North Dakota

Dear Manager Obenauer,

On behalf of Peak North Dakota, LLC, Kadrmas, Lee & Jackson, Inc. (KL&J) is preparing an EA (Environmental Assessment) under NEPA (the National Environmental Policy Act) for the BIA (Bureau of Indian Affairs) and BLM (Bureau of Land Management). The proposed action includes approval by the BIA and BLM of the development of eight dual well pads, resulting in the drilling and completion of up to sixteen exploratory oil and gas wells on the Fort Berthold Reservation. These well pads are proposed to be positioned in the following locations:

- Fool Bear #16-12H located in T152N, R94W, Section 16
- Fool Bear #23-34H located in T152N, R94W, Section 23
- Fox #21-21H located in T149N, R93W, Section 21
- Grace #6-24H located in T150N, R94W, Section 6
- Hall #23-21H located in T149N, R94W, Section 23
- Hidatsa Hills #26-21H located in T149N, R93W, Section 26
- Hudson #13-21H located in T149N, R94W, Section 13
- Johnson #7-24H located in T149N, R93W, Section 7

Please refer to the enclosed project location map.

The proposed action would advance the exploration and production of oil from the Bakken Pool. The well sites have been positioned to utilize existing roadways for access to the extent possible. The drilling of these well sites is proposed to begin as early as summer 2010.

To ensure that social, economic, and environmental effects are considered in the development of this project, we are soliciting your views and comments on the proposed development of this project, pursuant to Section 102(2) (D) (IV) of the National Environmental Policy Act of 1969, as amended. We are particularly interested in any property that your department may own, or have an interest in, located within the project area. We would also appreciate being made aware of any proposed development your department may be contemplating in the area of the proposed project. Any information that might help us in our study would be appreciated.

218 287 0300
1505 S 30th Avenue
PO Box 96
Moorhead, MN 56561-0096
Fax 218 287 6313
www.kljeng.com
Kadrmas, Lee & Jackson, Inc.
A KLJ Solutions Company

It is requested that any comments or information be forwarded to our office on or before **July 12, 2010**. We request your comments by that date to ensure that we will have ample time to review them and incorporate them into the necessary environmental documentation.

If you would like further information regarding this project, please contact me at (218) 790-4476. Thank you for your cooperation.

Sincerely,

Kadrmas, Lee & Jackson, Inc.

Shanna Braun
Environmental Planner

Enclosure (Map)

Kadrmas
Lee &
Jackson
Engineers Surveyors
Planners

U.S. Department
of Transportation
Federal Aviation
Administration

Date 6/22/10

Dear Ms. Braun:

No objection provided the Federal Aviation Administration is notified of construction or alterations as required by Federal Aviation Regulations, Part 77, Objects Affecting Navigable Airspace, Paragraph 77.13. Notice may be filed on-line at https://oeaaa.faa.gov.

Patricia L. Dressler
Environmental Protection Specialist
Federal Aviation Administration
Bismarck Airports District Office
2301 University Drive, Building 23B
Bismarck, ND 58504

TRIBAL HISTORIC PRESERVATION
Mandan Hidatsa Arikara
Perry 'No Tears' Brady, Director
404 Frontage Road,
New Town, North Dakota 58763
Ph/701-862-2474 fax/701-862-2490
pbrady@mhanation.com

Three Affiliated Tribes
MANDAN * HIDATSA * ARIKARA

June 21, 2010

Peak North Dakota, LLC
Kadrmas, Lee, & Jackson, Inc
1505 S. 30the Ave.
PO Box 969
Moorhead, MN 56561

Dear Kadrmas Lee & Jackson

Fool Bear #16-12H Located in T152 N. R94W, Section 16
Fool Bear #23-34H located in T152N, R94W, and Section 23
Fox #21-21H located in T149N, R94W, and Section 21
Grace #6-24H located in T150N, R94W, Section 6
Hall #23-21H located in T149N, R94W, Section 23
Hidatsa Hills #26-21H Located in T149N, R93W, and Section 26
Hudson #13-21 located in T149N, R94W, Section 13
Johnson #7-24H located in T149N, R93W, Section 7

Monitors have been out to these sited and have no questions or comments at this time. If you have any questions or need additional information, you can contact me at (701) 862-2474 or 862-2475 or Cell number (701) 421-0547

Sincerely:

Perry "No Tear" Brady
Director
Mandan, Hidatsa, & Arikara Nation

NORTH DAKOTA
DEPARTMENT of HEALTH

ENVIRONMENTAL HEALTH SECTION
Gold Seal Center, 918 E. Divide Ave.
Bismarck, ND 58501-1947
701.328.5200 (fax)
www.ndhealth.gov

June 29, 2010

SHANNA BRAUN
ENVIRONMENTAL PLANNER
KADRMAS LEE & JACKSON INC
PO BOX 96
MOORHEAD MN 56561-0096

RE: Up to 16 Proposed Oil and Gas Exploratory Wells
Fort Berthold Reservation
Dunn and McKenzie Counties, North Dakota

Dear Ms. Braun:

This department has reviewed the information concerning the above-referenced project submitted under date of June 11, 2010, with respect to possible environmental impacts.

This department believes that environmental impacts from the proposed construction will be minor and can be controlled by proper construction methods. With respect to construction, we have the following comments:

1. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.

2. Oil and gas related construction activities that disturb 5 or more acres and located within tribal boundaries in North Dakota may be required to obtain a permit to discharge storm water runoff from the U.S. Environmental Protection Agency. Further information may be obtained from the U.S. EPA website or by calling the U.S. EPA – Region 8 at 303.312.6312. Also, cities or counties may impose additional requirements and/or specific best management practices for construction affecting their storm drainage system. Check with the local officials to be sure any local storm water management considerations are addressed.

3. Development of the production facilities and any access roads or well pads should have a minimal effect on air quality provided measures are taken to minimize fugitive dust. However, operation of the well(s) has the potential to release air contaminants capable of causing or contributing to air pollution. We encourage the development and operation of the wells in a manner that is consistent with good air pollution control practices for minimizing emissions.

The department owns no land in or adjacent to the proposed improvements, nor does it have any projects scheduled in the area. In addition, we believe the proposed activities are consistent with the State Implementation Plan for the Control of Air Pollution for the State of North Dakota.

These comments are based on the information provided about the project in the above-referenced submittal. The U.S. Army Corps of Engineers may require a water quality certification from this department for the project if the project is subject to their Section 404 permitting process. Any additional information which may be required by the U.S. Army Corps of Engineers under the process will be considered by this department in our determination regarding the issuance of such a certification.

If you have any questions regarding the comments, please feel free to contact this office.

Sincerely,

L. David Glatt, P.E.
Chief
Environmental Health Section

LDG:mjm

Attach. (as stated)

NORTH DAKOTA
DEPARTMENT of HEALTH

ENVIRONMENTAL HEALTH SECTION
Gold Seal Center, 918 E. Divide Ave.
Bismarck, ND 58501-1947
701.328.5200 (fax)
www.ndhealth.gov

Construction and Environmental Disturbance Requirements

These represent the minimum requirements of the North Dakota Department of Health. They ensure that minimal environmental degradation occurs as a result of construction or related work which has the potential to affect the waters of the State of North Dakota. All projects will be designed and implemented to restrict the losses or disturbances of soil, vegetative cover, and pollutants (chemical or biological) from a site.

Soils

Prevent the erosion of exposed soil surfaces and trapping sediments being transported. Examples include, but are not restricted to, sediment dams or berms, diversion dikes, hay bales as erosion checks, riprap, mesh or burlap blankets to hold soil during construction, and immediately establishing vegetative cover on disturbed areas after construction is completed. Fragile and sensitive areas such as wetlands, riparian zones, delicate flora, or land resources will be protected against compaction, vegetation loss, and unnecessary damage.

Surface Waters

All construction which directly or indirectly impacts aquatic systems will be managed to minimize impacts. All attempts will be made to prevent the contamination of water at construction sites from fuel spillage, lubricants, and chemicals, by following safe storage and handling procedures. Stream bank and stream bed disturbances will be controlled to minimize and/or prevent silt movement, nutrient upsurges, plant dislocation, and any physical, chemical, or biological disruption. The use of pesticides or herbicides in or near these systems is forbidden without approval from this Department.

Fill Material

Any fill material placed below the high water mark must be free of top soils, decomposable materials, and persistent synthetic organic compounds (in toxic concentrations). This includes, but is not limited to, asphalt, tires, treated lumber, and construction debris. The Department may require testing of fill materials. All temporary fills must be removed. Debris and solid wastes will be removed from the site and the impacted areas restored as nearly as possible to the original condition.

"VARIETY IN HUNTING AND FISHING"

NORTH DAKOTA GAME AND FISH DEPARTMENT

100 NORTH BISMARCK EXPRESSWAY BISMARCK, NORTH DAKOTA 58501-5095 PHONE 701-328-6300 FAX 701-328-6352

July 8, 2010

Shanna Braun
Environmental Planner
Kadrmas, Lee & Jackson, Inc.
PO Box 96
Moorhead, MN 56561-0096

Dear Ms. Braun:

RE: Fool Bear #16-12H in Section 16, T152N, R94W
Fool Bear #23-34H in Section 23, T152N, R94W
Fox #21-21H in Section 21, T149N, R93W
Grace #6-24H in Section 6, T150N, R94W
Hall #23-21H in Section 23, T149N, R94W
Hidatsa Hills #26-21H in Section 26, T149N, R93W
Hudson #13-21H in Section 13, T149N, R94W
Johnson #7-24H in Section 7, T149N, R93W

Peak North Dakota, LLC has proposed up to sixteen exploratory oil and gas wells on eight dual well pads on the Fort Berthold Reservation in Dunn and McKenzie Counties.

Our primary concern with oil and gas development is the fragmentation and loss of wildlife habitat associated with construction of the well pads and access roads. We recommend that construction be avoided to the extent possible within native prairie, wooded draws, riparian corridors, and wetland areas.

We also suggest that botanical surveys be completed during the appropriate season and aerial surveys be conducted for raptor nests before construction begins.

Sincerely,

Steve Dyke

(for) Michael G. McKenna
Chief
Conservation & Communication Division

js

John Hoeven, Governor
Mark A. Zimmerman, Director

1600 East Century Avenue, Suite 3
Bismarck, ND 58503-0649
Phone 701-328-5357
Fax 701-328-5363
E-mail parkrec@nd.gov
www.parkrec.nd.gov

June 30, 2010

Shanna Braun
Kadrmas, Lee & Jackson
2750 Gateway Drive, Suite F
Grand Forks, ND 58203-0811

Re: Peak North Dakota, LLC Development of Up to Sixteen Oil and Gas Exploratory Wells Proposal

Dear Ms. Braun:

The North Dakota Parks and Recreation Department has reviewed the above referenced project proposal to develop up to sixteen oil and gas exploratory wells located in Sections 16 and 23, T152N, R94W; Section 6, T150N, R94W; Sections 13 and 23, T149N, R94W; McKenzie County; and Section 21, T149N, R93W; Sections 7 and 26, T149N, R93W; Dunn County.

Our agency scope of authority and expertise covers recreation and biological resources (in particular rare species and ecological communities). The project as defined does not affect state park lands that we manage or Land and Water Conservation Fund recreation projects that we coordinate.

The North Dakota Parks and Recreation Department is responsible for coordinating North Dakota's Scenic Byway and Backway Program. This proposed project is in proximity to the Killdeer Mountain Four Bears Scenic Byway and as such we recommend any project development be completed with the least amount of or no visual impact to the immediate and distant views from that Byway. North Dakota Parks and Recreation Department staff should be contacted at 701-328-5355 to assist in mitigation of any potential impacts.

The North Dakota Natural Heritage biological conservation database has been reviewed to determine if any current or historic plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, there are no known occurrences within or adjacent to the project area.

Because this information is not based on a comprehensive inventory, there may be species of concern or otherwise significant ecological communities in the area that are not represented in the database. The lack of data for any project area cannot be construed to mean that no significant features are present. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources.

Regarding any reclamation efforts, we recommend that any impacted areas be revegetated with species native to the project area.

Thank you for the opportunity to comment on this project. Please contact Kathy Duttenhefner (701-328-5370 or kgduttenhefner@nd.gov) of our staff if additional information is needed.

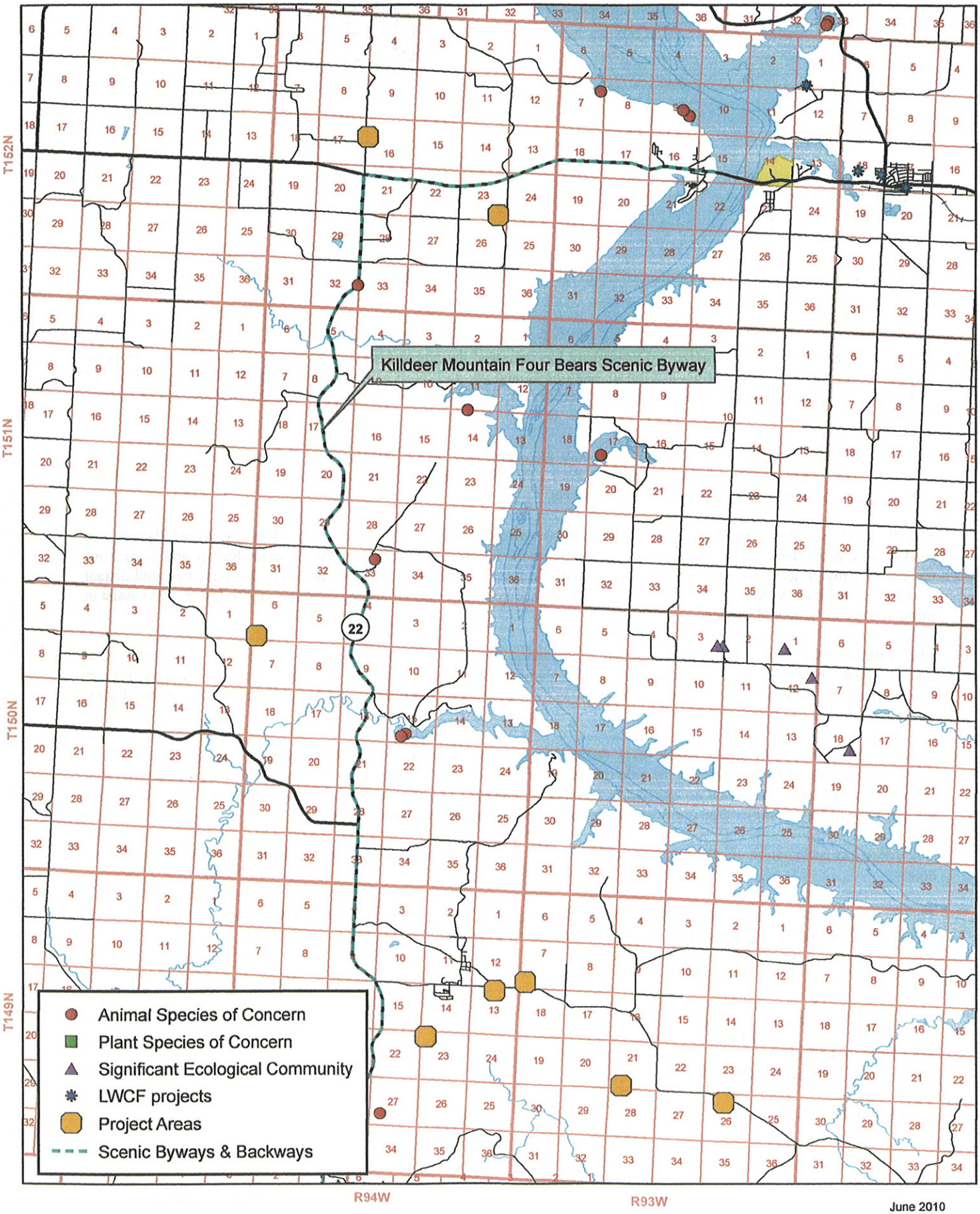
Sincerely,

Jesse Hanson, Manager
Planning and Natural Resources Division

R.USNDNHI*2010-187

Play in our backyard!

North Dakota Parks and Recreation Department
North Dakota Natural Heritage Inventory



June 2010

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
701-328-2750 • TDD 701-328-2750 • FAX 701-328-3696 • INTERNET: http://swc.nd.gov

July 7, 2010

Shannon Braun
Kadrmas, Lee and Jackson
PO Box 96
Moorhead, MN 56561-0096

Dear Ms. Braun:

This is in response to your request for review of environmental impacts associated with the Up to Sixteen Proposed Oil and Gas Exploratory Wells, Fort Berthold reservation, Dunn County and McKenzie County, ND.

The proposed project have been reviewed by State Water Commission staff and the following comments are provided:

- The property is not located in an identified floodplain and it is believed the project will not affect an identified floodplain.

- It is the responsibility of the project sponsor to ensure that local, state and federal agencies are contacted for any required approvals, permits, and easements.

- All waste material associated with the project must be disposed of properly and not placed in identified floodway areas.

- No sole-source aquifers have been designated in ND.

There are no other concerns associated with this project that affect State Water Commission or State Engineer regulatory responsibilities.

Thank you for the opportunity to provide review comments. If you have any questions, please call me at 328-4969.

Sincerely,

Larry Knudtson
Research Analyst

LJK:dp/1570

Energy - Oil & gas - Peak

Logging

FEB 24 2011

Ms. Laura Leslie Burckhardt, Aquatic Ecologist
SWCA Environmental Consultants
8 Cactus Drive
Cody, Wyoming 82414

Re: Request for Review and Concurrence on Eight Peak Dual Proposed Wells, Ft. Berthold Reservation, Dunn and McKenzie Counties, North Dakota

Dear Ms. Burckhardt:

This is in response to your February 4, 2011, environmental assessment regarding your request for review and concurrence for eight proposed exploratory oil and gas dual wells to be drilled and completed by Peak North Dakota, LLC (Peak) on the Fort Berthold Reservation, Dunn and McKenzie Counties, North Dakota.

Specific locations for the proposed pads are:

Fool Bear #16-12H: T. 152 N., R. 94 W., Section 16, McKenzie County
Fool Bear #23-24H: T. 152 N., R. 94 W., Section 23, McKenzie County
Fox #21-21H: T. 149 N., R. 93 W., Section 21, Dunn County
Grace #6-24H: T. 150 N., R. 94 W., Section 6, McKenzie County
Hall #23-21H: T. 149 N., R. 94 W., Section 23, McKenzie County
Hidatsa Hills #26-21H: T. 149 N., R. 93 W., Section 26, Dunn County
Hudson #13-21H: T. 149 N. , R. 94 W., Section 13, McKenzie County
Johnson #7-24H: T. 149 N., R. 93 W., Section 7, Dunn County

We offer the following comments under the authority of and in accordance with the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.) (MBTA), the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.) (NEPA), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250) (BGEPA), Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds", and the Endangered Species Act (16 U.S.C. 1531 et seq.) (ESA).

Threatened and Endangered Species

In an e-mail dated October 13, 2009, the Bureau of Indian Affairs (BIA) designated SWCA Environmental Consultants (SWCA) to represent the BIA for informal Section 7 consultation under the ESA. Therefore, the U.S. Fish and Wildlife Service (Service) is responding to you as the designated non-Federal representative for the purposes of ESA, and under our other authorities as the entity preparing the NEPA document for adoption by the BIA.

The Service concurs with your "may affect, is not likely to adversely affect" determinations for piping plovers, interior least tern, pallid sturgeon, and designated critical habitat for piping plovers. This concurrence is predicated on Peak's placement of the wells at a distance greater than one mile from potential habitat for these species.

The Service concurs with your "may affect, is not likely to adversely affect" determination for whooping cranes. This concurrence is predicated on Peak's commitment to stop work on the proposed site if a whooping crane is sighted within one mile of the proposed project area and immediately contacting the Service. Work may resume in coordination with the Service, after the bird(s) has left the area. Additionally, all proposed electrical lines will be buried.

The Service acknowledges your no effect determination for gray wolf and black-footed ferret.

Migratory Bird Treaty Act

The EA states that Peak will implement the following measures to avoid/minimize take of migratory birds:

- All construction will be done outside of the migratory bird breeding season (Feb. 1 – July 15); or, if construction occurs during this time, Peak will either:

- Mow and maintain vegetation within the project area construction area, including access road(s) and well pad(s);

- Conduct an ornithological survey five days before construction begins. If nests are discovered, the BIA and Service will be notified.

Bald and Golden Eagle Protection Act

Pedestrian and line-of-sight surveys were conducted on May 26-27, 2010, and again on June 7, 8, and 22, 2010. The EA states that no eagles or nests were discovered within 0.5 mile of the project area. The eagle nest database maintained by North Dakota Game and Fish Department does not indicate any eagle nests within 0.5 mile of any of the proposed pad locations.

The Service believes that Peak's commitment to implement the aforementioned measures demonstrates that measures have been taken to protect migratory birds and bald and golden eagles to the extent practicable, pursuant to the MBTA and the BGEPA.

Thank you for the opportunity to comment on this EA. If you require further information or the project plans change, please contact me or Heidi Riddle of my staff at (701) 250-4481 or at the letterhead address.

Sincerely,

Jeffrey K. Towner

Jeffrey K. Towner
Field Supervisor
North Dakota Field Office

cc: Bureau of Indian Affairs, Aberdeen
(Attn: Marilyn Bercier)
Bureau of Land Management, Dickinson
Director, ND Game & Fish Department, Bismarck

Notice of Availability and Appeal Rights

Peak: Fool Bear #16-12H, Fool Bear #23-34H, Fox #21-21H, Grace #6-24H, Hall #23-21H, Hidatsa Hills # 26-21H, Hudson # 13-21H, Johnson #7-24H

The Bureau of Indian Affairs (BIA) is planning to issue administrative approvals related to installation of eight well pads and up to 16 oil/gas wells as shown on the attached map. Construction by Peak is expected to begin in 2011.

An environmental assessment (EA) determined that proposed activities will not cause significant impacts to the human environment. An environmental impact statement is not required. Contact Howard Bemer, Superintendent at 701-627-4707 for more information and/or copies of the EA and the Finding of No Significant Impact (FONSI).

The FONSI is only a finding on environmental impacts – it is not a decision to proceed with an action and *cannot* be appealed. BIA's decision to proceed with administrative actions *can* be appealed until April 8, 2011, by contacting:

United States Department of the Interior
Office of Hearings and Appeals
Interior Board of Indian Appeals
801 N. Quincy Street, Suite 300, Arlington, Va 22203.

Procedural details are available from the BIA Fort Berthold Agency at 701-627-4707.

Project locations.