



United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Great Plains Regional Office
115 Fourth Avenue S.E., Suite 400
Aberdeen, South Dakota 57401




IN REPLY REFER TO:
DESCRM
MC-208

AUG 25 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, an Environmental Assessment (EA) has been completed and a Finding of No Significant Impact (FONSI) has been issued. The EA authorizes land use for four wells from two pads by QEP Exploration and Development Company on the Fort Berthold Indian Reservation.

All the necessary requirements of the National Environmental Policy Act have been completed. Attached for your files are copies of the EA Addendum, FONSI and Notice of Availability. The Council on Environmental Quality (CEQ) regulations require that there be a public notice of availability of the FONSI (40 C.F.R. Part 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, Tribal Historic Preservation Officer (with attachment)
Derek Enderud, BLM, Bureau of Land Management (with attachment)
Grady Wolf, KLJ Consultant (with attachment)
Jonathon Shelman, Corps of Engineers
Jeff Hunt, Fort Berthold Agency

Finding of No Significant Impact

QEP Energy Company (QEP)

Environmental Assessment for

*Drilling of MHA 1-05-04H-148-91, MHA 3-05-04H-148-91, MHA 2-05-04H-148-91, and MHA 4-05-04H-148-91
Oil & Gas Wells*

*Fort Berthold Indian Reservation
Dunn County, North Dakota*

The U.S. Bureau of Indian Affairs (BIA) has received a proposal to drill four oil and gas wells located atop two well pads to be positioned in the following locations:


- Saddle Butte Northwest 5 well pad; MHA 1-05-04H-148-91 and MHA 3-05-04H-148-91 located in T148N, R91W, NW1/4 of Section 5
- Saddle Butte Southwest 5 well pad; MHA 2-05-04H-148-91 and MHA 4-05-04H-148-91 located in T148N, R91W, SW1/4 of section 5

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.

Acting  Regional Director


Date

Notice of Availability and Appeal Rights

QEP Energy: MHA 1-05-04H-148-91, MHA 3-05-04H-148-91, MHA 2-05-04H-148-91, and MHA 4-05-04H-148-91

The Bureau of Indian Affairs (BIA) is planning to issue administrative approvals related to an Environmental Assessment to Authorize Land Use for a Drilling of MHA 1-05-04H-148-91, MHA 3-05-04H-148-91, MHA 2-05-04H-148-91, and MHA 4-05-04H-148-91 Oil and Gas Wells as shown on the attached map. Construction by QEP is expected to begin in 2011.

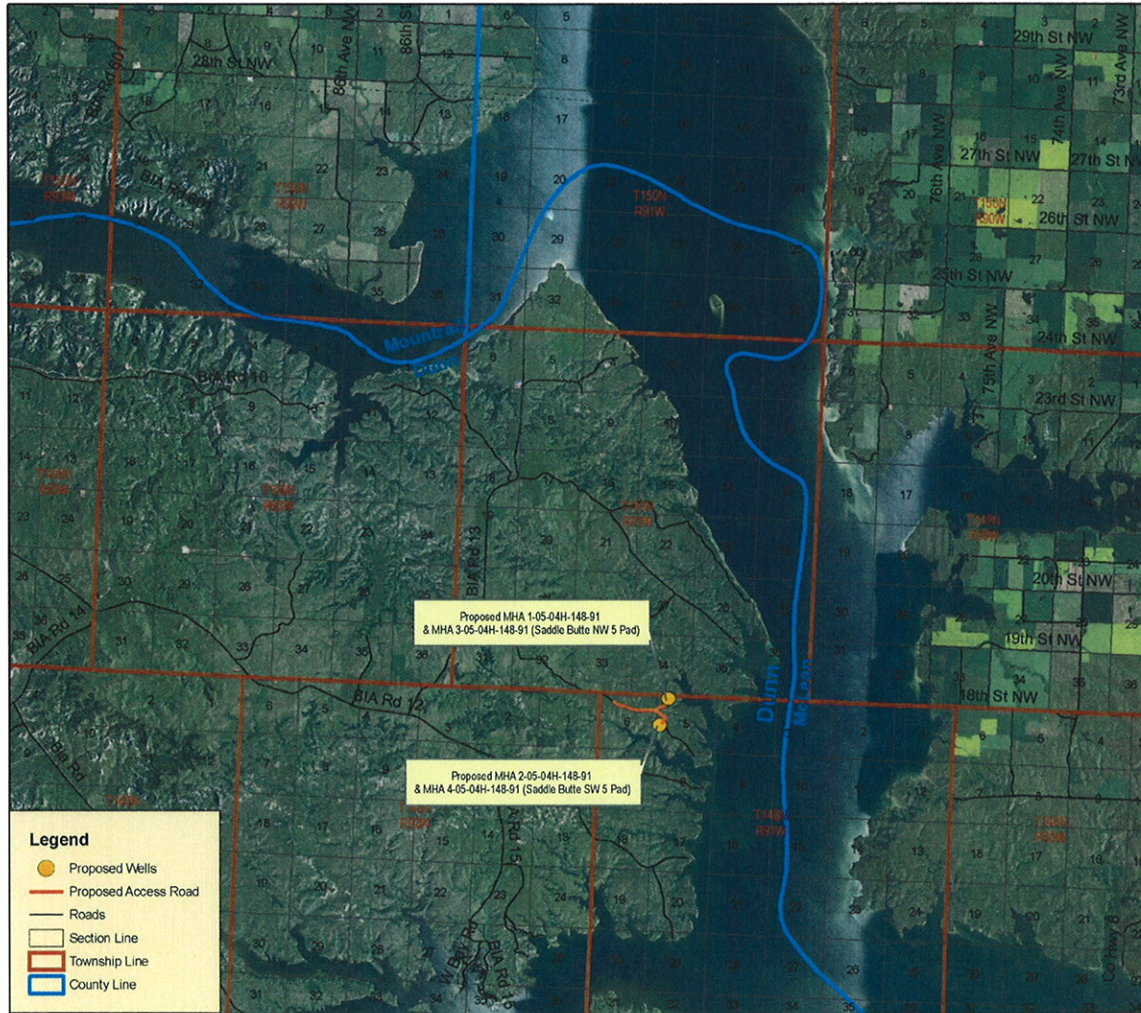
An environmental assessment (EA) determined that proposed activities will not cause significant impacts to the human environment. An environmental impact statement is not required. Contact Earl Silk, Superintendent at 701-627-4707 for more information and/or copies of the EA and the Finding of No Significant 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 September 24, 2011, by contacting:

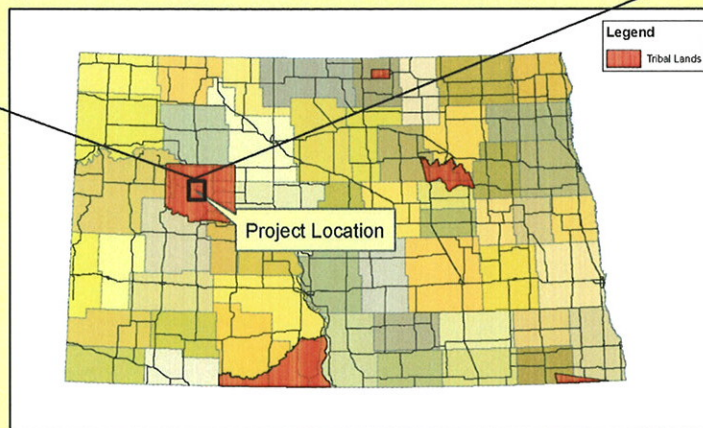
**United States Department of the Interior
Office of Hearings and Appeals
Interior Board of Indian Appeals
801 N. Quincy Street, Suite 300, Arlington, Va 22203.**

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

Project locations.



**QEP Energy Company
Proposed Wells
Dunn County, ND**



ENVIRONMENTAL ASSESSMENT

United States Bureau of Indian Affairs

Great Plains Regional Office
Aberdeen, South Dakota



QEP Energy Company

Drilling of MHA 1-05-04H-148-91, MHA 3-05-04H-148-91, MHA 2-05-04H-148-91, and MHA 4-05-04H-148-91
Oil & Gas Wells

Fort Berthold Indian Reservation

August 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*

CHAPTERS

Chapter 1	Purpose and Need for Action	1
1.1	Introduction	1
1.2	Description of the Proposed Action	1
1.3	Need for the Proposed Action	3
1.4	Purpose of the Proposed Action	3
1.5	Regulations that Apply to Oil and Gas Development Activities	3
Chapter 2	Alternatives	4
2.1	Introduction	4
2.2	Alternative A: No Action	4
2.3	Alternative B: Proposed Action	4
2.4	Field Camps	7
2.5	Access Roads	7
2.6	Well Pads	7
2.7	Drilling	8
2.8	Casing and Cementing	8
2.9	Completion and Evaluation	8
2.10	Commercial Production	9
2.11	Reclamation	9
2.12	Potential for Future Development	10
Chapter 3	Description of the Affected Environment and Impacts	11
3.1	Introduction	11
3.2	Climate, Geologic Setting, and Land Use	11
3.2.1	Climate, Geologic Setting and Land Use Impacts/Mitigation	13
3.3	Soils	13
3.3.1	Soil Impacts/Mitigation	14
3.4	Water Resources	15
3.4.1	Surface Water	15
3.4.1.1	Surface Water Impacts/Mitigation	15
3.4.2	Ground Water	17
3.4.2.1	Ground Water Impacts/Mitigation	19
3.4.3	Air Quality	21
3.4.3.1	Air Quality Impacts/Mitigation	23
3.5	Threatened, Endangered, and Candidate Species	23
3.5.1	Endangered Species	24
3.5.2	Threatened Species	25
3.5.3	Candidate Species	25
3.5.3.2	Threatened, Endangered, and Candidate Species Impacts/Mitigation	26
3.6	Migratory Birds, Eagles and Other Wildlife	27
3.6.1	Bald and Golden Eagles	27
3.6.1.1	Bald and Golden Eagle Impacts/Mitigation	28
3.6.2	Migratory Birds and Other Wildlife	30

3.6.2.1	Migratory Birds and Other Wildlife Impacts/Mitigation	30
3.6.3	Vegetation	31
3.6.3.1	Vegetation Impacts/Mitigation.....	35
3.6.4	Wetlands.....	36
3.6.4.1	Wetland Impacts/Mitigation.....	36
3.6.5	Cultural Resources	36
3.6.5.1	Cultural Resources Impacts/Mitigation	37
3.6.6	Socioeconomic Conditions.....	37
3.6.6.1	Socioeconomic Impacts/Mitigation	38
3.6.7	Environmental Justice.....	38
3.6.7.1	Environmental Justice Impacts/Mitigation	40
3.6.8	Infrastructure and Utilities	40
3.6.8.1	Infrastructure and Utility Impacts/Mitigation.....	40
3.6.9	Public Health and Safety.....	41
3.6.9.1	Public Health and Safety Impacts/Mitigation	41
3.7	Cumulative Considerations	42
3.8	Past, Present, and Reasonably Foreseeable Actions.....	42
3.8.1	Cumulative Impact Assessment.....	44
3.8.1.1	Irreversible and Irrecoverable Commitment of Resources.....	46
3.8.1.2	Short-term Use of the Environment Versus Long-term Productivity.....	46
3.8.1.3	Permits.....	46
3.8.1.4	Environmental Commitments/Mitigation.....	46
Chapter 4	Preparers and Agency Coordination	49
4.1	Introduction	49
4.2	Preparers.....	49
4.3	Agency Coordination.....	50
4.4	Public Involvement	50
Chapter 5	References	51
5.1	References	51

FIGURES

Figure 1.1, Project Location Map	2
Figure 2.1, Location of Spacing Units	6
Figure 3.1, Land Use.....	12
Figure 3.2, Surface Water Resources.....	16
Figure 3.3, Aquifers and Groundwater Wells	20
Figure 3.4, Aquifers and Groundwater Wells	22
Figure 3.5, Bald and Golden Eagle Habitat and Nest Sightings	29
Figure 3.6, Access Road Vegetation	32
Figure 3.7, Access Road Drainage Facing East	32
Figure 3.8, Dominant NW 5 Well Pad Vegetation.....	33
Figure 3.9, Dominant SW 5 Well Pad Vegetation	33
Figure 3.10, Canada thistle on SW 5 Well Pad	34
Figure 3.11, NE Drainage on the NW 5 Well Pad	34
Figure 3.12, Existing and Proposed Oil and Gas Wells	43

TABLES

Table 3.1, Soils	13
Table 3.2, Federal and State Air Quality Standards and Reported Data for Dunn Center	21
Table 3.3, Noxious Weed Species.....	35
Table 3.4, Employment and Income.....	39
Table 3.5, Demographic Trends	39
Table 3.6, Summary of Active and Proposed Wells	43
Table 4.1, Preparers.....	49

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 billion 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 QEP Energy Company (QEP) to drill and complete four wells from two dual well pads targeting the Bakken and Three Forks Formations. The proposed action is located on the Fort Berthold Reservation and is proposed to be located in T148N, R91W, 5th P.M., Section 5 (Dunn County). Please refer to **Figure 1.1, Project Location Map**.

The two dual well pads would support four wells. The four wells are proposed to be located as shown below:

- Saddle Butte NW 5; MHA 1-05-04H-148-91 and MHA 3-05-04H-148-91 are located in T148N, R91W, NW1/4 of Section 5
- Saddle Butte SW 5; MHA 2-05-04H-148-91 and MHA 4-05-04H-148-91 are located in T148N, R91W, SW1/4 Section 5

The two pads would have separate spacing units in which the minerals would be developed. The wells beginning with "MHA 1" or "MHA 2" would target the Bakken Formation, while the wells beginning with "MHA 3" or "MHA 4" would target the Three Forks Formation. Proposed completion activities include acquisition of rights-of-way, infrastructure for the proposed wells, and roadway improvements.

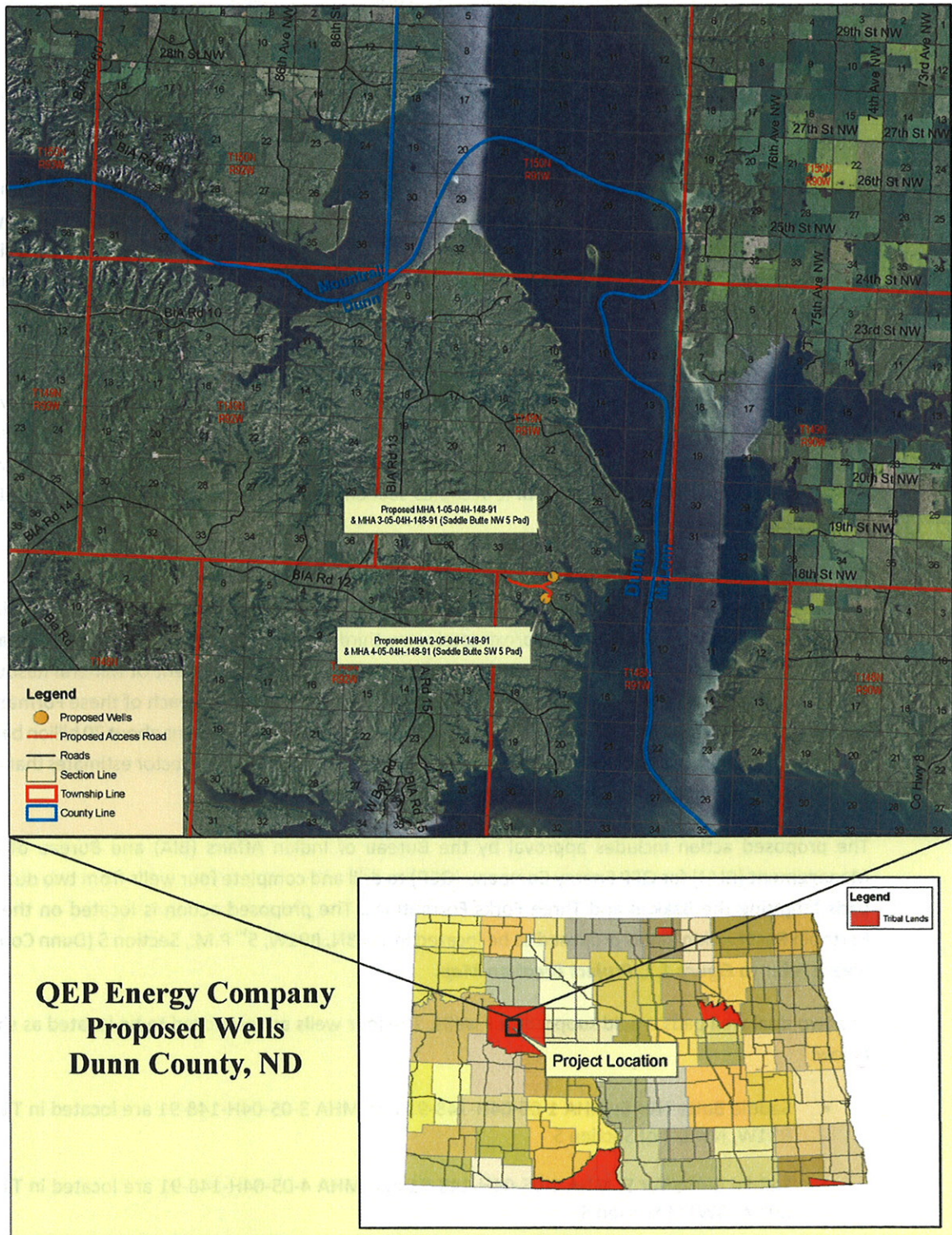


Figure 1.1, Project Location Map

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 positive recommendation to the BLM for approval of the APDs (Application Permit to Drill) to drill the four 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 access commercially recoverable oil and gas resources on the lands subject to QEP's lease areas by drilling four wells on the two identified well pad locations.

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 BLM 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 the two dual well pads, resulting in no drilling or completion of the four proposed oil and gas wells. There would be no environmental impacts associated with Alternative A. However, the Three Affiliated Tribes 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 two dual well pads, resulting in the drilling and completion of four oil and gas wells as well as associated rights-of-way acquisition, roadway improvements, and infrastructure for the wells. Infrastructure would include oil and gas gathering pipelines and buried electrical lines, both of which would be located within the access road right-of-way.

The project would consist of two 800 acre spacing units developed by four individual wells, located atop two dual well pads with an access road and associated infrastructure for each pad. The well pads are where the actual surface disturbance caused by drilling activities would occur. 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.

The well pad locations would require new right-of-way for access roads, supporting 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 during site surveys. The 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 the proposed well pads and access roads were conducted on May 2, 2011 by KL&J. The purpose of this survey was to gather site-specific data and photos with regards to botanical, biological, threatened and endangered species, eagle, and water resources. The study area consisted of 10 acres centered on the proposed well pad center points and a 200-foot wide corridor along the proposed access roads. Resources were evaluated using visual inspection and pedestrian transects across the site. In addition, a survey for eagles and eagle nests within 0.5 miles of the project disturbance area was conducted. This survey consisted of pedestrian transects focusing specifically on potential nesting sites within 0.5 miles of the 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 assessment of the well pads and access roads was also conducted on May 2, 2011. The BIA Environmental Protection Specialist, Tribal Historic Preservation Office, and representatives from QEP and KL&J were present. 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 assessment agreed that the selected location, along with the minimization measures QEP plans to implement, are positioned to minimize impacts to sensitive wildlife and botanical resources. In addition, comments received from the United States Fish and Wildlife Service (USFWS) have been considered in the development of this project.

The four proposed wells would be located in the NW¼ and SW¼ of Section 5, Township 148 North, Range 91 West, 5th P.M. to access potential oil and gas resources within the following spacing units:

- MHA 1-05-04H-148-91; N½ of Sections 5 and 4 and NW1/4 of Section 3, T 148 N, R 91 W
- MHA 3-05-04H-148-91; N½ of Sections 5 and 4 and NW1/4 of Section 3, T 148 N, R 91 W
- MHA 2-05-04H-148-91; S½ of Sections 5 and 4 and SW1/4 of Section 3, T 148 N, R 91 W
- MHA 4-05-04H-148-91; N½ of Sections 5 and 4 and SW1/4 of Section 3, T 148 N, R 91 W

Please refer to **Figure 2.1, Location of Spacing Units.**

A new access road would be constructed beginning in the NW1/4 of Section 6, Township 148 North, Range 91 West. It would travel east approximately 3,771 feet with the west end of this access road tying into the existing Hale Marina Road which eventually joins BIA 13. The Northwest and Southwest 5 pads would have additional access roads that would connect to the east end of the proposed 3,771 foot access road. The proposed Saddle Butte Southwest 5 pad would be accessed from the northwest. A new access road approximately 1,847 feet would be constructed in the W1/2 of Section 5, Township 148 North, Range 91 West. The proposed Saddle Butte Northwest 5 pad would be accessed from the southwest. A new access road approximately 1,535 feet long would be constructed in the W1/2 of Section 5, Township 148 North, Range 91 West. The access road has been situated to avoid drainages and wooded draws to the extent possible. 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.

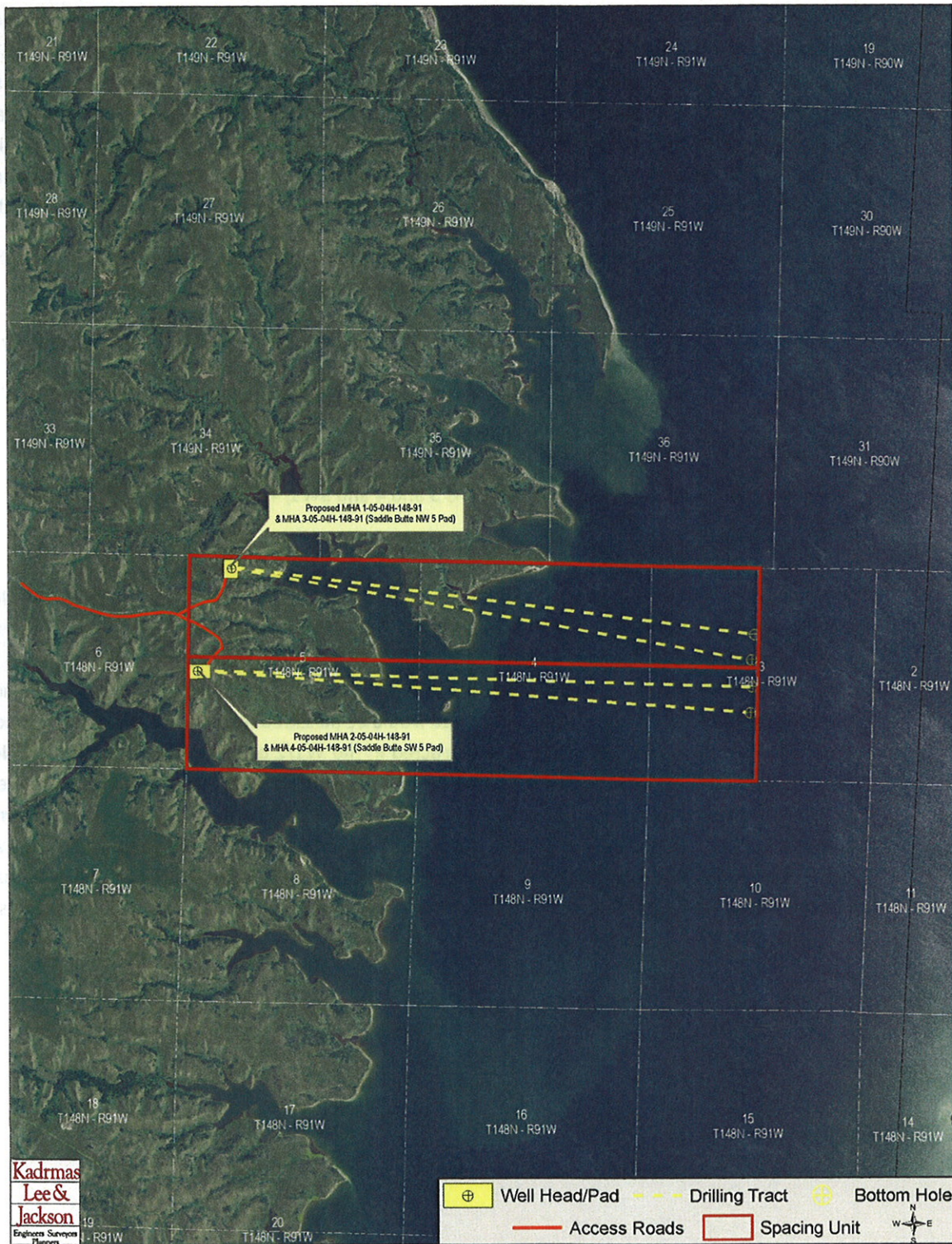


Figure 2.1, Location of Spacing Units

2.4 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.

2.5 Access Roads

Existing roadways and two track trails would be used to the extent possible to access the proposed well pads; however, the construction of approximately 7,153 feet of new access road (13.9 acres) would also be required starting at Hale Marina Road and heading in an easterly direction before it splits and travels in a northeasterly direction for the Saddle Butte NW 5 well pad, and a southeasterly direction for the Saddle Butte SW 5 well pad. The running surface of the access road 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 approximately 66 feet would be disturbed for the 1,535 foot section of access road that goes to the NW pad and there would be a 90 foot maximum right-of-way width for the 3,771 foot straight section as well as the 1,847 foot section that branches toward the SW pad. The right-of-way would consist of a 20 to 28-foot wide roadway with the remainder of the disturbed area due to borrow ditches and construction slopes, gathering pipelines, and electrical infrastructure. The outslope portions of the constructed access road 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.

Construction on the well pads and access roads is planned to occur in 2011. If construction occurs during the migratory bird breeding and nesting season (February 1 through July 15), certain measures would be taken to mitigate the harm to the breeding and nesting birds. The sites would be mowed in the fall prior to construction to deter migratory birds from nesting in the area and QEP would have a qualified biologist conduct pre-construction surveys for migratory birds or their nests within five days prior to the initiation of all construction activities. The findings of these surveys would be reported to USFWS.

2.6 Well Pads

The proposed well pads would consist of a leveled area surfaced with several inches of gravel or crushed scoria. The pad would be used for the drilling rig and related equipment, as well as an excavated, reinforced lined (with a minimum thickness of 20 mil) pit to store drill cuttings. The drill cuttings pit would be reclaimed to BLM and North Dakota Industrial Commission (NDIC) standards immediately upon finishing completion operations. The level well pad, required for drilling and completing operations would be approximately 345x450 feet for the Saddle Butte NW 5 pad and approximately 345x510 feet for the Saddle Butte SW 5 pad. The total quantity of land within the fenced area is approximately 5.25 acres for the NW pad and 6.16 acres for the SW pad. Cut and fill end slopes on the edge of the well pad would be 3:1. The cuttings 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.

The 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 and 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 pad graded to ensure water drains away from the drill site. Spoil piles would be located to

assist with secondary containment and to restrict line-of-sight to Lake Sakakawea. Erosion control at the site would be maintained through the use of best management practices (BMPs), which may include, but are not limited to, water bars, bar ditches, diversion ditches, bio-logs, silt fences, and re-vegetation of disturbed areas. The perimeter of the pad would be bermed to prevent run-on and run-off. The northwest, northeast, and southwest corners of the Saddle Butte Northwest 5 well pad would be rounded to minimize impacts to nearby drainages. Construction on the well is planned to occur during 2011. If the construction occurs during the migratory bird breeding and nesting season (February 1 through July 15), certain measures would be taken to mitigate the harm to the birds. The site would be mowed in the fall prior to construction to deter migratory birds from nesting in the area, or an acceptable alternative to mowing would be to have a qualified biologist conduct a spring survey prior to construction for migratory birds or their nests within five days prior to the initiation of all construction activities. The findings of these surveys would be reported to USFWS.

2.7 Drilling

Following the access road construction and well pad preparation, a drilling rig would be rigged up at the dual well sites. 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 9,800 feet to reach the Bakken Formation and 10,200 feet to reach the Three Forks Formation, at which it would angle to become horizontal. The laterals along the horizontal plane would extend approximately 11,200 feet. This horizontal drilling technique would minimize surface disturbance.

For the first 2,000 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 percent diesel fuel and 20 percent saltwater would be used to drill the remainder of the vertical hole and curve. Once the seven-inch production casing is set and cemented through the curve (into the lateral), a saltwater based drilling mud would be utilized for the horizontal portion of the wellbore.

A semi-closed loop system would be used during the drilling. Drill cuttings would be placed in the reinforced lined cuttings pit. The reinforced lining of the cuttings pit would have a minimum thickness of 20 mils to prevent seepage and contamination of underlying soil. Any minimal fluids remaining in the drill cuttings pit would be removed and disposed of in accordance with BLM and NDIC rules and regulations. All liquids from drilling would be transported offsite. The drill cuttings pit would be reclaimed to BLM and North Dakota Industrial Commission (NDIC) standards immediately upon finishing completion operations.

2.8 Casing and Cementing

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

2.9 Completion and Evaluation

Once each well is drilled and cased, approximately 30-45 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 the well is completed, site activity and vehicle access would be reduced. If the well is determined to be successful, tank trucks (and, if appropriate, natural gas gathering lines) would transport the product to market.

2.10 Commercial Production

If commercially recoverable oil and gas resources are found at the proposed sites, the sites would become established as a production facility. Production equipment, including well pumping units, vertical heater/treaters, tank batteries (eight 400 barrel steel oil tanks and two 400 barrel fiberglass saltwater tanks) and flare systems with associated piping would be installed. Tank batteries and heater/treaters would be surrounded by an impervious dike or Sioux containment system that would act as secondary containment to guard against accidental release of fluids from the site. The entire pad would be bermed to prevent run-on and run-off from the pad location. Sorbent booms, straw wattles, earthen dikes or other BMP's would be placed in the drainages as a tertiary containment measure. 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.

In the event that a gathering pipeline has not been completed when the wells go into production, 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.

Large volumes of gas are not expected to be generated from these well sites. Small volumes of gas would be flared on-site in accordance with BIA's Notice to Lessees 4A and NDIC regulations, which prohibit gas flaring for more than the initial year of operation. The installation of gas-gathering or transport equipment is not included as part of the proposed project. Installation of systems to gather and market gas produced from these wells would require additional analysis under NEPA and BIA approval.

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

QEP would avoid, minimize, and mitigate the environmental effects of the four 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.

2.11 Reclamation

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. 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 the four 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 roads 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 the access road either to the BIA roads inventory or to concurring surface allottees.

2.12 Potential for Future Development

Development beyond the four 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 alternatives, 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 and Three Forks Formations are 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 and Three Forks Formations feasible.

According to Great Plains Regional Climate Center data collected at the Dunn Center weather station from 1971–2000, temperatures in excess of 80 degrees Fahrenheit are common in summer months. The area receives approximately 16.5 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 approximately 38.5 inches of snow are received annually.

The topography within the project area is primarily identified as part of the Northwestern Great Plains, 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 of the Bullion Creek, Sentinel Butte, and Golden Valley formations.

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 area is located within a predominately rural area. According to National Agricultural Statistics Services (NASS) data, land within the proposed project area is a mixture of predominately grassland and some woodlands along the NW 5 access road. Please refer to **Figure 3.1, Land Use**.



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, climatic conditions, or geological setting.

Alternative B (Proposed Action) – Alternative B would result in the conversion of approximately 25.31 acres of land from present use to be part of an oil and gas network. Of this, approximately 11.41 acres would be as a result of well pad construction and approximately 13.9 acres would be from access road construction. The land-use of the affected area is nearly 100% grassland, the remainder of the area being woodlands.

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 dates from 1979, with updated information available online through the NRCS Web Soil Survey. There are eight soil types identified within the project area. Characteristics of these soils are identified in **Table 3.1, Soils**.

Table 3.1, Soils

MAP UNIT SYMBOL	SOIL NAME	PERCENT SLOPE	COMPOSITION (IN UPPER 60 INCHES)			EROSION FACTOR		HYDROLOGIC SOIL GROUP
			% SAND	% SILT	% CLAY	T	KF	
9E	Cabba Loam	15 to 45	40.5	39.5	20.0	2	.32	D
52 B	Morton Dogtooth silt loams	0 to 6	18.5	58.1	23.3	3	.28	B
52 C	Morton Dogtooth silt loams	6 to 9	18.5	58.1	23.3	3	.28	B
81 B	Vebar-Parshall fine sandy loams	0 to 6	75.4	14.8	9.8	3	.20	B
81 C	Vebar-Parshall fine sandy loams	6 to 9	75.4	14.8	9.8	3	.20	B
93 C	Williams-Zahl loams	6 to 9	34.8	35.2	30.6	5	.28	B
93D	Zahl-Williams loams	9 to 15	35.0	35.2	30.6	5	.28	B
93E	Zahl-Williams loams	15 to 25	35.0	34.3	30.6	5	.28	B

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).

These soils listed have low to moderate susceptibility to sheet and rill erosion. In addition, these soils can tolerate moderate to high levels of erosion without loss of productivity, with the exception of Cabba Loam. Each of these soils is well drained, and depth to the water table is generally recorded at greater than six feet. These soils have moderate to rapid runoff potential, Cabba Loam having the highest potential. 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 access roads would result in soil disturbances, though impacts to soils are not anticipated to be significant. Stockpile quantities for the location were calculated using an assumed 6 inches of existing topsoil. A minimum of 3,475 cubic yards of topsoil and 3,015 cubic yards of subsoil material would be stockpiled on the proposed site of the Saddle Butte NW 5 well pad. A minimum of 3,910 cubic yards of topsoil and 3,380 cubic yards of subsoil material would be stockpiled on the proposed site of the Saddle Butte SW 5 well pad.

Based on NRCS soil data, topsoil exists in excess of 6 inches at the well site, yielding sufficient quantity of topsoil for construction and reclamation activities. The stockpile 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. The topsoil stockpiles would be located on the east side of both well pads.

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 the site 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 or removing the vegetation from the location to a proper disposal site, re-seeding of disturbed areas immediately after construction activities are completed, 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 Environmental Protection Agency (EPA) and United States Army Corps of Engineers (USACE) 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. The EPA also has the authority to protect the quality of drinking water under the SDWA (Safe Drinking Water Act) of 1974. As amended in 1986 and 1996, the SDWA requires many actions to protect drinking water and its sources: rivers, lakes reservoirs, springs, and ground water wells³. The Energy Policy Act of 2005 excludes hydraulic fracturing operations related to oil, gas, or geothermal production activities from EPA regulation under the SDWA⁴.

3.4.1 Surface Water

The project area is 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 sites are located in the Lake Sakakawea basin, meaning surface waters within this basin drain to Lake Sakakawea. In addition, the proposed well site is located in the Saddle Butte Watershed and the Saddle Butte Bay Sub-Watershed. Please refer to **Figure 3.2, Surface Water Resources**. The proposed Saddle Butte Northwest 5 well pad partially drains to the north approximately 150 feet before entering a wooded draw. The runoff would then flow approximately 0.30 miles into Lake Sakakawea. The eastern portion would flow southeast approximately 170 feet before entering a wooded draw. The runoff would then flow to the east approximately 0.16 miles into Lake Sakakawea. The southern portion of the pad would drain approximately 160 feet to the south before entering a wooded draw. The runoff would then flow to the east approximately 0.20 miles into Lake Sakakawea. The proposed Saddle Butte Southwest 5 well pad partially drains to the northeast approximately 0.20 miles before entering a wooded draw. The runoff would then flow east approximately 0.46 miles into Lake Sakakawea. The runoff to the west would drain approximately 300 feet before entering a wooded draw. The runoff would then flow approximately 0.32 miles southwest into Lake Sakakawea. The runoff to the south would flow through grassed waterways approximately 0.25 miles into Lake Sakakawea.

3.4.1.1 Surface Water Impacts/Mitigation

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

³ The SDWA does not regulate private wells that serve fewer than 25 individuals.

⁴ The use of diesel fuel during hydraulic fracturing is still regulated under the SDWA.



Figure 3.2, Surface Water Resources

Alternative B (Proposed Action) – No significant impacts to surface water are expected to result from Alternative B. The proposed project has 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. An 18-inch high berm would be constructed around the entire pad to protect against runoff and contaminants from leaving the pad. The northwest, northeast, and southeast corners of the Saddle Butte Northwest 5 well pad would be rounded to minimize impacts to nearby drainages. Specific measures to mitigate the impacts to surface waters and to minimize the disruption of drainage patterns would include but are not limited to the implementation of earthen berms, straw wattles, or additional BMPs. In addition, impermeable berms or Sioux containment system would be constructed around the production tanks and heater/treater units. The cuttings pit for the Saddle Butte Northwest 5 well pad was moved during the on-site survey to position it on the well pad as far away from drainages as possible. Based on the measures proposed to be implemented at the pad location, it is unlikely that the transfer of an accidental release would reach Lake Sakakawea. 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 no active or permitted groundwater wells within one-mile of the proposed oil and gas well pads, access roads, or spacing units. The closest water well to the site was approximately 2.6 miles southwest of the proposed pad location. The New Town Aquifer is located northwest of the proposed well sites and the White Shield Aquifer is located northeast of the well sites; however, no sole source aquifers have been identified

within the state of North Dakota. Please refer to

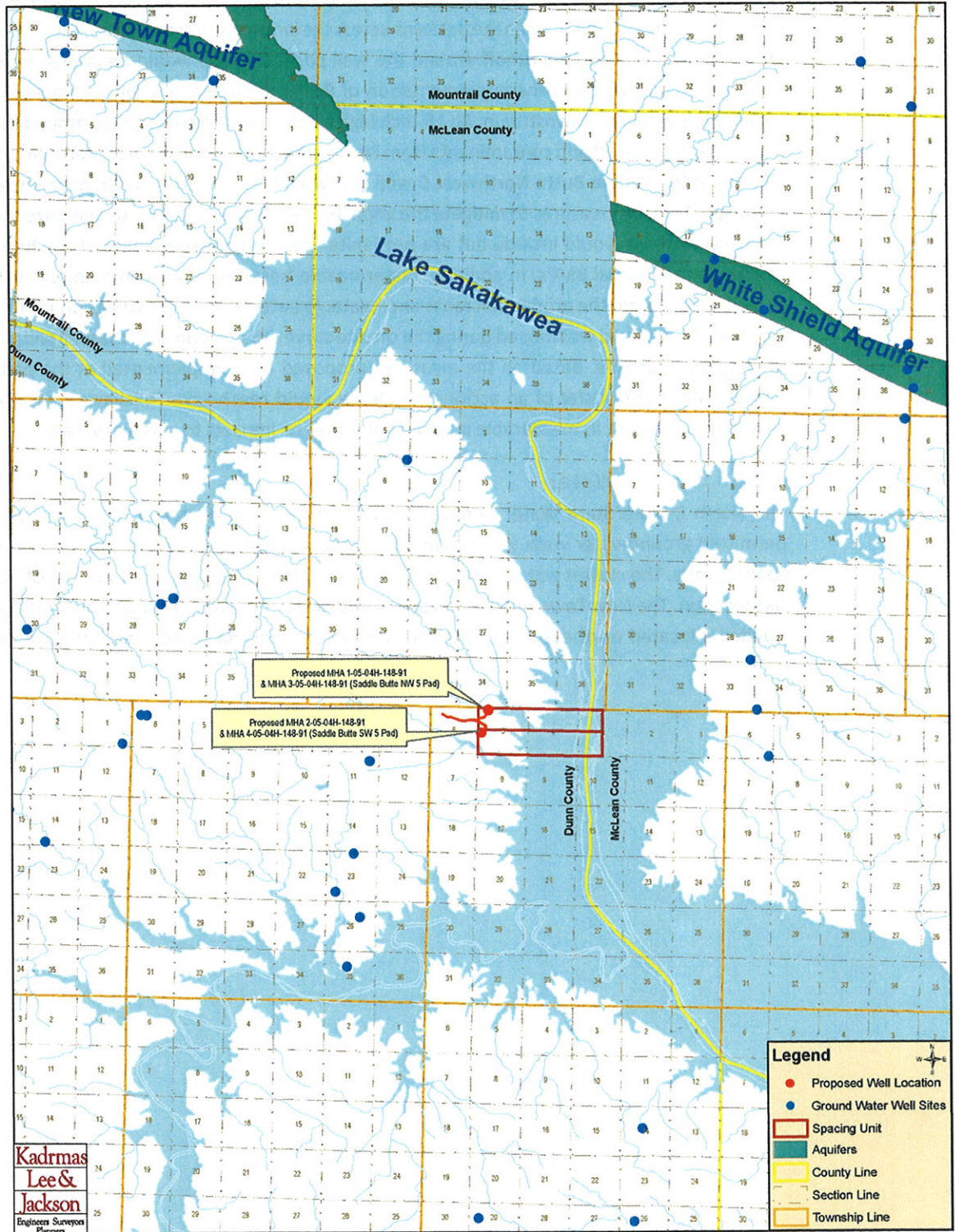


Figure 3.4, Aquifers and Groundwater Wells.

3.4.2.1 Ground Water Impacts/Mitigation

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

Alternative B (Proposed Action) – Limited scientific data is available regarding the effects of hydrofracturing (or “fracking”) on ground water⁵. As such, since there are no aquifers or groundwater wells within the spacing units being developed, no significant impacts to groundwater are expected to result from Alternative B. As required by applicable law, all proposed wells would be cemented and cased to isolate aquifers from potentially productive hydrocarbon and disposal/injection zones.

⁵ The EPA is currently scoping a study on fracking, which will address potential impacts to ground water. The study is anticipated to be completed in 2014.

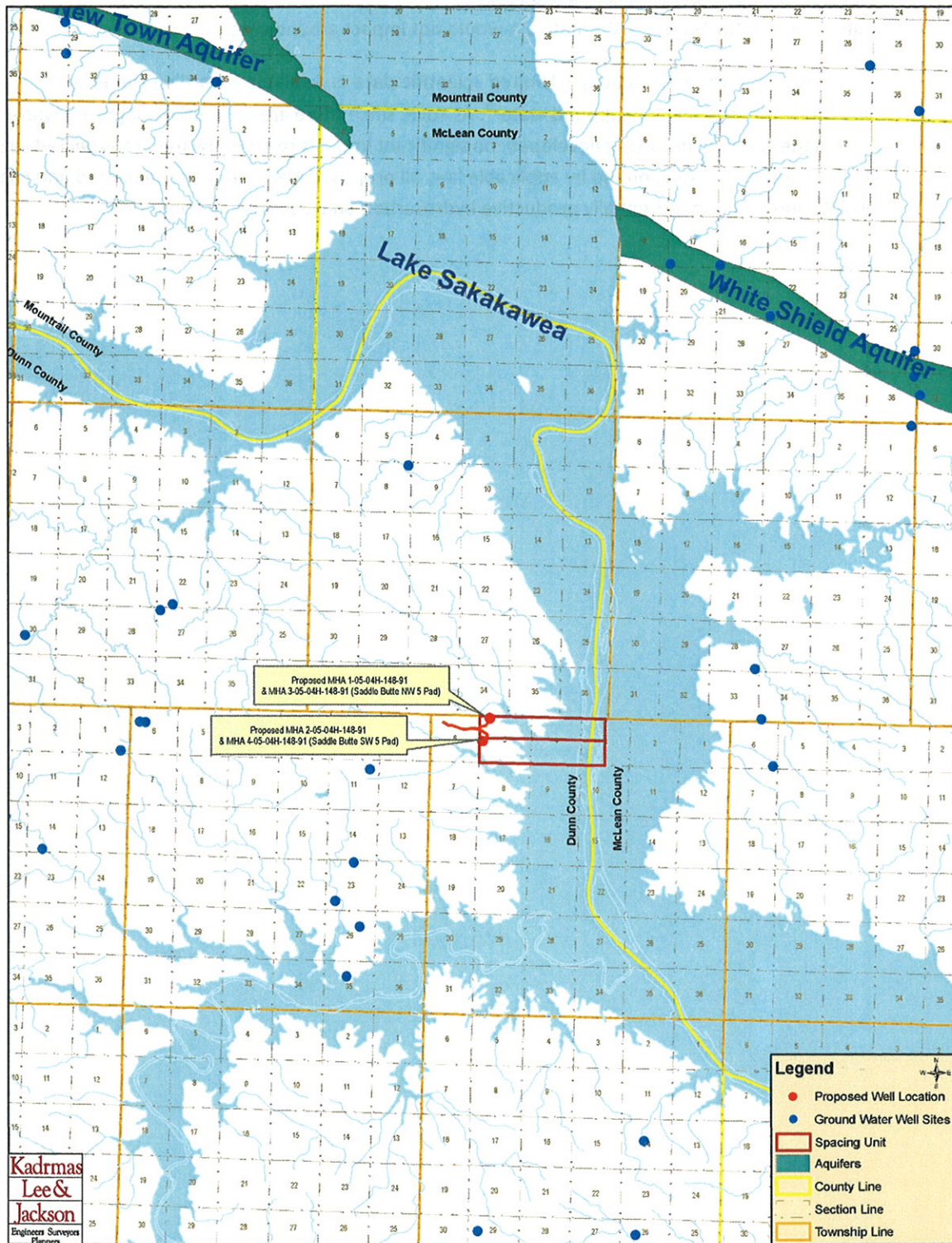


Figure 3.3, Aquifers and Groundwater Wells

3.4.3 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, approximately 26 miles southwest of the proposed well pad sites. Criteria pollutants tracked under EPA's National Ambient Air Quality Standards in the Clean Air Act include SO₂ (sulfur dioxide), PM (particulate matter), NO₂ (nitrogen dioxide), O₃ (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 3.2, 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 3.2, 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	
		MG/M3	PARTS PER MILLION	MG/M3	PARTS PER MILLION	MG/M3	PARTS PER MILLION
SO ₂	24-Hour	365	0.14	260	0.099	—	.0060
	Annual Mean	80	0.030	60	0.023	—	.0005
PM ₁₀	24-Hour	150	—	150	—	54.0	—
	Annual Mean	50	—	50	—	11.3	—
PM _{2.5}	24-Hour	35	—	35	—	15.0	—
	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	—	—	—
O ₃	1-Hour	240	0.12	235	0.12	—	.067
	8-Hour	—	0.08	—	0.08	—	.057

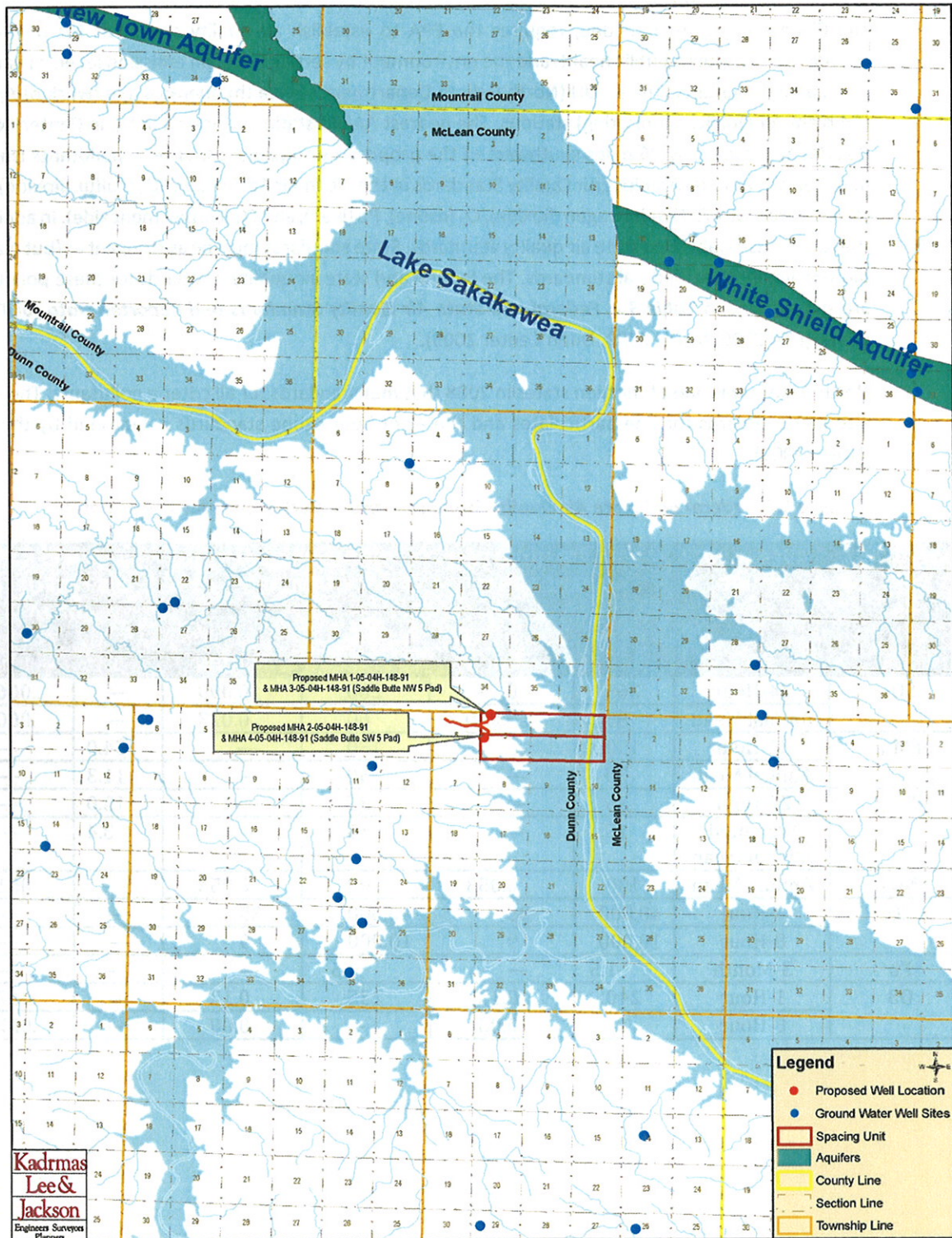


Figure 3.4, Aquifers and Groundwater Wells

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 within the project area. The Theodore Roosevelt National Park is the nearest Class I area, located approximately 43.0 miles west of the proposed project area.

3.4.3.1 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, SO₂, NO₂, 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.

3.5 Threatened, Endangered, and Candidate 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 United States Fish and Wildlife Service (USFWS) September 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 Dunn County. The piping plover is listed as a threatened species and the Dakota Skipper and Sprague's pipit are listed as candidate species. In addition, Dunn County contains designated critical habitat for the piping plover adjacent to Lake Sakakawea. 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 Dunn County are as follows:

3.5.1 Endangered Species

Black-Footed Ferret (*Mustela nigripes*)

Black-footed ferrets are the only ferret species endemic to North America and have been classified as an endangered species by the U.S. Fish and Wildlife Service since 1967. Most of the Great Plains was once home to the black-footed ferret; specifically, in North Dakota, the southwestern corner of the state provided suitable habitat and supported the black-footed ferret. However, the black-footed ferret is no longer considered present within the state. The last known population in the wild was found at Meeteetse, Wyoming, in 1981 and included 18 animals. These individuals were trapped and bred in captivity until 1991 when 49 were reintroduced into the wild in Wyoming. In 1994, 40 ferrets were released in Montana and 36 into South Dakota. North Dakota is being evaluated for reintroduction sites.

Black-footed ferrets rely on prairie dogs as their primary diet, and they utilize prairie dog burrows for shelter and rearing their young. No black footed ferrets or prairie dogs were observed in the project area.

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 reintroduced 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. According to USFWS data, habitat occurs throughout the entire shoreline of Lake Sakakawea. However, due to increasing water levels in Lake Sakakawea, sparsely vegetated shoreline beaches composed of sand, gravel, or shale that once provided suitable habitat for the interior least tern, may now be inundated with water. Lake Sakakawea is located approximately 0.2 miles away from the proposed project site at the closest point

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.

There is no existing or potential habitat within the project area. According to USFWS data, habitat for the pallid sturgeon occurs within Lake Sakakawea. Lake Sakakawea is located approximately 0.2 miles away from the proposed project site 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 sites and access roads do not contain shallow, emergent wetlands or cropland food sources; however the proposed projects are located in the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred. Lake Sakakawea, which provides potential stopover habitat for whooping crane migration, is approximately 0.2 miles away.

3.5.2 Threatened Species

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. According to USFWS data, critical habitat occurs throughout the entire shoreline of Lake Sakakawea. However, due to increasing water levels in Lake Sakakawea, sparsely vegetated shoreline beaches composed of sand, gravel, or shale that once provided suitable for the piping plover, may now be inundated with water. Lake Sakakawea is located approximately 0.2 miles away from the proposed project site at the closest point.

3.5.3 Candidate Species

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 proposed sites are located on moderately grazed rangeland that does contain bluestem prairies with abundant wildflowers. Although grazing is evident, it is moderate in nature; therefore, the project site does contain suitable habitat for the Dakota skipper. No Dakota skippers were observed during the field visits; however, the visit occurred before the Dakota Skipper butterfly stage.

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 areas consist of moderately grazed rangeland which may provide potential habitat for the Sprague's pipit. No Sprague's pipit were observed during the field surveys.

3.5.3.2 Threatened, Endangered, and Candidate Species Impacts/Mitigation

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

Alternative B (Proposed Action) – Suitable habitat for the interior least tern, pallid sturgeon, and piping plover is largely associated with Lake Sakakawea and its shoreline. The well pad and access road are located on upland rangeland, with Lake Sakakawea and its shoreline located approximately 130 feet below the upland areas, and approximately 0.2 miles to the east. The stock piling of spoil piles should assist in providing sight and sound buffers for shoreline-nesting birds. In addition, a semi-closed loop system would be used and drill cuttings would be placed in a reinforced lined cuttings pit to diminish the potential for pit leaching. The cuttings pit for the Saddle Butte Northwest 5 well pad was moved during the on-site survey to position it on the well pad as far away from drainages as possible. Tank batteries and the heater/treater would be surrounded by an impervious dike or Sioux containment system that would act as secondary containment to guard against accidental release of fluids from the site. An 18-inch high berm would be constructed around the entire pad and secondary containment measures consisting of earthen berms, straw wattles, or additional BMP's would be placed as needed to protect against runoff and contaminants from leaving the pad. Due to the implementation of the semi-closed loop system, secondary containment measures, and the cuttings pit parameters, the transfer of accidentally released fluids to Lake Sakakawea and its associated habitats is unlikely. Given the distance from the lake (0.2 miles), construction methodologies, and the level of containment measures, the proposed project may affect but is not likely to adversely affect the interior least tern, pallid sturgeon, and piping plover 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. No shallow, emergent wetlands or cropland food sources were observed within or near the study area. 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. Furthermore, electrical lines, if installed, would be buried to prevent the potential for electrical line strikes by the whooping crane. It is determined that the proposed project may affect, but is not likely to adversely affect, the whooping crane and is not likely to destroy or adversely modify critical habitat.

The proposed project areas consist of moderately grazed rangeland which may provide potential habitat for the Sprague's pipit. Due to the presence of preferred habitat characteristics, the proposed projects may impact individuals or habitat. An "effect determination" under Section 7 of the Endangered Species Act is not required due to the current unlisted status of the species.

The proposed sites are located on moderately grazed rangeland that does contain bluestem prairies with abundant wildflowers typically used by the Dakota skipper. Although grazing is evident, it is moderate in

nature; therefore, the project site does contain suitable habitat for the Dakota skipper. Due to the presence of preferred habitat characteristics, the proposed project may impact individuals or habitat. An “effect determination under Section 7 of the Endangered Species Act is not required due to the current unlisted status of the species. 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.

3.6 Migratory Birds, Eagles and Other Wildlife

An intensive, pedestrian resource survey of the proposed well pads and access roads was conducted on May 2, 2011 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 the proposed well pad center points and a 200-foot wide corridor along the proposed access roads. Resources were evaluated using visual inspection and pedestrian transects across the site. In addition, a survey for eagles and eagle nests within 0.5 miles of the project disturbance area was conducted. This survey consisted of pedestrian transects focusing specifically on potential nesting sites within 0.5 miles of the project disturbance area, 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 assessment of the well pads and access roads was also conducted on May 2, 2011. The BIA Environmental Protection Specialist, as well as representatives from QEP and KL&J were present. 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 QEP 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.

3.6.1 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 prohibits, except under certain specified conditions, the taking, possession, or commerce of 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 (*Haliaeetusleucocephalus*) 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. 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. 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 survey conducted on May 2, 2011.

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 eagle nests were observed within 0.5 miles of proposed project disturbance areas during the field survey conducted on May 2, 2011.

The United States Geological Survey (USGS) 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 the proposed well pad site does not contain recorded habitat for either the bald eagle or 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 3.5 miles south of the proposed well pad sites. Please refer to **Figure 3.5, Bald and Golden Eagle Habitat and Nest Sightings**.

3.6.1.1 Bald and Golden Eagle Impacts/Mitigation

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

Alternative B (Proposed Action) –No evidence of eagle nests was found within 0.5 miles of the project area. Therefore, no impacts to bald or golden eagles or their nests are anticipated to result from the proposed project. 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.

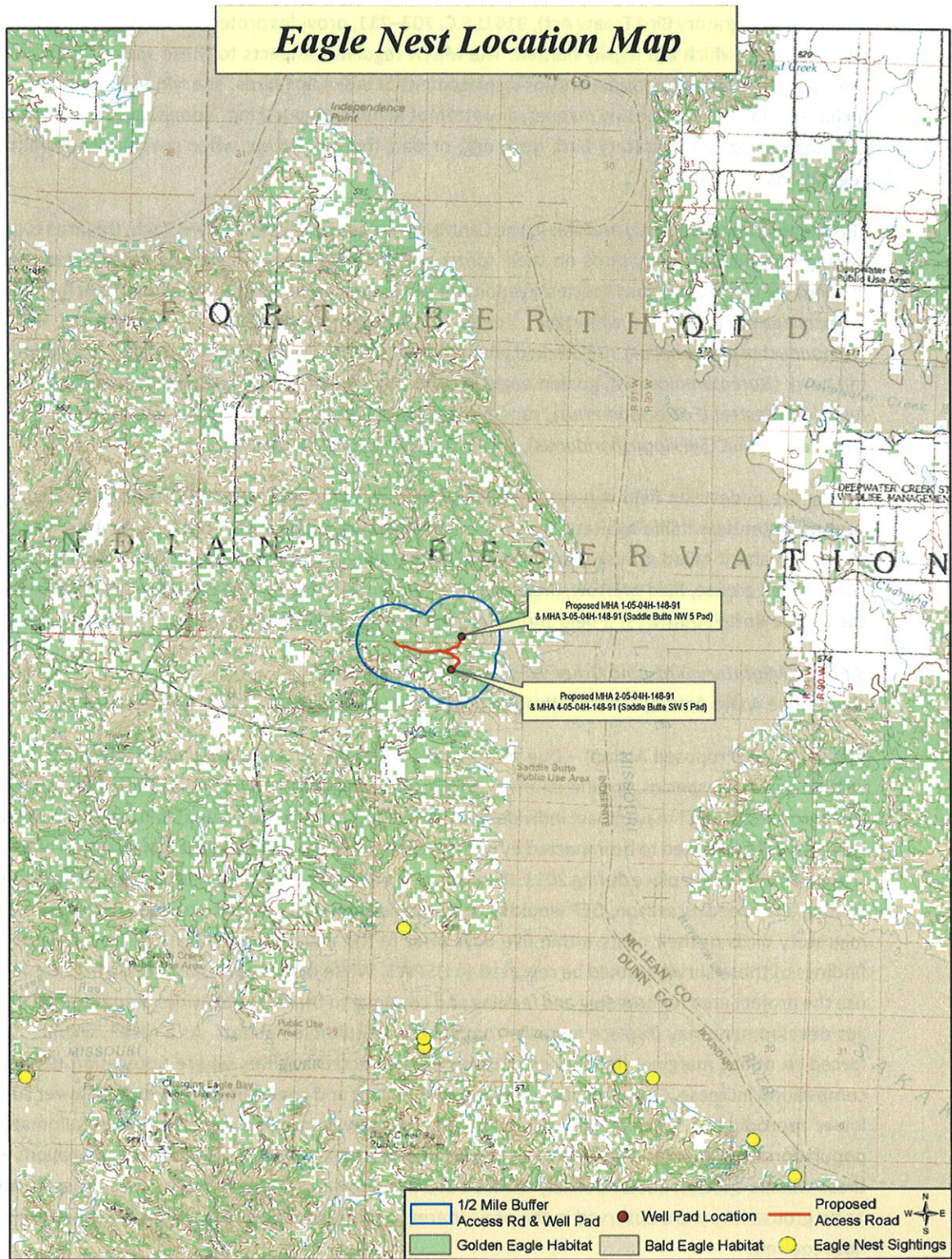


Figure 3.5, Bald and Golden Eagle Habitat and Nest Sightings

3.6.2 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 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. In addition, the project areas contain suitable habitat for mule deer (*Odocoileus hemionus*), whitetail deer (*Odocoileus virginianus*), sharp-tailed grouse (*Tympanuchus phasianellus*), ring-necked pheasant (*Phasianus colchicas*), gray partridge (*Perdix perdix*), red tail hawk (*Buteo jamaicensis*), golden eagle (*Aquila chrysaetos*), bald eagle (*Haliaeetus leucocephalus*), American kestrel (*Falco sparverius*), song birds, coyote (*Canis latrans*), red fox (*Vulpes vulpes*), Eastern cottontail rabbit (*Sylvilagus floridanus*), and jackrabbit (*Lepus townsendii*).

During the pedestrian field surveys, migratory birds, raptors, big and small game species, non-game species, potential wildlife habitats, and and/or bird nests were identified if present. An American kestrel and seven sharp-tailed grouse were observed during the Saddle Butte Northwest 5 field survey. One sharp-tailed grouse, field sparrow, meadow lark, four turkey vultures and a coyote were observed during the Saddle Butte Southwest 5 field survey. No additional wildlife was observed during the surveys.

3.6.2.1 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 project site for many wildlife and avian species, ground clearing, drilling, and long-term production activities associated with the proposed project may impact individuals by displacing animals from suitable habitat. No migratory bird nests are expected to be impacted by construction of the proposed project. Construction of the wells is anticipated to take place during 2011. If construction takes place in the spring during the migratory bird nesting and breeding season, QEP would have a qualified biologist conduct pre-construction surveys for migratory birds or their nests within five days prior to the initiation of all construction activities. The findings of these surveys would be reported to USFWS. While many species of wildlife may continue to use the project area for breeding and feeding and continue to thrive, the activities associated with oil and gas development may displace animals from otherwise suitable habitats. As a result, wildlife may be forced to utilize marginal habitats or relocate to unaffected habitats where population density and competition increase. Consequences of such displacement and competition may include lower survival, lower reproductive success, lower recruitment, and lower carrying capacity leading ultimately to population-level impacts. Therefore, the proposed project may affect individuals and populations within these wildlife species, but is not likely 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 site is located on an upland area that is at a higher elevation (approximately 130 feet) than the Lake Sakakawea shoreline. Additionally, the closest distance to Lake Sakakawea is approximately 0.2

miles. The topographic features of the area and location of the spoil piles along the east edge of the pad construction should assist in providing sight and sound buffers for shoreline-nesting birds.

During drilling activities, the noise, movements, and lights associated with having a drilling rig on-site are expected to deter wildlife from entering the area. Immediately after the drilling rig leaves the location, cuttings pits would be netted with State and Federal approved nets. These would remain in place with proper maintenance until the closure of the cuttings pits.

In addition, design considerations will be implemented to further protect against potential habitat degradation. Tank batteries and the heater/treater would be surrounded by an impervious dike or Sioux containment system that would act as secondary containment to guard against accidental release of fluids from the site. BMPs to minimize wind and water erosion of soil resources would also be put into practice.

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.

3.6.3 Vegetation

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

The Saddle Butte Northwest 5 and Saddle Butte Southwest 5 proposed well sites consist of moderately grazed upland grasses. The Saddle Butte Northwest 5 well pad and access road is bordered by wooded draws to the north, south, and east, and by gently rolling topography to the west. The Saddle Butte Southwest 5 well pad and access road is surrounded by gently rolling topography. The well pads and access roads were mostly dominated by Kentucky bluegrass (*Poa pratensis*), green needlegrass (*Stipa viridula*), western wheatgrass (*Agropyron smithii*), little bluestem (*Andropogon scoparius*), blue grama (*Bouteloua gracilis*), smooth brome (*Bromus inermis*), purple coneflower (*Echinacea angustifolia*), kochia (*Kochia scoparia*), curlycup gumweed (*Grindelia squarrosa*) and western snowberry (*Symphoricarpos occidentalis*). Green ash (*Fraxinus pennsylvanica*), and silver buffalo berry (*Shepherdia argentea*) were observed growing in the drainages surrounding the well pads and access roads. Canada thistle (*Cirsium arvense*) was observed on Saddle Butte Northwest 5 and Saddle Butte Southwest 5 well pads. There are no threatened or endangered plant species listed for Dunn County. Please refer to **Figure 3.6, Access Road Vegetation**, **Figure 3.7, Access Road Drainage Facing East**, **Figure 3.8, Dominant NW 5 Well Pad Vegetation**, **Figure 3.9, Dominant SW 5 Well Pad Vegetation**, **Figure 3.10, Canada thistle on SW 5 Well Pad**, and **Figure 3.11, NE Drainage on the NW 5 Well Pad** for examples of vegetation observed at the site.



Figure 3.6, Access Road Vegetation



Figure 3.7, Access Road Drainage Facing East



Figure 3.8, Dominant NW 5 Well Pad Vegetation



Figure 3.9, Dominant SW 5 Well Pad Vegetation



Figure 3.10, Canada thistle on SW 5 Well Pad



Figure 3.11, NE Drainage on the NW 5 Well Pad

In addition, the project area was surveyed for the presence of noxious weeds. Of the eleven species declared noxious under the North Dakota Century Code (Chapter 63-01.0), three are known to occur in Dunn County. Canada thistle was observed growing in the survey area. Please refer to **Table 3.3, Noxious Weed Species**. In addition, counties and cities have the option to add species to the list to be enforced within their jurisdictions. There are no additional noxious weeds listed for Dunn County.

Table 3.3, Noxious Weed Species

COMMON NAME	SCIENTIFIC NAME	2009 DUNN COUNTY REPORTED ACRES
Absinth wormwood	<i>Artemisiaabsinthium L.</i>	39,300
Canada thistle	<i>Cirsiumarvense (L.) Scop</i>	28,500
Dalmation toadflax	<i>Linariagenistifolia ssp. Dalmatica</i>	—
Diffuse knapweed	<i>Centaureadiffusa Lam</i>	—
Leafy spurge	<i>Euphorbia esula L.</i>	18,300
Musk thistle	<i>Carduusnutans L.</i>	—
Purple loosestrife	<i>Lythrumsalicaria</i>	—
Russian knapweed	<i>Acroptilonrepens (L) DC.</i>	—
Salt cedar (tamarisk)	<i>Tamarixramosissima</i>	—
Spotted knapweed	<i>Centaureamaculosa Lam.</i>	—
Yellow Toadflax	<i>Linaria vulgaris</i>	—

3.6.3.1 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 well pad and access road 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. Disturbance of vegetation in areas of noxious weed infestations may result in redistribution of invasive species within the project area. Thus, areas not currently dominated by these species would have a high potential to become infested. The spread of noxious weeds can have an adverse effect on multiple aspects of vegetation resources ranging from the suitability of sensitive plant habitat and maintenance of native biodiversity to forage production for livestock grazing. If advised by the BIA, identified noxious weed infestations may be treated with a BIA/BLM approved herbicide prior to construction to prevent the spread of noxious weed infestations.

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, 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 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 either of the proposed wells, or upon final abandonment of commercial operations, all disturbed areas would be promptly reclaimed. The access road 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.

3.6.4 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 (USACE, 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 areas during the field survey.

3.6.4.1 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 area, Alternative B would not impact wetlands.

3.6.5 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 cultural resource inventory of these well pads and access roads were conducted by personnel of Kadrmas, Lee & Jackson, Inc., using an intensive pedestrian methodology. Approximately 57.2 acres were inventoried on May 2, 2011 (Ó Donnchadha and Randall 2011a, 2011b). Four archaeological sites were located that may possess the quality of integrity and meet at least one of the criteria (36 CFR 60.6) for inclusion on the National Register. As the lead federal agency, and as provided for in 36 CFR 800.5, on the basis of the information provided, BIA reached a determination of **no historic properties affected** for these undertakings, as the archaeological sites will be avoided. This determination was communicated to the THPO on July 25, 2011; however, the THPO did not respond within the allotted 30 day comment period.

3.6.5.1 Cultural Resources Impacts/Mitigation

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

Alternative B (Proposed Action) – Four new unrecorded cultural resources were identified within the APE. The Saddle Butte NW 5 access road location was moved to avoid one of these resources. As such, cultural resources impacts are not anticipated. 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.

3.6.6 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. 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 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.

3.6.6.1 Socioeconomic Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact the socioeconomic conditions in the project area. 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. QEP will follow Dunn 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.

3.6.7 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.

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 comprise 5.0% of North Dakota's population and 5.9% of the population of Dunn County.

According to 2005-2009 U.S. Census Bureau data, the Fort Berthold Reservation has lower than the statewide average of per capita income and median household income. Dunn County has slightly lower rates of unemployment than the state average, while Fort Berthold's rate of unemployment was substantially greater⁶. Please refer to **Table 3.4, 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 3.4, Employment and Income

LOCATION	PER CAPITA INCOME	MEDIAN HOUSEHOLD INCOME	UNEMPLOYMENT RATE	INDIVIDUALS LIVING BELOW POVERTY LEVEL
Dunn County	\$25,006	\$45,270	2.0%	8.9%
Fort Berthold Reservation	\$15,945	\$40,603	7.8%	25.2%
Statewide	\$24,978	\$45,140	2.4%	12.3%
Source: U.S. Census Bureau, 2005-2009 American Community Survey				

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 Dunn County's population has 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 the State of North Dakota. Please refer to *Table 3.5, Demographic Trends*.

Table 3.5, Demographic Trends

LOCATION	POPULATION ESTIMATE 2005-2009	% OF STATE POPULATION	% CHANGE 2000-2009	PREDOMINANT RACE	PREDOMINANT MINORITY
Dunn County	3,318	0.52%	-7.8%	White	American Indian (10.9%)
Fort Berthold Reservation	6,094	0.95%	+3.0%	American Indian ⁷	White (28.8%)
Statewide	639,725	—	-0.4%	White	American Indian (5.0%)
Source: U.S. Census Bureau, 2005-2009 American Community Survey					

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

3.6.7.1 *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, 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 and Three Forks Formations 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.

3.6.8 *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 project includes paved and gravel roadways. There are no known water pipelines in the vicinity of the proposed project. The Bureau of Reclamation manages the Fort Berthold Rural Water System. Existing waterlines were noted approximately 2 miles southwest of the proposed pad location. This area would not be affected by the proposed project.

3.6.8.1 *Infrastructure and Utility Impacts/Mitigation*

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

Alternative B (Proposed Action) – Vehicular traffic associated with construction, operation, and maintenance of the proposed action would increase the overall traffic on the local roadway network. Alternative B would also require construction of new gravel roadways that total approximately 7,153 feet long.

Safety hazards posed from increased traffic during the drilling phase are anticipated to be short-term and minimal for the proposed sites. 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 the proposed well sites. If commercial operations are established at the proposed well 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 day⁸ temporarily until the wells would be connected to an oil gathering line. Produced water would also be hauled

⁸A 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.

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 production⁹. Established load restrictions for state and BIA roadways would be followed and haul permits would be acquired as appropriate.

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. QEP would follow Dunn 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. QEP'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 electrical lines. In addition, if commercially recoverable oil and gas are discovered at the well sites, a natural gas gathering system would 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 site would 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.

3.6.9 Public Health and Safety

Health and safety concerns associated with this type of development include hydrogen sulfide (H₂S) gas¹⁰ and hazardous materials used or generated during well installation or production.

3.6.9.1 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 H₂S gases and hazardous materials as described below.

H₂S Gases. It is unlikely that the proposed action would result in release of H₂S in dangerous concentrations; however, QEP will submit H₂S 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 H₂S 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 H₂S gas leak during drilling activities. Satellite imagery revealed that there are no residences/buildings within 3,000 feet of the proposed well pad sites.

⁹A 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 of 30 to 70 BWPD.

¹⁰H₂S is extremely toxic in concentrations above 500 parts per million. H₂S 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 H₂S.

Hazardous Materials. The Environmental Protection Agency (EPA) 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 Spill Prevention, Control, and Countermeasure (SPCC) 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.

3.7 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.

3.8 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 May 9, 2011, there were approximately 522 active and/or confidential oil and gas wells within the Fort Berthold Reservation and 49 within the 20-mile radius outside the boundaries of the Fort Berthold Reservation. Please refer to **Figure 3.12, Existing and Proposed Oil and Gas Wells.**

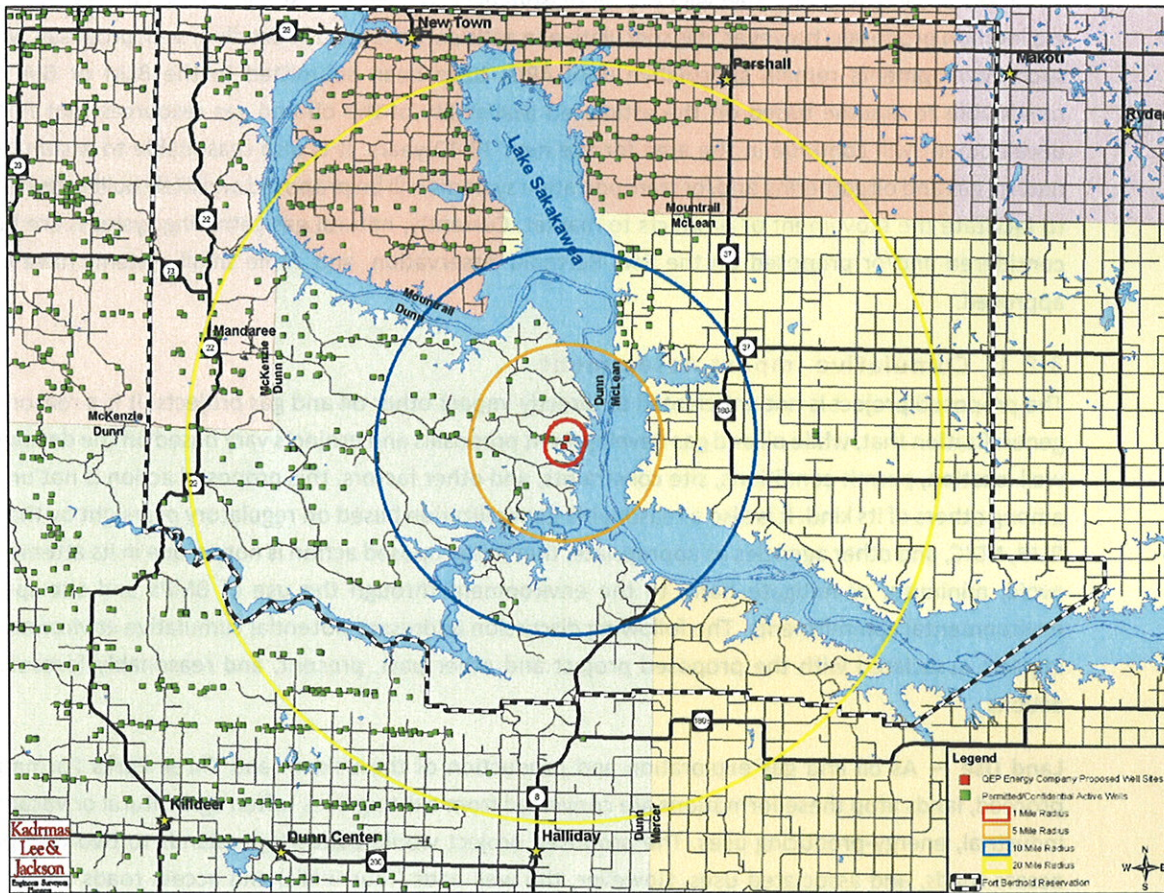


Figure 3.12, Existing and Proposed Oil and Gas Wells

There are three (QEP) known oil and gas wells within one mile of the six-well pad site. Please refer to **Table 3.6, Summary of Active and Proposed Wells.**

Table 3.6, Summary of Active and Proposed Wells

DISTANCE FROM SITE	NUMBER OF ACTIVE OR PROPOSED WELLS
1 mile radius	1
5 mile radius	17
10 mile radius	71
20 mile radius	411

As mentioned previously in this EA, the Bakken Formation (the primary 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 (the secondary target of the proposed action) 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, and some small systems have been approved.

3.8.1 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 to two well pads, access roads, and associated uses. However, the well pads (four wells) 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. By placing two wells on one pad location, QEP has minimized land-use by utilizing two locations instead of four locations.

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 have a negligible cumulative impact. Dunn County is 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.

Threatened and Endangered Species — The potential for cumulative impacts to threatened and endangered species comes to those listed species that may be affected by the proposed project or candidate species that may be impacted by the proposed project. The proposed project occurs within the central flyway through which whooping cranes migrate and whooping cranes may forage in adjacent cropland. The indirect impact through the disruption of the use of this grassland may cause a cumulative impact when added to past, present, and reasonable foreseeable actions. Continual development (e.g., agriculture, oil and gas, and wind) within the central flyway has compromised whooping crane habitat both through direct impacts via conversion of potential habitat to other uses and indirect impacts due to disrupting the use of potential stopover habitat, as whooping cranes prefer isolated areas and are known to avoid large-scale development. If electrical lines are installed the lines would be buried to prevent the

potential for electrical line strikes. However, the proposed action, when added to other development directly and indirectly impacting whooping cranes and their habitat, is not anticipated to significantly contribute to cumulative impacts occurring to the whooping crane population.

As previously stated, habitat for the interior least tern, pallid sturgeon, and piping plover is primarily associated with Lake Sakakawea and its shoreline. When added to other past, present, and reasonably foreseeable projects, such as oil and gas wells and water intake structures on Lake Sakakawea, the proposed project may have an indirect cumulative impact on potential habitat (Lake Sakakawea and its shoreline) for these species due to potential leaks or spills. However, due to the implementation of secondary containment measures and cuttings pit parameters for the proposed project, the transfer of accidentally released fluids to Lake Sakakawea and its associated habitats is unlikely. Furthermore, electrical lines, if installed, would be buried to prevent the potential for electrical line strikes by the interior least tern and piping plover. Therefore, it is unlikely the project would contribute to cumulative impacts to the interior least tern, pallid sturgeon, and piping plover.

Please refer to the discussion below (Wetlands, Eagles, Other Wildlife, and Vegetation) for an analysis of potential cumulative impacts to candidate species (Dakota skipper and Sprague's pipit).

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. By placing multiple wells at one location, habitat loss has been minimized. 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. While many species of wildlife may continue to use the project area for breeding and feeding and continue to thrive, the activities associated with oil and gas development may displace animals from otherwise suitable habitats. As a result, wildlife may be forced to utilize marginal habitats or relocate to unaffected habitats where population density and competition increase. Consequences of such displacement and competition may include lower survival, lower reproductive success, lower recruitment, and lower carrying capacity leading ultimately to population-level impacts.

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 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. The well pads have been positioned in close proximity to existing roadways 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 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.

3.8.1.1 Irreversible and Irrecoverable Commitment of Resources

Removal and consumption of oil or gas from the Bakken and Three Forks Formations 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.

3.8.1.2 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 reseeded. 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 and three Forks Formations, which is the purpose of this project.

3.8.1.3 Permits

QEP 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
- *Section 10 Permit* – United States Army Corps of Engineers

3.8.1.4 Environmental Commitments/Mitigation

The following commitments have been made by QEP:

- 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. Subsoil would be stock piled along the east edge of the proposed pads to act as secondary containment and as a sight and sound buffer for the Lake Sakakawea shoreline.

- 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.
- The proposed well pads and access roads will avoid surface waters. The proposed project will not alter stream channels or change drainage patterns.
- The four 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.
- The proposed well pads 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.
- The disturbance areas associated with construction of access roads and well pads will be located at least 75 feet away from identified cultural resources..
- All project workers are prohibited from collecting artifacts or disturbing cultural resources in any area under any circumstances.
- QEP 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
- An H2S Contingency Plan 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.
- A semi-closed loop system would be used during drilling. Drill cuttings would be placed in the reinforced lined cuttings pit. The reinforced lining of the cuttings pit would have a minimum thickness of 20 mils to prevent seepage and contamination of underlying soil. Any minimal fluids remaining in the drill cuttings pit would be removed and disposed of in accordance with BLM and NDIC rules and regulations. All liquids from drilling would be transported off-site. The drill

cuttings pit would be reclaimed to BLM and North Dakota Industrial Commission (NDIC) standards immediately upon finishing completion operations.

- Prior to its use, the cuttings pit would be fenced on the non-working sides. The access side would be fenced and netted immediately following drilling and completion operations in order to prevent wildlife and livestock from accessing the pit.
- A minimum of an 18-inch berm would be constructed around the entire pad to protect against runoff and contaminants from leaving the pad. 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.
- Construction is planned to take place in 2011. If construction takes place during the migratory bird breeding and nesting season, QEP would have a qualified biologist conduct pre-construction surveys for migratory birds or their nests during the spring season and within five days prior to the initiation of all construction activities. The findings of these surveys would be reported to USFWS. If a bald or golden 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.
- Tanks batteries and heater/treater will be surrounded by an impervious dike or Sioux containment system that would act as secondary containment to guard against accidental release of fluids from the site.
- Re-seeding of native species shall occur as needed on stockpile areas and slope areas during reclamation.
- All additional fill material required for construction of the project will be obtained from a supplier whose material has been certified weed-free.
- Prior to mobilization, drilling rigs and associated equipment will be pressure washed or air blasted off Tribal lands to prevent the possible transportation of noxious or undesirable vegetation onto Tribal lands as well as USACE managed lands.

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 Council on Environmental Quality regulations for implementing NEPA, 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

Kadrmass, Lee & Jackson, Inc. prepared this EA under a contractual agreement between QEP Energy Company and Kadrmass, 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	
QEP Energy Company	Debbie Stanberry	Supervisor Regulatory Affairs	Project development, alternatives, document review
	Tracy Opp	Operations Specialist	Project development, alternatives, document review
Kadrmass, Lee & Jackson, Inc.	Grady Wolf	Environmental Planner	Senior review
	Steve Czeczok	Environmental Planner	Impact assessment, exhibit creation
	Myron Kadrmass	Surveyor	Site plats
	Brian O'Donnchadha	Archaeologist	Cultural resources surveys
	Jerry Reinisch	Environmental Planner/Biologist	Field resources surveys
	Grady Wolf	Environmental Planner	Project manager/project coordination
	Alex Nisbet	Environmental Planner	Principal Author

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 May 25, 2011. 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 NEPA, a solicitation of views was requested to ensure that social, economic, and environmental effects were considered in the development of this project.

At the conclusion of the 30-day comment period, ten 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 A contains Scoping Materials.*

4.4 Public Involvement

Provided the BIA approves this document and determines that no significant environmental impacts would result from the proposed action, a Finding of No Significant Impact (FONSI) 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

- "Bald Eagle Fact Sheet: Natural History, Ecology, and History of Recovery." U.S. Fish & Wildlife Service. 9 Dec. 2008. U.S. Department of Interior, U.S. Fish & Wildlife Service, Midwest Region. 17 Aug. 2009. <<http://www.fws.gov/midwest/eagle/recovery/biologue.html>>.
- "Bald Eagle Population Size." U.S. Fish & Wildlife Service. 12 Nov. 2008. U.S. Department of Interior, U.S. Fish & Wildlife Service, Midwest Region. 17 Aug. 2009. <<http://www.fws.gov/midwest/eagle/population/index.html>>.
- Beitisch, R. (2010, April 30). Three Forks formation to yield lots of oil in North Dakota. *The Bismarck Tribune*. Retrieved from http://www.bismarcktribune.com/news/state-and-regional/article_368dcb38-53ef-11df-a6c8-001cc4c03286.html
- "Black-footed Ferret Fact Sheet." U.S. Fish & Wildlife Service. 18 Dec. 2008. U.S. Department of Interior, U.S. Fish & Wildlife Service, North Dakota Field Office. 22 Feb. 2010. <http://www.fws.gov/northdakotafieldoffice/endspecies/species/black-footed_ferret.htm>.
- Coyle, A.M. (2007). *Golden eagle nests* [Data file]. Retrieved from United States Forest Service — Dakota Prairie Grasslands Region.
- "The Cranes Status Survey and Conservation Action Plan Whooping Crane (*Grus americana*)." U.S. Geological Survey Northern Prairie Wildlife Research Center. 3 Aug. 2006. U.S. Department of Interior, U.S. Geological Survey, Northern Prairie Wildlife Research Center. 17 Aug. 2009. <<http://www.npwrc.usgs.gov/resource/birds/cranes/grusamer.htm>>.
- "Fact Sheet: Pallid Sturgeon (*Scaphirhynchus albus*)." U.S. Fish & Wildlife Service. 29 July 2009. U.S. Department of Interior, U.S. Fish & Wildlife Service, Midwest Region. 17 Aug. 2009. <http://www.fws.gov/midwest/angered/fishes/pallid_fc.html>.
- "Fort Berthold Reservation: Home of the Three Affiliated Tribes." Fargo Forum. 21 Aug. 2009. <<http://legacy.inforum.com/specials/DyingTongues/graphics/demographics.pdf>>.
- Geological Survey Staff. 17 Dec. 2009. USGS Digital Elevation Models for North Dakota. U.S. Department of Interior, U.S. Geological Survey. Available URL: <<http://www.nd.gov/gis/>>.
- "Golden Eagle." National Geographic. 17 Aug. 2009. <<http://animals.nationalgeographic.com/animals/birds/golden-eagle.html>>.
- "Gray Wolves in the Northern Rocky Mountains." U.S. Fish & Wildlife Service. 24 Aug. 2009. U.S. Department of Interior, U.S. Fish & Wildlife Service, Mountain-Prairie Region. 25 Aug. 2009. <<http://www.fws.gov/mountain-prairie/species/mammals/wolf/>>.
- "Hawks, Eagles, and Falcons of North Dakota." U.S. Geological Survey Northern Prairie Wildlife Research Center. 3 Aug. 2006. U.S. Department of Interior, U.S. Geological Survey, Northern Prairie Wildlife Research Center. 17 Aug. 2009. <<http://www.npwrc.usgs.gov/resource/birds/hawks/intro.htm>>.
- "Interior Least Tern (*Sterna antillarum thalassos*)." Texas Parks and Wildlife. 2 June 2009. Texas Parks and Wildlife. 17 Aug. 2009. <http://www.tpwd.state.tx.us/huntwild/wild/species/least_tern/>.
- Johnson, S. (2010, February). Nesting in numbers: active bald eagles nests up in North Dakota. *North Dakota Outdoors*, 14–17. Retrieved from <http://gf.nd.gov/multimedia/ndoutdoors/issues/2010/feb/docs/nest-numbers.pdf>

- "Least Tern (Interior Population)." U.S. Fish & Wildlife Service. 29 July 2009. U.S. Department of Interior, U.S. Fish & Wildlife Service, Midwest Region. 18 Aug. 2009. <<http://www.fws.gov/midwest/Endangered/birds/tern.html>>.
- "Least Tern (*Sterna antillarum*)." U.S. Fish & Wildlife Service. 18 Dec. 2008. U.S. Department of Interior, U.S. Fish & Wildlife Service, North Dakota Field Office. 18 Aug. 2009. <http://www.fws.gov/northdakotafieldoffice/endspecies/species/least_tern.htm>.
- "Major Research Gives Insight into the Needs of Whooping Cranes." GBRA. 29 April 2009. Guadalupe-Blanco River Authority. 18 Dec. 2009. <<http://www.gbra.org/News/2009042901.aspx>>.
- "Nesting in Numbers." ND Outdoors. February 2010. ND Game and Fish Department. 19 Mar. 2010. <http://gf.nd.gov/multimedia/ndoutdoors/issues/2010/feb/docs/nest-numbers.pdf>
- North Dakota Department of Agriculture. (N.D.). *Noxious weeds team*. Retrieved November 15, 2010, from <http://www.agdepartment.com/Programs/Plant/NoxiousWeeds.html>
- North Dakota Agricultural Experiment Station. 1979. Soil Survey for McLean County, North Dakota. U.S. Department of Agriculture, Soil Conservation Service. U.S. Government Printing Office.
- North Dakota Department of Health. Annual Report: North Dakota Air Quality Monitoring Data Summary 2009. North Dakota Department of Health, Bismarck: June 2009.
- North Dakota Parks and Recreation Department. No Date. North Dakota prairie: Our natural heritage. North Dakota Parks and Recreation Department, U.S. Department of the Interior, U.S. Fish and Wildlife Service. Jamestown, ND: Northern Prairie Wildlife Research Center Online. <http://www.npwrc.usgs.gov/resource/habitat/heritage/index.htm>. (Version 05May99).
- North Dakota State Water Commission Staff. 18 Jan. 2010. Ground and Survey Water Data Query. State of North Dakota, State Water Commission. Available URL: <<http://www.swc.state.nd.us/4dlink2/4dcgi/wellsearchform/Map%20and%20Data%20Resources>>.
- Northern Prairie Wildlife Research Center. 24 Aug. 2006. Ecoregions of North Dakota and South Dakota. 17 Dec. 2009. <<http://www.npwrc.usgs.gov/resource/habitat/ndsdeco/nodak.htm>>.
- "Piping Plover." U.S. Fish & Wildlife Service. U.S. Department of Interior, U.S. Fish & Wildlife Service, Mountain-Prairie Region. 18 Dec. 2009. <<http://www.fws.gov/mountainprairie/species/birds/pipingplover/>>.
- Soil Survey Staff. April 2010. Spatial and Tabular Data of the Soil Survey for McLean County, North Dakota. U.S. Department of Agriculture, Natural Resources Conservation Service. Available URL: <<http://soildatamartnr.usda.gov/>>.
- United States. "Whooping Crane Recovery Plan Revised." U.S. Fish & Wildlife Service. 29 May 2007. <http://www.fws.gov/mountainprairie/pressrel/WO_717_Whooping_crane_recovery_planpr.pdf>.
- U.S. Census Bureau. 18 November 2009. <<http://www.census.gov/>>
- USDA Natural Resources Conservation Service. November 2010. Web Soil Survey. 4 January 2011. <<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>>.
- U.S. Fish and Wildlife Service. Dakota Skipper Fact Sheet. April 2007. <<http://www.fws.gov/midwest/Endangered/insects/dask.html>>.
- U.S. Fish and Wildlife Service. Endangered and threatened wildlife and plants; 12-month finding on a petition to list Sprague's pipit as endangered or threatened throughout its range. Federal Register. Vol. 75, No. 178. September 2010.
- U.S. Fish & Wildlife Service—North Dakota Field Office. 17 November 2009. County Occurrence of Endangered, Threatened, and Candidate Species and Designated Critical Habitat in North Dakota. 06 Feb. 2010. <http://www.fws.gov/northdakotafieldoffice/county_list.htm>.

—. 16 Aug. 2009. USGS Hydrography Dataset for North Dakota. U.S. Department of Interior, U.S. Geological Survey. Available URL: <<http://nhd.usgs.gov/>>.

Van Bruggen, Theodore. 1992. *Wildflowers, Grasses & Other Plants of the Northern Plains and Black Hills*. Fourth Edition. Interior, South Dakota: Badlands Natural History Association.

Vance, F.R., et. al. 1999. *Wildflowers of the Northern Great Plains*. Third Edition. University of Minnesota Press. Minneapolis, Minnesota.

Whitaker, John O. 2002. *National Audubon Society Field Guide to North American Mammals*. 2nd edition.

Whitson, Tom D., et. al. 1996. *Weeds of the West*. Fifth Edition.

Wyoming Game and Fish Department. Recommendations for Development of Oil and Gas Resources Within Important Wildlife Habitats. Version 5.0. March 2010. <http://gf.state.wy.us/downloads/pdf/og.pdf>

Ó Donnchadha, Brian, and Ian Randall

(2011a) MHA 2-05-04H-148-91 & MHA 4-05-04H-148-91 Well Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KJ Cultural Resources for QEP, Denver.

(2011b) MHA 1-05-04H-148-91 & MHA 3-05-04H-148-91 Well Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KJ Cultural Resources for QEP, Denver.

Appendix A

Agency Scoping Materials

Appendix A

Agency Scoping Materials

May 25, 2011

Mr. Scott Davis
Indian Affairs Commission
600 E. Blvd. Ave. 1st Floor, Judicial Wing, Rm 117
Bismarck, ND 58505-0300

**RE: QEP Energy Company
Saddle Butte Northwest 5 and Southwest 5 well pads
Fort Berthold Reservation
Dunn County, North Dakota**

Dear Mr. Davis,

On behalf of QEP Energy Company (QEP), 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 for the development, drilling, and completion of four wells on two well pads on the Fort Berthold Reservation. Each pad location would consist of two wells.

The *Saddle Butte Northwest 5* well pad would be located in the NW¼ of Section 5, Township 148 North, Range 91 West, 5th P.M. The *Saddle Butte Southwest 5* well pad would be located in the SW¼ of Section 5, Township 148 North, Range 91 West, 5th P.M. ***Please refer to the enclosed project location map.*** The well pads have been positioned to utilize existing roadways for access to the extent possible. Construction of the proposed well pads and access road are scheduled to begin in 2011.

To ensure that social, economic, and environmental effects are analyzed accurately, we solicit your views and comments on the proposed action. We are interested in existing or proposed developments you may have that should be considered in connection with the proposed project. We also ask your assistance in identifying any property or resources that you own, manage, oversee, or otherwise value that might be adversely impacted.

Please provide your comments by **June 25, 2011**. We request your comments by that date to ensure that we will have ample time to review them and incorporate them into the EA.

If you would like further information regarding this project, please contact me at (701) 355-8726. Thank you for your cooperation.

Sincerely,

Kadrmas, Lee & Jackson, Inc.



Grady Wolf
Environmental Scientist

Enclosure (Project Location Map)

May 15, 2011

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

**Re: QEP Production Company
Saddle Butte Northwest 5 and Saddle Butte Southwest 5 Well Pads
Fort Berthold Reservation
Dunn County, North Dakota**

Dear Mr. Towner,

On behalf of QEP Energy Company (QEP), 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 for the development, drilling, and completion of four wells on two well pads and two access roads on the Fort Berthold Reservation. Each pad location would consist of two wells. The well pads are proposed to be positioned in the following locations:

- Saddle Butte Northwest 5 well pad; T148N, R91W, NW¼ of Section 5
- Saddle Butte Southwest 5 well pad; T148N, R91W, SW¼ of Section 5

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 pads have been positioned to utilize existing roadways for access to the extent possible. Construction of the proposed well pads and access roads are scheduled to begin in 2011.

An intensive, pedestrian resource survey of the proposed well pads and access roads was conducted on May 2, 2011 by KL&J. The purpose of these surveys was to gather site-specific data and photos with regards to botanical, biological, threatened and endangered species, eagles, and water resources. A study area of 10 acres centered on the well pad center point and a 200-foot wide access road corridor was evaluated for the sites. In addition, a 0.50 mile wide buffer around all areas of project disturbance was used to evaluate the presence of eagles and eagle nests. Resources were evaluated using visual inspection and pedestrian transects across the sites.

A BIA-facilitated EA on-site assessment of the well pads and access roads was also conducted on May 2, 2011. The BIA Environmental Protection Specialist, as well as representatives from the Tribal Historic Preservation Office (THPO), QEP, and KL&J were present. During the assessment, construction suitability with respect to topography, stockpiling, drainage, erosion control, and other surface issues were

Saddle Butte Northwest 5 and Southwest 5 Well Pads
QEP
Fort Berthold Reservation

considered. Well pad and access road locations were adjusted as appropriate, to avoid conflicts with identified environmental areas of concern. Those present at the on-site assessment agreed that the chosen locations, along with the minimization measures QEP plans to implement, are positioned in areas which would minimize impacts to sensitive wildlife and botanical resources. BMPs and other commitments QEP has made to avoid, minimize, or mitigate impacts are listed at the end of this letter.

Threatened and Endangered Species: The proposed well sites occur in Dunn County. In Dunn County, 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 and Sprague's pipit are listed as a candidate species. Dunn County also contains designated critical habitat for the piping plover. None of these species were observed during the field survey and on-site assessment.

Whooping cranes use shallow, seasonally and semi-permanently flooded palustrine (marshy) wetlands for roosting, and various cropland and emergent wetlands for feeding. The proposed projects are located in the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred. Due to the proximity of the sites to Lake Sakakawea and their occurrence within the 75 percent of confirmed sightings corridor, adjacent habitat may be used as stopover habitat. The proposed projects may affect but are not likely to adversely affect whooping cranes or whooping crane habitat. If a whooping crane is sighted within one-mile of a well site or associated facilities while under construction, 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.

Suitable habitat for the interior least tern, pallid sturgeon, and piping plover is largely associated with Lake Sakakawea and its shoreline. Lake Sakakawea is located approximately 0.2 miles east of the proposed Saddle Butte Northwest 5 well pad and approximately 0.26 miles southwest of the proposed Saddle Butte Southwest 5 well pad at the nearest point. No additional habitat was identified during the onsite surveys. The well pads and access roads are located on upland bluffs composed of grassland, with Lake Sakakawea and its shoreline located below the bluffs. The topographic features of the area and distance from the shoreline should assist in providing sight and sound buffers for shoreline-nesting birds. USFWS determined Lake Sakakawea's shoreline to be critical habitat for the piping plover. With the present lake level, the shoreline in the vicinity of the project area doesn't presently provide suitable habitat for nesting species and no additional habitat was identified the day of the field survey. But due to the fluctuating Lake levels, potential habitat may exist there in the future.

Tank Batteries would be surrounded by an impervious dike or Sioux containment system that would act as secondary containment to guard against accidental release

Saddle Butte Northwest 5 and Southwest 5 Well Pads
QEP
Fort Berthold Reservation

of fluids from the site. The containment system would be of sufficient size to hold in excess of 110% the capacity of the largest tank in the battery and 24hr record precipitation. A minimum of an 18-inch high berm would be constructed around the entire pad to control runoff. Secondary containment measures consisting of earth berms, fiber rolls or additional BMP's would be placed in all drainages in close proximity to the proposed pads. In addition, a semi-closed loop system would be used and drill cuttings would be placed in a reinforced lined cuttings pit to diminish the potential for pit leaching. The cuttings pit for the Saddle Butte Northwest 5 well pad was moved during the on-site survey to position it on the well pad as far away from drainages as possible. Due to the implementation of secondary containment measures and the cuttings pit parameters, the transfer of accidentally released fluids to Lake Sakakawea and its associated habitats is unlikely. Due to the proximity of the proposed projects to Lake Sakakawea (approximately 0.2 miles at the nearest point) the proposed projects may affect but are not likely to adversely affect the interior least tern, pallid sturgeon, and piping plover or their associated habitats.

The black-footed ferret historically could be found throughout the Rocky Mountains and Great Plains. There has not been a confirmed sighting of a black-footed ferret in North Dakota for over 20 years and they are presumed 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. Due to a lack of suitable habitat and known populations, the proposed projects are anticipated to have no effect to the black-footed ferret.

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 project areas are located far from other known wolf populations and are positioned on rangeland that is actively grazed. No wolves or indications of wolves were observed during the field survey. Due to a lack of preferred habitat characteristics and known populations, the proposed projects are anticipated to have no effect on the gray wolf.

The preferred habitat for the Dakota skipper consists of undisturbed, flat, moist bluestem prairies and upland prairies with an abundance of wildflowers. The proposed sites are located on moderately grazed rangeland that does contain bluestem prairies with abundant wildflowers. Although grazing is evident, it is moderate in nature; therefore, the project site does contain suitable habitat for the Dakota skipper. Due to the presence of preferred habitat characteristics, the proposed projects may affect, but are not likely to adversely affect, the Dakota skipper.

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

Saddle Butte Northwest 5 and Southwest 5 Well Pads
QEP
Fort Berthold Reservation

minimal human disturbance. The proposed project areas consist of moderately grazed rangeland which may provide potential habitat for the Sprague's pipit. No Sprague's pipit were observed during the field surveys. Due to the presence of preferred habitat characteristics, the proposed projects may affect, but are not likely to adversely affect, the Sprague's pipit. Additionally, all efforts would 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 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; or mowing of the site prior to the nesting/breeding season would be completed.

Botanical Resources: The Saddle Butte Northwest 5 and Saddle Butte Southwest 5 proposed well sites consist of moderately grazed upland grasses. The Saddle Butte Northwest 5 well pad and access road is bordered by wooded draws to the north, south, and east, and by gently rolling topography to the west. The Saddle Butte Southwest 5 well pad and access road is surrounded by gently rolling topography. The well pads and access roads were mostly dominated by Kentucky bluegrass (*Poa pratensis*), green needlegrass (*Stipa viridula*), western wheatgrass (*Agropyron smithii*), little bluestem (*Andropogon scoparius*), blue grama (*Bouteloua gracilis*), smooth brome (*Bromus inermis*), purple coneflower (*Echinacea angustifolia*), Kochia (*Kochia scoparia*), curlycup gumweed (*Grindelia squarrosa*) and western snowberry (*Symphoricarpos occidentalis*). Green ash (*Fraxinus pennsylvanica*), and silver buffalo berry (*Shepherdia argentea*) were observed growing in the drainages surrounding the well pads and access roads. Canada thistle (*Cirsium arvense*) was observed on Saddle Butte Northwest 5 and Saddle Butte Southwest 5 well pads. There are no threatened or endangered plant species listed for Dunn County.

Biological Resources: The project area contains suitable habitat for mule deer, whitetail deer, sharp-tailed grouse, ring-necked pheasant, raptors, badger, song birds, coyote, red fox, cottontail rabbit, wild turkey, jackrabbit, and North American porcupine. An American kestrel and seven sharp-tailed grouse were observed during the Saddle Butte Northwest 5 field survey. One sharp-tailed grouse, field sparrow, meadow lark, four turkey vultures and a coyote were observed during the Saddle Butte Southwest 5 field survey. No additional wildlife was observed during the surveys.

During drilling activities, the noise, movements, and lights associated with having a drilling rig on-site are expected to deter wildlife from entering the area. Immediately after the drilling rig leaves the location, reserve pits would be netted with State and Federal approved nets. These would remain in place with proper maintenance until the closure of the reserve pits.

Design considerations would be implemented to further protect against potential habitat degradation. The northwest, northeast, and southwest corners of the Saddle

Saddle Butte Northwest 5 and Southwest 5 Well Pads
QEP
Fort Berthold Reservation

Butte Northwest 5 well pad would be rounded to minimize impacts to nearby drainages. A minimum of an 18-inch high berm would be constructed around the entire well pads to provide additional containment at the well pads to control runoff. Tank Batteries would be surrounded by an impervious dike or Sioux containment system that would act as secondary containment to guard against accidental release of fluids from the site. The containment system would be of sufficient size to hold in excess of 110% the capacity of the largest tank in the battery and 24hr record precipitation. BMPs to minimize wind and water erosion of soil resources, as well as implementation of a semi-closed loop system with an on-site cuttings pit during drilling, would also be put into practice. The cuttings pit for the Saddle Butte Northwest 5 well pad was moved during the on-site survey to position it on the well pad as far away from drainages as possible. Secondary containment measures consisting of earthen berms, straw wattles or other BMP's would be installed in adjacent drainages to the well pads and access roads.

All efforts would 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; or mowing of the site prior to nesting/breeding season may be completed in lieu of the pre-construction survey.

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.

Eagles: A survey for eagle nests was conducted on May 2, 2011. The proposed project sites were thoroughly searched and no eagles or eagle nests were observed. 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 3.5 miles south of the proposed well pads. 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.

Water Resources: The proposed Saddle Butte Northwest 5 well pad partially drains to the north approximately 150 feet before entering a wooded draw. The runoff would then flow approximately 0.30 miles into Lake Sakakawea. The eastern portion would

Saddle Butte Northwest 5 and Southwest 5 Well Pads
QEP
Fort Berthold Reservation

flow southeast approximately 170 feet before entering a wooded draw. The runoff would then flow to the east approximately 0.16 miles into Lake Sakakawea. The southern portion of the pad would drain approximately 160 feet to the south before entering a wooded draw. The runoff would then flow to the east approximately 0.20 miles into Lake Sakakawea. The proposed Saddle Butte Southwest 5 well pad partially drains to the northeast approximately 0.20 miles before entering a wooded draw. The runoff would then flow east approximately 0.46 miles into Lake Sakakawea. The runoff to the west would drain approximately 300 feet before entering a wooded draw. The runoff would then flow approximately 0.32 miles southwest into Lake Sakakawea. The runoff to the south would flow through grassed waterways approximately 0.25 miles into Lake Sakakawea.

A minimum of an 18-inch high berm would be constructed around each well pad to protect against runoff and contaminants from leaving the pad. Secondary containment measures consisting of earthen berms, straw wattles or additional BMP's would be placed in adjacent drainages as needed.

Best Management Practices: BMPs for soil and wind erosion would be implemented as needed to include seeding of cut areas and spoil piles as well as the use of diversion ditches, silt fences, straw wattles and/or mats. Any woody vegetation removed during site construction would be incorporated into topsoil stockpiles or removed from the location to a proper disposal site. The alteration of drainages near the proposed well pads would be avoided. Culverts to maintain drainage along the access roads would also be installed where needed. The northwest, northeast, and southwest corners of the Saddle Butte Northwest 5 well pad would be rounded to minimize impacts to nearby drainages. The Saddle Butte Northwest 5 access road was adjusted during the on-site survey to allow for a 75-foot buffer to a cairn. Upon completion of the wells, a portion of the well pads would be reclaimed to further avoid environmental areas of concern.

Summary of Commitments to Avoid or Minimize Impacts: In an effort to minimize the potential environmental effects associated with the proposed project, QEP would also implement the following measures into the development of these sites:

- A semi-closed loop system would be used during drilling. Drill cuttings would be placed in the reinforced lined cuttings pit. The reinforced lining of the cuttings pit would have a minimum thickness of 20 mils to prevent seepage and contamination of underlying soil. Any minimal fluids remaining in the drill cuttings pit would be removed and disposed of in accordance with BLM and NDIC rules and regulations. All liquids from drilling would be transported off-site. The drill cuttings pit would be reclaimed to BLM and North Dakota Industrial Commission (NDIC) standards immediately upon finishing completion operations.

Saddle Butte Northwest 5 and Southwest 5 Well Pads
QEP
Fort Berthold Reservation

- The cuttings pit for the Saddle Butte Northwest 5 well pad was moved during the on-site survey to position it on the well pad as far away from drainages as possible.
- Prior to its use, the cuttings pit would be fenced on the non-working sides. The access side would be fenced and netted immediately following drilling and completion operations in order to prevent wildlife and livestock from accessing the pit.
- All efforts would 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. Mowing the sites prior to the nesting/breeding season would prevent birds from nesting at the site.
- Measures implemented during construction to avoid the taking of migratory bird species 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.
- If a whooping crane is sighted within one-mile of a well site or associated facilities while under construction, 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.
- Tank Batteries would be surrounded by an impervious dike or Sioux containment system that would act as secondary containment to guard against accidental release of fluids from the site. The containment system would be of sufficient size to hold in excess of 110% the capacity of the largest tank in the battery and 24hr record precipitation. BMPs would be implemented to minimize wind and water erosion of soil resources and a semi-closed loop system would be used during drilling.
- The northwest, northeast, and southwest corners of the Saddle Butte Northwest 5 well pad would be rounded to minimize impacts to nearby drainages.
- A minimum of an 18-inch berm would be constructed around the entire pad to protect against runoff and contaminants from leaving the pad.
- Secondary containment measures consisting of earthen berms, straw wattles or additional BMP's would be placed in adjacent drainages as needed.

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,

Saddle Butte Northwest 5 and Southwest 5 Well Pads
QEP
Fort Berthold Reservation

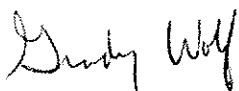
located within the project area. We would also appreciate being made aware of any proposed development your department may be contemplating in the area of the proposed project. Any information that might help us in our study would be appreciated.

It is requested that any comments or information be forwarded to our office on or before **June 25, 2011**. 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 (701) 355-8726. Thank you for your cooperation.

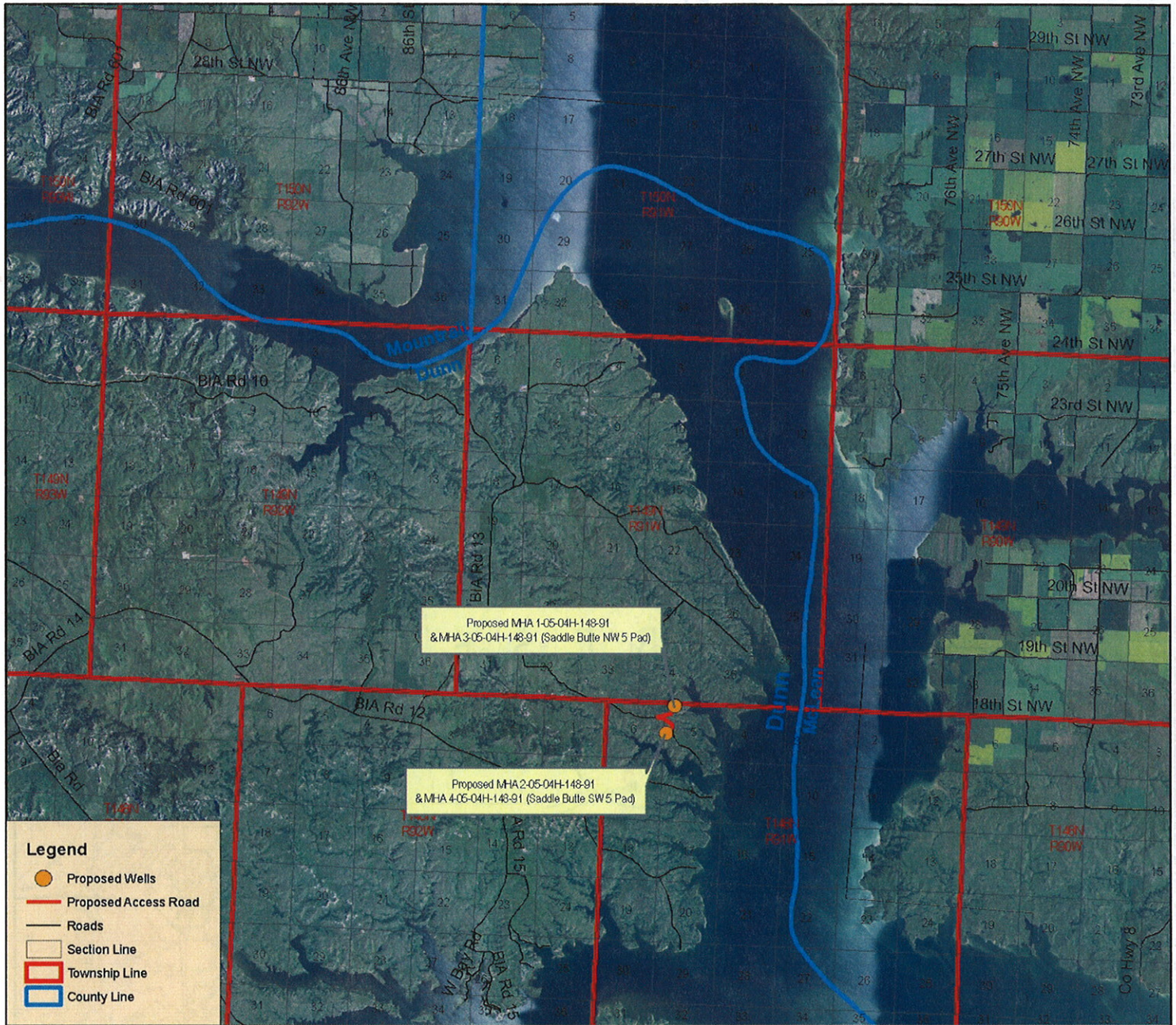
Sincerely,

Kadrmass, Lee & Jackson, Inc.

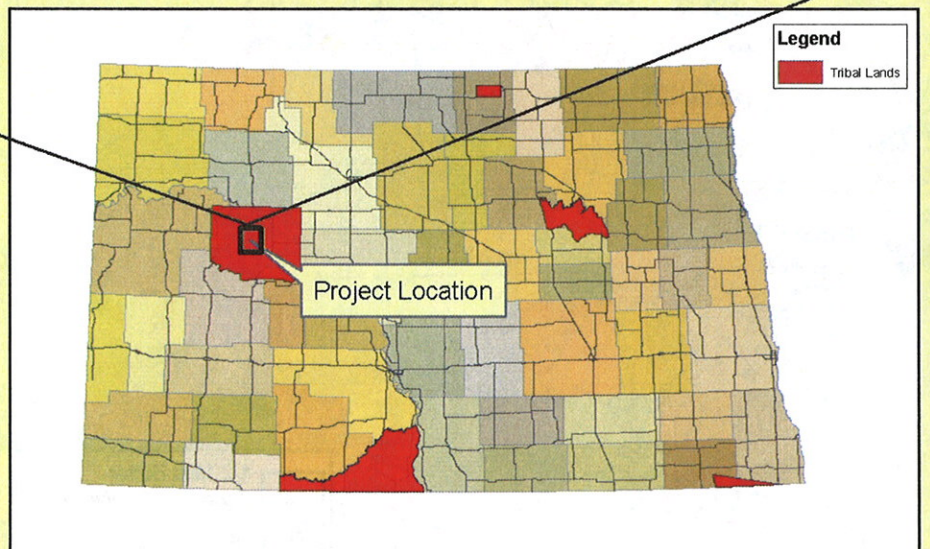


Grady Wolf
Environmental Planner

Enclosures (Maps)



QEP Energy Company Proposed Wells Dunn County, ND



Eagle Nest Location Map



SOV MASTER LIST

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

C>Title	First	Last	Title	Department	Agency	Address	City	State	Zip
Mr.	Weldon	Loufsemilk	Regional Director		Bureau of Indian Affairs	115 4th Ave SE	Aberdeen	SD	57401
Mr.	Jeffrey	Desjardis	Environmental Protection Specialist		Bureau of Indian Affairs	202 Main Street	New Town	SD	58763
Mr.	Darryl	Turcotte	Environmental Protection Specialist		Bureau of Indian Affairs	202 Main Street	New Town	ND	58763
Mr.	Richard	Nelson	Chief, Resource Management	Dakotas Area Office	Bureau of Reclamation	PO Box 1017	Bismarck	ND	58502-1017
Mr.	Tom	Schauer	Manager	Bismarck Airports District Office	Federal Aviation Administration	2301 University Drive, Bldg 23B	Bismarck	ND	58504
Mr.	Dan	Cimarosti	Manager	ND Regulatory Office	US Army Corps of Engineers	1513 S. 12th St.	Bismarck	ND	58504
Mr.	Charles	Sorensen	Natural Resource Specialist	Riverdale Field Office	US Army Corps of Engineers	PO Box 527	Riverdale	ND	58565
Ms.	Carndace	Gorton	Chief, Env., Economics, & Cultural Resource Section	Omaha District	US Army Corps of Engineers	106 S. 15th St.	Omaha	NE	68102-1618
Mr.	Geralt	Paulson	Director, Transmission Line Substations	ND Maintenance Office	US Department of Energy	PO Box 1173	Bismarck	ND	58502-1173
Mr.	Larry	Svoboda	Director	NEPA Program, Region 8	Western Area Power Admin.	1595 Wynkoop Street	Denver	CO	80202-1129
Mr.	Richard	Clark	Wetlands Coordinator	Region 8, EPR-EP	US Environment Protection Agency	1595 Wynkoop Street	Denver	CO	80202-1129
Mr.	Jeffrey	Towner	Field Supervisor	ND Field Office	US Fish & Wildlife Service	3425 Miriam Ave.	Bismarck	ND	58501
Mr.	Scott	Davis	State Conservationist	US Department of Agriculture	Natural Resources Conservation Service	PO Box 1458	Bismarck	ND	58502-1458
Mr.	Greg	Wiche	Executive Director		Indian Affairs Commission	600 E. Blvd. Ave. 1st Floor, Judicial Wing, Rm 117	Bismarck	ND	58505-0300
Mr.	L. David	Glat	Director	Water Resources Division	US Geological Survey	821 E. Interstate Ave.	Bismarck	ND	58501
Mr.	Terry	Steinwand	Chief	Environmental Health Section	ND Department of Health	919 E. Divide Ave., 4th floor	Bismarck	ND	58501-1947
Mr.	Ed	Murphy	Director	Gold Seal Center	ND Game & Fish Department	100 Bismarck Expressway	Bismarck	ND	58501-5095
Mr.	Mark	Zimmerman	State Geologist		ND Geological Survey	600 E. Blvd. Avenue	Bismarck	ND	58505-0840
Mr.	Dale	Prink	Director		ND Parks & Recreation Dept.	1600 E. Century Ave., Suite 3	Bismarck	ND	58503-0449
Mr.	Scott	Hochhalter	State Engineer		ND State Water Commission	900 E. Blvd. Ave.	Bismarck	ND	58505-0850
Mr.	Bill	Boyd	Soil Conservation Specialist	NDSU Extension Service	Soil Conservation Committee	2718 Galeway Ave., #104	Bismarck	ND	58503
Mr.	Doug	Dixon	Construction Manager		Midcontinent Cable Company	719 Memorial Hwy	Bismarck	ND	58501
Mr.	John	Skunpey	General Manager	Badlands Region	Montana Dakota Utilities	PO Box 1406	Williston	ND	58802-1406
Mr.	Ken	Miller	General Manager	Land Department	McKenzie Electric Cooperative	PO Box 649	Watford City	ND	58854-0649
Mr.	Ray	Christenson	Manager/CEO		Northern Border Pipeline Company	13710 FNB Parkway	Omaha	NE	68154-2200
Mr.	David C.	Schellkopf	CEO		Southwest Water Authority	4685 2nd St. W.	Dickinson	ND	58601
Mr.	Sir or Madam	Manager	Manager		West Plains Electric Coop, Inc.	PO Box 1038	Dickinson	ND	58108-2747
Mr.	Lonny	Bayley	District Engineer	Dickinson District	Xcel Energy	PO Box 2747	Fargo	ND	58601-3009
Mr.	Mike	Nash	Field Office Manager	North Dakota Field Office	ND Department of Transportation	1700 3rd Ave W, Suite 101	Dickinson	ND	58601
Mr.	Michael	Savage	Assistant Field Office Manager	Division on Mineral Resources	Bureau of Land Management	99 23rd Ave W, Suite A	Dickinson	ND	58601
Ms.	Charles	Murphy	Tribal Chairman		Sisseton-Wapeton Sioux Tribe	PO Box 509	Sisseton	SD	57262-0267
Mr.	Elton	Spotted Horse	Tribal Chairman		Spirit Lake Sioux Tribe	PO Box 359	Ft. Totten	ND	58525
Mr.	Eljin	Crows Breast	Tribal Chairman		Standing Rock Sioux Tribe	PO Box D	Fort Yates	ND	58538
Mr.	Tex	Hall	Environmental Division Director	Natural Resources Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Merle	St. Claire	Tribal Historic Preservation Officer		Three Affiliated Tribes	HC3 Box 2	New Town	ND	58763
Mr.	Dannon	Fox	Tribal Chairman		Three Affiliated Tribes	HC3 Box 2	New Town	ND	58763
Ms.	V. Judy	Stough	Director	Energy Department	Turtle Mountain Chippewa	PO Box 900	Belcourt	ND	58316-0900
Mr.	Arnold	Strahs	Representative	Four Bears Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Mervin	Packineau	Representative	Mandaree Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Frank	Whitecalf	Representative	Shell Creek Segment	Three Affiliated Tribes	PO Box 665	Mandaree	ND	58757
Mr.	Berry	Benson	Representative	White Shield Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Fred	Poltra	Representative	Twin Buttes Segment	Three Affiliated Tribes	PO Box 468	Parshall	ND	58770
Mr.	Lester	Crowsheart	Director	Game and Fish Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Roger	Hovda	Operations Manager	Fort Berthold Rural Water	Three Affiliated Tribes	70879 E Ave NW	New Town	ND	58763
Mr.	Reinhard	Hauck	Auditor		Reservation Telephone Cooperative	308 Four Bears Complex	New Town	ND	58770-0088
Ms.	Tim	Stefan	Chairman	County Commission	Dunn County	PO Box 68	Parshall	ND	58642
					Dunn County	1740 Highway 22	Manning	ND	58642

Appendix B

Agency Scoping Response



United States Department of the Interior

BUREAU OF RECLAMATION

Dakotas Area Office
P.O. Box 1017
Bismarck, North Dakota 58502



DK-5000
ENV-6.00

JUN 10 2011

Mr. Grady Wolf
Environmental Scientist
Kadrmass, Lee & Jackson, Inc.
P.O. Box 1157
Bismarck, ND 58502-1157

Subject: Solicitation for an Environmental Assessment for the Proposed Construction
Of Up To Four Exploratory Oil and Gas Wells With Two Each On Two Well
Pads On the Fort Berthold Indian Reservation in Dunn County, North Dakota

Dear Mr. Wolf:

This letter is written to inform you that we received your letter on May 26, 2011, and the information and map of Saddle Butte Northwest 5 have been reviewed by Bureau of Reclamation staff.

The proposed well pad located in Dunn County does not appear to be in the vicinity of Reclamation facilities, in this case the rural water pipelines of the Fort Berthold Rural Water System. We have provided a map of the general area of your proposed project:

Saddle Butte Northwest 5: NW $\frac{1}{4}$, Section 5, T148N, R91W, PM 5
SW $\frac{1}{4}$, Section 5, T148N, R91W, PM 5

The map is provided to aid you in identification of potential for adverse effect to or crossings of federal facilities. Should you have need to cross a Fort Berthold Rural Water System pipeline while accessing your proposed project, please refer to the enclosures for pipeline crossing specifications and contact our engineer Colin Nygaard, as below. Since Reclamation is the lead federal agency for the Fort Berthold Rural Water System, we request that any work planned on the reservation be coordinated with Mr. Lester Crows Heart, Fort Berthold Rural Water Director, Three Affiliated Tribes, 308 4 Bears Complex, New Town, North Dakota 58763.

Thank you for providing the information and opportunity to comment. If you have any further environmental questions, please contact me at 701-221-1287 or for engineering questions Colin Nygaard, Civil Engineer, at 701-221-1260.

Sincerely,

Kelly B. McPhillips
Environmental Specialist

Enclosures - 3

cc: See next page.

Subject: Solicitation for an Environmental Assessment for the Proposed Construction
Of Up To Four Exploratory Oil and Gas Wells With Two Each On Two Well
Pads On the Fort Berthold Indian Reservation in Dunn County, North Dakota

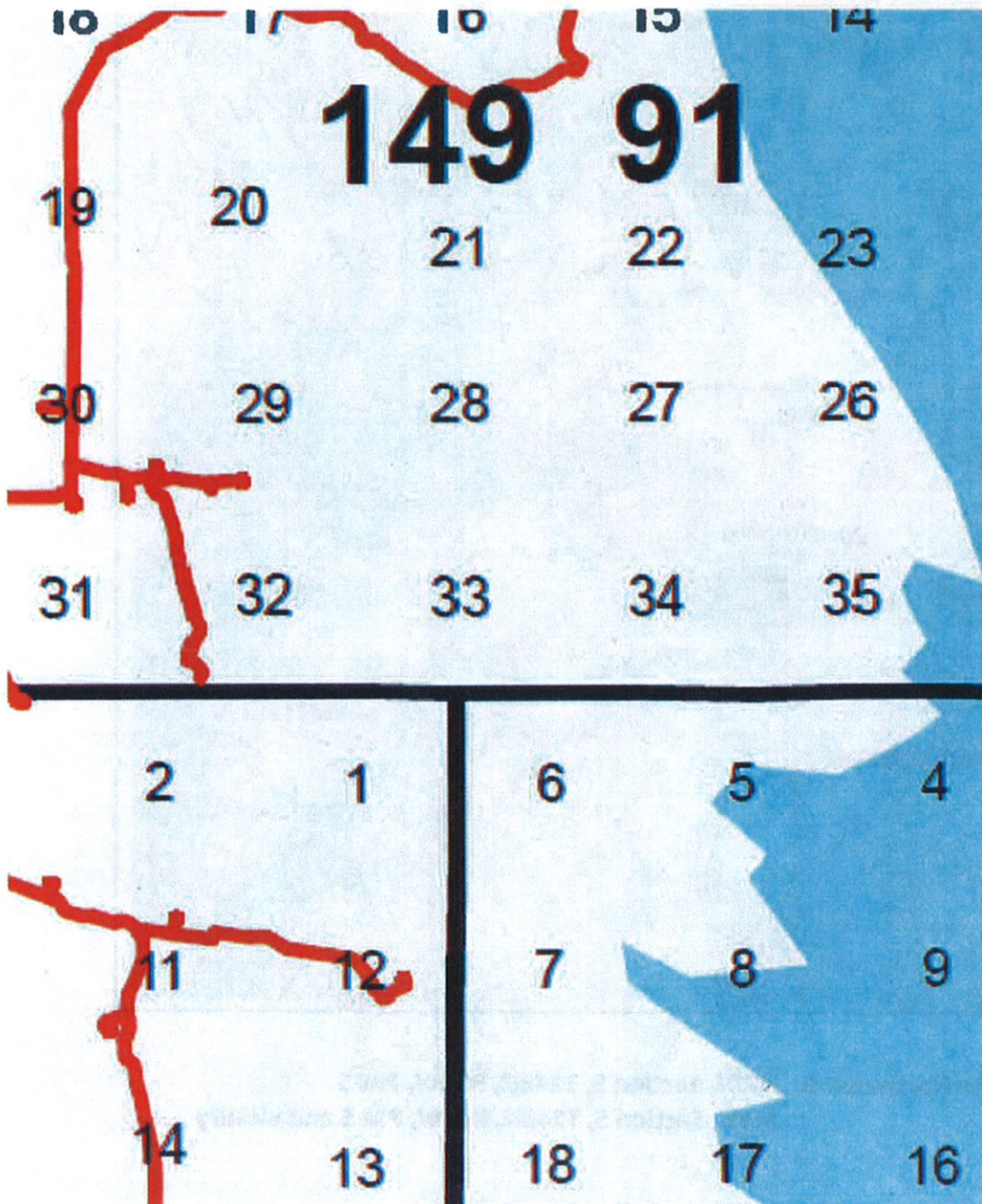
2

cc: Bureau of Indian Affairs
Great Plains Regional Office
Attention: Ms. Marilyn Bercier
Regional Environmental Scientist
115 Fourth Avenue S.E.
Aberdeen, SD 57401

Mr. Lester Crows Heart
Fort Berthold Rural Water Director
Three Affiliated Tribes
308 4 Bears Complex
New Town, ND 58763
(w/encl)

Subject: Solicitation for an Environmental Assessment for the Proposed Construction Of Up To Four Exploratory Oil and Gas Wells With Two Each On Two Well Pads On the Fort Berthold Indian Reservation in Dunn County, North Dakota

Orange solid lines represent rural water lines.



Saddle Butte Northwest 5: NW¼, Section 5, T148N, R91W, PM 5
SW¼, Section 5, T148N, R91W, PM 5 and vicinity

Subject: Solicitation for an Environmental Assessment for the Proposed Construction Of Up To Four Exploratory Oil and Gas Wells With Two Each On Two Well Pads On the Fort Berthold Indian Reservation in Dunn County, North Dakota



**Saddle Butte Northwest 5: NW¼, Section 5, T148N, R91W, PM 5
SW¼, Section 5, T148N, R91W, PM 5 and vicinity**

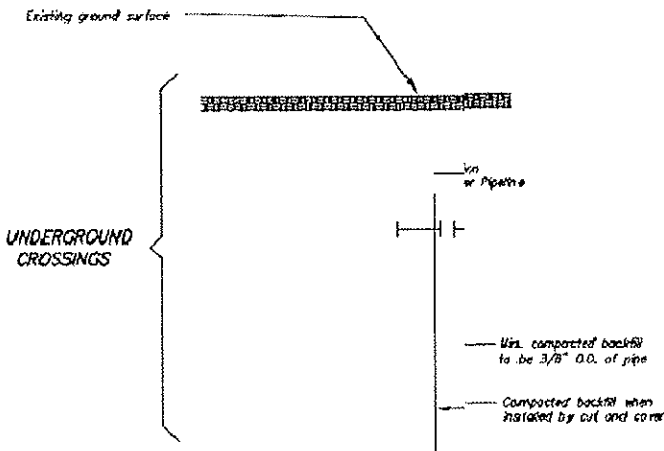
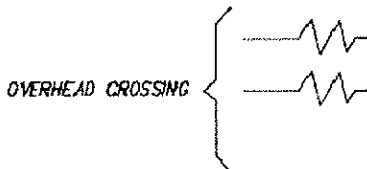
NOTES

1. Drawing is not to scale.
2. Clearances shown are minimum for all conditions.
3. Any additional permits required/needed for construction shall be provided.
4. Overhead conductor clearances shown are for 120 degrees F and final.
5. Erosion control measures, including re-vegetation, shall be implemented construction activities.
6. The applicant shall submit a project description, and detailed construction views, profiles and sections, and grading plans of proposed work within Right-of-Way (ROW).
7. The applicant shall submit procedures, excavation plans, and schedules Reclamation pipeline.
8. At the completion of construction activities the applicant shall submit indicate the horizontal and vertical alignments of all utilities in areas of construction within Reclamation ROW.
9. Pipelines carrying hazardous materials or pollutants (e.g., oils, gasoline, contaminated water and nonpotable water, etc.) should be designed for failure in the portion within Reclamation's ROW. The design shall require:
 - 9.1. Designing the crossing pipeline with an additional 50 percent work.
 - 9.2. Use secondary containment (pipe casing) for all hazardous materials.
10. All work within 18 inches of the facility shall be done using hand-held excavation and backfill shall be made in the presence of Reclamation representative.
11. The applicant and or his/her contractor shall be liable for all damages and appurtenances as a result of construction and for any other damage by Reclamation, including power, municipal and industrial water supply losses.
12. For crossings of all Reclamation facilities, Reclamation personnel furnish obtain and provide copies of existing files showing information about as (center of pipeline, approximate depth of cover, size of pipe, class of) applicant.
13. Typical Reclamation potable and raw water pipelines are PVC. If metallic containing metallic reinforcement (e.g., reinforced concrete) are occasional suitable bonded dielectric coating and cathodic protection may be required.

table of raw water pipelines

overhead or buried utilities

cross perpendicular (degrees) to Reclamation



DATE AND TIME RECEIVED
MAY 2, 2010 1:30 PM
APPROVED BY
[Signature]

DATE AND TIME RECEIVED
MAY 2, 2010 1:30 PM
APPROVED BY
[Signature]

RECLAMATION
Managing Water in the West

ALWAYS THINK SAFETY

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
PICK-SICOM WASHINGTON RIVER BASIN PROGRAM
CARSON DIVISION CARSON DIVISION UNIT, NUBAK
MR&I RURAL WATER SYSTEMS
STANDARD CROSSING AND CLEARANCE REQ.
POTABLE AND RAW WATER PIPELINES

DESIGNED BY: [Signature]
DRAWN BY: [Signature]
CHECKED BY: [Signature]
TECH APPR: [Signature]
APPROVED: [Signature]
DATE: [Date]

STANDARD CROSSING AND CLEARANCE REQ. 07-10-2010

769-603-25480

SHEET 1 OF 1



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
3425 Miriam Avenue
Bismarck, North Dakota 58501



JUN 17 2011

Mr. Grady Wolf
Environmental Planner
Kadrmas, Lee & Jackson, Inc.
128 Soo Line Drive
P.O. Box 1157
Bismarck, North Dakota 58502-1157

Re: QEP Energy Company Saddle Butte
Northwest 5 and Saddle Butte
Southwest 5 Well Pads, Fort Berthold
Reservation, Dunn County, N. Dakota

Dear Mr. Wolf:

This is in response to your May 15, 2011, letter requesting comments to assist in your preparation of an Environmental Assessment (EA) and federally-listed threatened and endangered species effects determinations on behalf of the Bureau of Indian Affairs (BIA) and the Bureau of Land Management (BLM). QEP Energy has proposed two well pads that would support two exploratory oil and gas wells per pad, and two associated access roads on the Fort Berthold Reservation, Dunn County, North Dakota.

Specific locations are:

Saddle Butte Northwest 5 well pad; T. 148 N., R. 91 W., NW ¼ of Section 5
Saddle Butte Southwest 5 well pad; T. 148 N., R. 91 W., SW ¼ of Section 5

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), Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds", 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), and the Endangered Species Act (16 U.S.C. 1531 et seq.) (ESA).

In an e-mail dated October 13, 2009, the BIA designated Kadrmas, Lee and Jackson (KLJ) 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.

Threatened, Endangered, and Candidate Species

KLJ has made “may affect, not likely to adversely affect” determinations for the whooping crane, interior least tern, pallid sturgeon, and piping plover. These determinations were based on several commitments by QEP, the following of which the Service considers to be relevant to threatened and endangered species effects:

- Semi-closed loop systems would be used during drilling. Drill cuttings would be placed in the reinforced-lined cuttings pit. The reinforced lining of the cuttings pit would have a minimum thickness of 20 mils to prevent seepage and contamination of underlying soil. Any minimal fluids remaining in the drill cuttings pit would be removed and disposed of in accordance with BLM and NDIC rules and regulations. All liquids from drilling would be transported off-site. The drill cuttings pit would be reclaimed to BLM and NDIC standards immediately upon finishing completion operations.
- The cuttings pit for the Saddle Butte Northwest 5 well pad was moved during the on-site survey to position it on the well pad as far away from drainages as possible.
- The northwest, northeast, and southwest corners of the Saddle Butte Northwest 5 well pad would be rounded to minimize impacts to nearby drainages.
- If a whooping crane is sighted within 1 mile of a well site or associated facilities while under construction, all work will cease within 1 mile of that part of the project and the USFWS will be contacted immediately. In coordination with the USFWS, work may resume after the bird(s) leave the area.
- Tank batteries would be surrounded by an impervious dike or Sioux containment system that would act as secondary containment to guard against accidental release of fluids from the site. The containment system would be of sufficient size to hold in excess of 110% of the capacity of the largest tank in the battery and 24 hour record precipitation. BMPs would be implemented to minimize wind and water erosion of soil resources and a semi-closed loop system would be used during drilling.
- A minimum of an 18-inch high berm would be constructed around the entire pad to protect against runoff and contaminants from leaving the pad.
- Secondary containment measures consisting of earthen berms, straw wattles or additional BMPs will be placed in adjacent drainages as needed.

The Service concurs with the “may affect, not likely to adversely affect” determinations for the whooping crane, interior least tern, pallid sturgeon, and piping plover for the

proposed QEP Energy Saddle Butte Northwest 5 and Saddle Butte Southwest 5 well pads and associated access roads and facilities.

As a matter of policy, the Service does not concur with “no effect” determinations. However, we acknowledge your “no effect” determinations for the gray wolf and black-footed ferret.

KLJ made “may affect, not likely to adversely affect” determinations for the Dakota skipper and Sprague’s pipit. No legal requirement exists to protect candidate species. Since these species are candidates, effects determinations are not required; however, Federal agencies may consider candidates as proposed for listing. BIA has previously indicated to the Service that they do not wish to consider candidate species as proposed, but BLM does. Since the surface impacts are regulated by BIA, we will assume that no effects determinations for these two candidates will be required by BIA. Measures indicated in your letter designed to avoid take of migratory birds will also help avoid direct take of Sprague’s pipit.

Migratory Birds

The EA states that migratory birds observed during a field survey for the Saddle Butte Northwest 5 included field sparrow, meadow lark, and turkey vulture. In addition to the QEP commitments mentioned above, the following commitments are also relevant to compliance with the MBTA and E.O. 13186:

- 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 5 days prior to the initiation of construction activities. Mowing the sites prior to the nesting/breeding season is also an option that would prevent birds from nesting at the site.
- Measures implemented during construction to avoid the taking of migratory bird species will 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.
- Prior to its use, the cuttings pit would be fenced on the non-working sides. The access side would be fenced and netted immediately following drilling and completion operations in order to prevent wildlife and livestock from accessing the pit.

- The northwest, northeast, and southwest corners of the Saddle Butte Northwest 5 well pad will be rounded to minimize impacts to nearby drainages. A minimum of an 18-inch high berm would be constructed around the entire well pads to provide additional containment at the well pads to control runoff. The cuttings pit for the Saddle Butte Northwest 5 well pad was moved during the on-site survey to position it on the well pad as far away from drainages as possible.

Bald and Golden Eagles

Your letter stated a ground survey for eagle nests was conducted on May 2, 2011. No eagle nests or eagles were observed. The nearest nest site that has been documented is approximately 3.5 miles south of the proposed well pads. A commitment was made that if a bald or golden eagle or eagle nest is sighted within 0.5 mile of the project construction area, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.

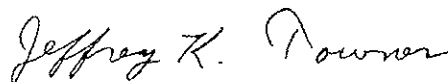
The Service believes that with the inclusion of the stated commitments, QEP's proposed projects are in compliance with the MBTA, E.O. 13186, and BGEPA.

Cumulative Impact Assessment

The Service encourages the action agencies to include a comprehensive cumulative impact analysis in the EA. The EA should evaluate the existing wells, associated facilities and other activities in a NEPA analysis area, consider the proposed wells and associated facilities in this context, and include an analysis of the cumulative impacts that could affect similar resources in the foreseeable future. We would appreciate receiving a copy of the final EA and FONSI.

Thank you for the opportunity to comment on this EA and federally-listed and candidate species, and for QEP's cooperation in addressing our recommendations. If you require further information or the project plans change, please contact me at (701) 250-4481 or at the letterhead address.

Sincerely,



Jeffrey K. Towner
Field Supervisor
North Dakota Field Office

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



Jack Dalrymple, 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 9, 2010

Mr. Grady Wolf
Kadmas Lee & Jackson
128 Soo Line Drive
PO Box 1157
Bismarck, ND 58502-1157

Re: QEP Energy Company, Saddle Butte Northwest 5 and Southwest 5 well pads

Dear Mr. Wolf,

The North Dakota Parks and Recreation Department (the Department) has reviewed the above referenced proposed project for QEP Energy Company, Saddle Butte Northwest 5 and Southwest 5 well pad development to include drilling and completion of four wells on two pads on the Fort Berthold Reservation, Dunn County.

Our agency scope of authority and expertise covers recreation and biological resources (in particular rare plants 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 Natural Heritage biological conservation database has been reviewed to determine if any 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 documented occurrences in our database within or adjacent to 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.

The Department recommends that the project be accomplished with minimal impacts and that all efforts be made to ensure that critical habitats not be disturbed in the project area to help secure rare species conservation in North Dakota. Regarding any reclamation efforts, we recommend that any impacted areas be revegetated with species native to the project area.

We appreciate your commitment to rare plant, animal and ecological community conservation, management and inter-agency cooperation to date. For additional information please contact Kathy Duttonhefner (701-328-5370 or kgduttonhefner@nd.gov) of our staff. Thank you for the opportunity to comment on this proposed project.

Sincerely,


Jesse Hanson, Coordinator
Planning and Natural Resources Division

R.USNDNHI*2011-130 KD6/7/2011DL6.25.2011

.....
Play in our backyard!



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 3, 2011

Mr. Grady Wolf
Environmental Scientist
Kadmas, Lee & Jackson, Inc.
P.O. Box 1157
Bismarck, ND 58502-1157

Re: QEP Energy Company, Saddle Butte Northwest 5 & Southwest 5 Well Pads
On the Fort Berthold Reservation, Dunn County

Dear Mr. Wolf:

This department has reviewed the information concerning the above-referenced project submitted under date of May 25, 2011 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. Development of the production facilities and any access roads, well pads or pipelines should have a minimal effect on air quality provided measures are taken to minimize fugitive dust. However, operation of the wells 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. Detailed guidance is available at www.ndhealth.gov/AQ/OilandGasWells.htm.

Any questions about air pollution control or permitting requirements should be addressed to Ms. Kathleen Paser at the U.S. Environmental Protection Agency, Region 8. She may be reached at (303) 312-6526 or Paser.Kathleen@epa.gov.

2. 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.
3. Oil and gas related construction activities located within tribal boundaries in North Dakota may be required to obtain a permit to discharge storm water runoff from the U.S.

Environmental Health
Section Chief's Office
701.328.5150

Division of
Air Quality
701.328.5188

Division of
Municipal Facilities
701.328.5211

Division of
Waste Management
701.328.5166

Division of
Water Quality
701.328.5210

Mr. Grady Wolf

2.

June 3, 2011

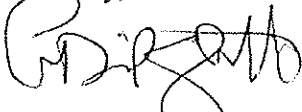
Environmental Protection Agency. Further information may be obtained from the U.S. EPA's website or by calling the U.S. EPA – Region 8 at (303) 312-6312. Also, cities or counties may impose additional requirements and/or specific best management practices for construction affecting their storm drainage system. Check with the local officials to be sure any local storm water management considerations are addressed.

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 our comments, please feel free to contact this office.

Sincerely,

A handwritten signature in black ink, appearing to read "L. David Glatt".

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

LDG:cc
Attach.



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

RECEIVED

JUN 24 2011

June 20, 2011

Grady Wolf
Environmental Scientist
Kadrmass, Lee & Jackson, Inc.
PO Box 1157
Bismarck, ND 58502-1157

Dear Mr. Wolf:

RE: Saddle Butte Northwest 5 & Southwest 5 Well Pads

QEP Energy Company is proposing four wells on two well pads on the Fort Berthold Reservation in Dunn County, North Dakota.

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. Due to their proximity to Lake Sakakawea, we also ask that additional steps be taken to completely contain any run-off from potential spills at these sites.

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

Sincerely,

Paul Schadewald
Chief
Conservation & Communication Division

js



REPLY TO
ATTENTION OF

North Dakota Regulatory Office

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
NORTH DAKOTA REGULATORY OFFICE
1513 SOUTH 12TH STREET
BISMARCK ND 58504-6640

June 17, 2011

RECEIVED
JUN 21 2011

Kadrmass, Lee & Jackson
ATTN: Grady Wolf, Environmental Scientist
PO Box 1157
Bismarck, North Dakota 58502-1157

Dear Mr. Wolf:

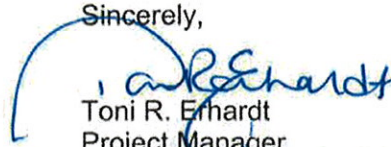
This is in response to your request for comments received May 26, 2011 concerning an Environmental Assessment your firm is preparing for the Bureau of Indian Affairs and the Bureau of Land Management for **QEP Energy Company's** proposal to construct two exploratory oil and gas wells on the Fort Berthold Reservation. For your reference, this letter addresses wells referred to as Saddle Butte Northwest 5, which would be located in the NW $\frac{1}{4}$ of Section 5, and Saddle Butte Southwest 5, which would be located in the SW $\frac{1}{4}$ of Section 5, all in Township 148 North, Range 91 West, Dunn County, North Dakota..

The Corps of Engineers regulates work affecting navigable waterways under Section 10 of the Rivers and Harbors Act and the discharge of dredged or fill material into waters of the United States under Section 404 of the Clean Water Act. Navigable waterways regulated under Section 10 in North Dakota are: the entire Missouri River system, including Lake Sakakawea and Lake Oahe; the Yellowstone River from the North Dakota/Montana border to its mouth; Upper Des Lacs Lake; Red River of the North; Bois De Sioux; and James River from Jamestown south to the North Dakota/South Dakota border. Waters of the United States may include, but are not limited to, rivers, streams, ditches, coulees, lakes, ponds and their adjacent wetlands. Fill material includes, but is not limited to, rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mines or other excavation activities and materials used to create any structure or infrastructure in waters of the United States.

If during project design, impacts to waters of the United States cannot be avoided, permits would be required prior to commencement of construction. For your information, regulations found at 33 CFR 322.3(a) state, in part: "For the purposes of a section 10 permit, a tunnel or other structure or work under or over a navigable waters of the United States is considered to have an impact on the navigable capacity of the waterbody". A DA permit application is enclosed for your convenience. If there is a question on whether or not permits would be required, the application and design specifications of the project should be forwarded our office for review and authorization prior to commencement of construction. It is essential to identify impacts to waters of the United States resulting from the project.

If you have any questions regarding this letter or our program, please do not hesitate to write me at the above address, or call this office at (701) 255-0015.

Sincerely,

A handwritten signature in blue ink that reads "Toni R. Erhardt". The signature is written in a cursive style with a large, sweeping initial "T".

Toni R. Erhardt
Project Manager
North Dakota Regulatory Office

Enclosure

**Instructions for Preparing a
Department of the Army Permit Application**

Blocks 1 through 4. To be completed by Corps of Engineers.

Block 5. Applicant's Name. Enter the name and the E-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the application, please attach a sheet with the necessary information marked Block 5.

Block 6. Address of Applicant. Please provide the full address of the party or parties responsible for the application. If more space is needed, attach an extra sheet of paper marked Block 6.

Block 7. Applicant Telephone Number(s). Please provide the number where you can usually be reached during normal business hours.

Blocks 8 through 11. To be completed, if you choose to have an agent.

Block 8. Authorized Agent's Name and Title. Indicate name of individual or agency, designated by you, to represent you in this process. An agent can be an attorney, builder, contractor, engineer, or any other person or organization. Note: An agent is not required.

Blocks 9 and 10. Agent's Address and Telephone Number. Please provide the complete mailing address of the agent, along with the telephone number where he / she can be reached during normal business hours.

Block 11. Statement of Authorization. To be completed by applicant, if an agent is to be employed.

Block 12. Proposed Project Name or Title. Please provide name identifying the proposed project, e.g., Landmark Plaza, Burned Hills Subdivision, or Edsall Commercial Center.

Block 13. Name of Waterbody. Please provide the name of any stream, lake, marsh, or other waterway to be directly impacted by the activity. If it is a minor (no name) stream, identify the waterbody the minor stream enters.

Block 14. Proposed Project Street Address. If the proposed project is located at a site having a street address (not a box number), please enter it here.

Block 15. Location of Proposed Project. Enter the latitude and longitude of where the proposed project is located. If more space is required, please attach a sheet with the necessary information marked Block 15.

Block 16. Other Location Descriptions. If available, provide the Tax Parcel Identification number of the site, Section, Township, and Range of the site (if known), and / or local Municipality that the site is located in.

Block 17. Directions to the Site. Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide description of the proposed project location, such as lot numbers, tract numbers, or you may choose to locate the proposed project site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed project site if known

Block 18. Nature of Activity. Describe the overall activity or project. Give appropriate dimensions of structures such as wing walls, dikes (identify the materials to be used in construction, as well as the methods by which the work is to be done), or excavations (length, width, and height). Indicate whether discharge of dredged or fill material is involved. Also, identify any structure to be constructed on a fill, piles, or float-supported platforms.

The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked Block 18.

Block 19. Proposed Project Purpose. Describe the purpose and need for the proposed project. What will it be used for and why? Also include a brief description of any related activities to be developed as the result of the proposed project. Give the approximate dates you plan to both begin and complete all work.

Block 20. Reasons for Discharge. If the activity involves the discharge of dredged and/or fill material into a wetland or other waterbody, including the temporary placement of material, explain the specific purpose of the placement of the material (such as erosion control).

Block 21. Types of Material Being Discharged and the Amount of Each Type in Cubic Yards. Describe the material to be discharged and amount of each material to be discharged within Corps jurisdiction. Please be sure this description will agree with your illustrations. Discharge material includes: rock, sand, clay, concrete, etc.

Block 22. Surface Areas of Wetlands or Other Waters Filled. Describe the area to be filled at each location. Specifically identify the surface areas, or part thereof, to be filled. Also include the means by which the discharge is to be done (backhoe, dragline, etc.). If dredged material is to be discharged on an upland site, identify the site and the steps to be taken (if necessary) to prevent runoff from the dredged material back into a waterbody. If more space is needed, attach an extra sheet of paper marked Block 22.

Block 23. Description of Avoidance, Minimization, and Compensation. Provide a brief explanation describing how impacts to waters of the United States are being avoided and minimized on the project site. Also provide a brief description of how impacts to waters of the United States will be compensated for, or a brief statement explaining why compensatory mitigation should not be required for those impacts.

Block 24. Is Any Portion of the Work Already Complete? Provide any background on any part of the proposed project already completed. Describe the area already developed, structures completed, any dredged or fill material already discharged, the type of material, volume in cubic yards, acres filled, if a wetland or other waterbody (in acres or square feet). If the work was done under an existing Corps permit, identify the authorization, if possible.

Block 25. Names and Addresses of Adjoining Property Owners, Lessees, etc., Whose Property Adjoins the Project Site. List complete names and full mailing addresses of the adjacent property owners (public and private) lessees, etc., whose property adjoins the waterbody or aquatic site where the work is being proposed so that they may be notified of the proposed activity (usually by public notice). If more space is needed, attach an extra sheet of paper marked Block 24.

Information regarding adjacent landowners is usually available through the office of the tax assessor in the county or counties where the project is to be developed.

Block 26. Information about Approvals or Denials by Other Agencies. You may need the approval of other federal, state, or local agencies for your project. Identify any applications you have submitted and the status, if any (approved or denied) of each application. You need not have obtained all other permits before applying for a Corps permit.

Block 27. Signature of Applicant or Agent. The application must be signed by the owner or other authorized party (agent). This signature shall be an affirmation that the party applying for the permit possesses the requisite property rights to undertake the activity applied for (including compliance with special conditions, mitigation, etc.).

DRAWINGS AND ILLUSTRATIONS

General Information.

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map, a Plan View or a Typical Cross-Section Map. Identify each illustration with a figure or attachment number.

Please submit one original, or good quality copy, of all drawings on 8½ x11 inch plain white paper (electronic media may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations.

Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view, or cross-section). **While illustrations need not be professional (many small, private project illustrations are prepared by hand), they should be clear, accurate, and contain all necessary information.**

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT <i>(33 CFR 325)</i>		OMB APPROVAL NO. 0710-0003 EXPIRES: 31 August 2012	
Public reporting burden for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.			
PRIVACY ACT STATEMENT			
Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.			
(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)			
1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
(ITEMS BELOW TO BE FILLED BY APPLICANT)			
5. APPLICANT'S NAME: First - Middle - Last - Company - E-mail Address -		8. AUTHORIZED AGENT'S NAME AND TITLE (an agent is not required) First - Middle - Last - Company -- E-mail Address --	
6. APPLICANT'S ADDRESS. Address - City - State - Zip - Country -		9. AGENT'S ADDRESS Address - City - State -- Zip -- Country --	
7. APPLICANT'S PHONE NOS. W/AREA CODE. a. Residence b. Business c. Fax		10. AGENT'S PHONE NOS. W/AREA CODE a. Residence b. Business c. Fax	
STATEMENT OF AUTHORIZATION			
11. I hereby authorize, _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.			
_____ APPLICANT'S SIGNATURE		_____ DATE	
NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY			
12. PROJECT NAME OR TITLE (see instructions)			
13. NAME OF WATERBODY, IF KNOWN (if applicable)		14. PROJECT STREET ADDRESS (if applicable) Address	
15. LOCATION OF PROJECT Latitude: °N Longitude: °W		City - State -- Zip -	
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) State Tax Parcel ID Municipality Section -- Township -- Range --			
17. DIRECTIONS TO THE SITE			

18. Nature of Activity (Description of project, include all features)

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)
Acres
Or
Liner Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

24. Is Any Portion of the Work Already Complete? Yes No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (If more than can be entered here, please attach a supplemental list).
Address --
City -- State -- Zip --

26. List of Other Certifications or Approvals/Denials Received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant

SIGNATURE OF APPLICANT DATE SIGNATURE OF AGENT DATE

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

Kadrmass
Lee &
Jackson
Engineers Surveyors
Planners

May 25, 2011

Mr. Tom Schauer
Manager
Bismarck Airports District Office
Federal Aviation Administration
2301 University Drive, Bldg 23B
Bismarck, ND 58504

**RE: QEP Energy Company
Saddle Butte Northwest 5 and Southwest 5 well pads
Fort Berthold Reservation
Dunn County, North Dakota**

Dear Mr. Schauer,

On behalf of QEP Energy Company (QEP), Kadrmass, 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 for the development, drilling, and completion of four wells on two well pads on the Fort Berthold Reservation. Each pad location would consist of two wells.

The *Saddle Butte Northwest 5* well pad would be located in the NW $\frac{1}{4}$ of Section 5, Township 148 North, Range 91 West, 5th P.M. The *Saddle Butte Southwest 5* well pad would be located in the SW $\frac{1}{4}$ of Section 5, Township 148 North, Range 91 West, 5th P.M. **Please refer to the enclosed project location map.** The well pads have been positioned to utilize existing roadways for access to the extent possible. Construction of the proposed well pads and access road are scheduled to begin in 2011.

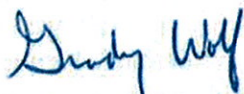
To ensure that social, economic, and environmental effects are analyzed accurately, we solicit your views and comments on the proposed action. We are interested in existing or proposed developments you may have that should be considered in connection with the proposed project. We also ask your assistance in identifying any property or resources that you own, manage, oversee, or otherwise value that might be adversely impacted.

Please provide your comments by **June 25, 2011**. We request your comments by that date to ensure that we will have ample time to review them and incorporate them into the EA.

If you would like further information regarding this project, please contact me at (701) 355-8726. Thank you for your cooperation.

Sincerely,

Kadrmass, Lee & Jackson, Inc.



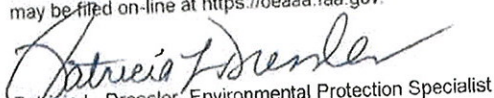
Grady Wolf
Environmental Scientist

Enclosure (Project Location Map)



Date 6/21/11

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 77.9. Notice may be filed on-line at <https://oeaaa.faa.gov>.



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

701 355 8400
128 Soo Line Drive
PO Box 1157
Bismarck, ND 58502-1157
Fax 701 355 8781
kljeng.com
Kadrmass, Lee & Jackson, Inc.

United States Department of Agriculture



Natural Resources Conservation Service
P.O. Box 1458
Bismarck, ND 58502-1458

June 28, 2011

Grady Wolf
Kadrmass, Lee & Jackson
128 Soo Line Drive
PO Box 1157
Bismarck, ND 58502-1157

RE: QEP Energy Company
Saddle Butte Northwest 5 and Southwest 5 well pads
Fort Berthold Reservation
Dunn County, ND

Dear Mr. Wolf:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated May 25, 2011, regarding the Saddle Butte Northwest 5 and Southwest 5 well pads on the Fort Berthold Reservation in Dunn County, North Dakota.

Important Farmlands - NRCS has a major responsibility with Farmland Policy Protection Act (FPPA) in documenting conversion of farmland (i.e., prime, statewide, and local importance) to non-agricultural use. It appears your proposed project is not supported by Federal funding or actions; therefore, no further action is required.

Wetlands - The Wetland Conservation Provisions of the 1985 Food Security Act, as amended, provide that if a USDA participant converts a wetland for the purpose of, or to have the effect of, making agricultural production possible, loss of USDA benefits could occur. NRCS has developed the following guidelines for the installation of buried utilities. If these guidelines are followed, the impacts to the wetland(s) will be considered minimal allowing USDA participants to continue to receive USDA benefits. Following are the requirements: 1) Disturbance to the wetland(s) must be temporary, 2) no drainage of the wetland(s) is allowed (temporary or permanent), 3) mechanized landscaping necessary for installation is kept to a minimum and preconstruction contours are maintained, 4) temporary side cast material must be placed in such a manner not to be dispersed in the wetland, and 5) all trenches must be backfilled to the original wetland bottom elevation.

Helping People Help the Land

An Equal Opportunity Provider and Employer

Mr. Wolf
Page 2

NRCS would recommend that impacts to wetlands be avoided. If the project requires passage through or disturbance of a wetland, NRCS can complete a certified wetland determination, if requested by the landowner/operator.

If you have additional questions pertaining to FPPA, please contact Steve Sieler, State Soil Liaison, at (701) 530-2019.

Sincerely,



JEROME SCHAAR
State Soil Scientist/MO Leader



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
3425 Miriam Avenue
Bismarck, North Dakota 58501



JUN 17 2011

RECEIVED
JUN 20 2011

Mr. Grady Wolf
Environmental Planner
Kadrmās, Lee & Jackson, Inc.
128 Soo Line Drive
P.O. Box 1157
Bismarck, North Dakota 58502-1157

Re: QEP Energy Company Saddle Butte
Northwest 5 and Saddle Butte
Southwest 5 Well Pads, Fort Berthold
Reservation, Dunn County, N. Dakota

Dear Mr. Wolf:

This is in response to your May 15, 2011, letter requesting comments to assist in your preparation of an Environmental Assessment (EA) and federally-listed threatened and endangered species effects determinations on behalf of the Bureau of Indian Affairs (BIA) and the Bureau of Land Management (BLM). QEP Energy has proposed two well pads that would support two exploratory oil and gas wells per pad, and two associated access roads on the Fort Berthold Reservation, Dunn County, North Dakota.

Specific locations are:

Saddle Butte Northwest 5 well pad; T. 148 N., R. 91 W., NW ¼ of Section 5
Saddle Butte Southwest 5 well pad; T. 148 N., R. 91 W., SW ¼ of Section 5

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), Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds", 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), and the Endangered Species Act (16 U.S.C. 1531 et seq.) (ESA).

In an e-mail dated October 13, 2009, the BIA designated Kadrmās, Lee and Jackson (KLJ) 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.

Threatened, Endangered, and Candidate Species

KLJ has made “may affect, not likely to adversely affect” determinations for the whooping crane, interior least tern, pallid sturgeon, and piping plover. These determinations were based on several commitments by QEP, the following of which the Service considers to be relevant to threatened and endangered species effects:

- Semi-closed loop systems would be used during drilling. Drill cuttings would be placed in the reinforced-lined cuttings pit. The reinforced lining of the cuttings pit would have a minimum thickness of 20 mils to prevent seepage and contamination of underlying soil. Any minimal fluids remaining in the drill cuttings pit would be removed and disposed of in accordance with BLM and NDIC rules and regulations. All liquids from drilling would be transported off-site. The drill cuttings pit would be reclaimed to BLM and NDIC standards immediately upon finishing completion operations.
- The cuttings pit for the Saddle Butte Northwest 5 well pad was moved during the on-site survey to position it on the well pad as far away from drainages as possible.
- The northwest, northeast, and southwest corners of the Saddle Butte Northwest 5 well pad would be rounded to minimize impacts to nearby drainages.
- If a whooping crane is sighted within 1 mile of a well site or associated facilities while under construction, all work will cease within 1 mile of that part of the project and the USFWS will be contacted immediately. In coordination with the USFWS, work may resume after the bird(s) leave the area.
- Tank batteries would be surrounded by an impervious dike or Sioux containment system that would act as secondary containment to guard against accidental release of fluids from the site. The containment system would be of sufficient size to hold in excess of 110% of the capacity of the largest tank in the battery and 24 hour record precipitation. BMPs would be implemented to minimize wind and water erosion of soil resources and a semi-closed loop system would be used during drilling.
- A minimum of an 18-inch high berm would be constructed around the entire pad to protect against runoff and contaminants from leaving the pad.
- Secondary containment measures consisting of earthen berms, straw wattles or additional BMPs will be placed in adjacent drainages as needed.

The Service concurs with the “may affect, not likely to adversely affect” determinations for the whooping crane, interior least tern, pallid sturgeon, and piping plover for the

proposed QEP Energy Saddle Butte Northwest 5 and Saddle Butte Southwest 5 well pads and associated access roads and facilities.

As a matter of policy, the Service does not concur with “no effect” determinations. However, we acknowledge your “no effect” determinations for the gray wolf and black-footed ferret.

KLJ made “may affect, not likely to adversely affect” determinations for the Dakota skipper and Sprague’s pipit. No legal requirement exists to protect candidate species. Since these species are candidates, effects determinations are not required; however, Federal agencies may consider candidates as proposed for listing. BIA has previously indicated to the Service that they do not wish to consider candidate species as proposed, but BLM does. Since the surface impacts are regulated by BIA, we will assume that no effects determinations for these two candidates will be required by BIA. Measures indicated in your letter designed to avoid take of migratory birds will also help avoid direct take of Sprague’s pipit.

Migratory Birds

The EA states that migratory birds observed during a field survey for the Saddle Butte Northwest 5 included field sparrow, meadow lark, and turkey vulture. In addition to the QEP commitments mentioned above, the following commitments are also relevant to compliance with the MBTA and E.O. 13186:

- 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 5 days prior to the initiation of construction activities. Mowing the sites prior to the nesting/breeding season is also an option that would prevent birds from nesting at the site.
- Measures implemented during construction to avoid the taking of migratory bird species will 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.
- Prior to its use, the cuttings pit would be fenced on the non-working sides. The access side would be fenced and netted immediately following drilling and completion operations in order to prevent wildlife and livestock from accessing the pit.

- The northwest, northeast, and southwest corners of the Saddle Butte Northwest 5 well pad will be rounded to minimize impacts to nearby drainages. A minimum of an 18-inch high berm would be constructed around the entire well pads to provide additional containment at the well pads to control runoff. The cuttings pit for the Saddle Butte Northwest 5 well pad was moved during the on-site survey to position it on the well pad as far away from drainages as possible.

Bald and Golden Eagles

Your letter stated a ground survey for eagle nests was conducted on May 2, 2011. No eagle nests or eagles were observed. The nearest nest site that has been documented is approximately 3.5 miles south of the proposed well pads. A commitment was made that if a bald or golden eagle or eagle nest is sighted within 0.5 mile of the project construction area, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.

The Service believes that with the inclusion of the stated commitments, QEP's proposed projects are in compliance with the MBTA, E.O. 13186, and BGEPA.

Cumulative Impact Assessment

The Service encourages the action agencies to include a comprehensive cumulative impact analysis in the EA. The EA should evaluate the existing wells, associated facilities and other activities in a NEPA analysis area, consider the proposed wells and associated facilities in this context, and include an analysis of the cumulative impacts that could affect similar resources in the foreseeable future. We would appreciate receiving a copy of the final EA and FONSI.

Thank you for the opportunity to comment on this EA and federally-listed and candidate species, and for QEP's cooperation in addressing our recommendations. If you require further information or the project plans change, please contact me at (701) 250-4481 or at the letterhead address.

Sincerely,



Jeffrey K. Towner
Field Supervisor
North Dakota Field Office

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



REPLY TO
ATTENTION OF

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

June 10, 2011

Planning, Programs, and Project Management Division

Kadrmass, Lee and Jackson
Attention: Grady Wolf
P.O. Box 1157
Bismarck, North Dakota 58502

Dear Mr. Wolf:

The U.S. Army Corps of Engineers, Omaha District (Corps) has reviewed your letter dated May 25, 2011, regarding the proposed development, drilling and completion of four wells on two well pads on the Fort Berthold Reservation in Dunn County, North Dakota. The Corps offers the following comments:

The Corps is aware of recent reports that describe environmental impacts associated with the use of oil waste pits in North Dakota. Oil waste pits may be susceptible to flooding, which may threaten drinking water supplies, wildlife, soil and other water resources. Due to the proximity of the proposed wells to Lake Sakakawea, a significant drinking water resource, the Corps requests the applicant consider use of a closed loop drilling system. A closed loop drilling system may reduce or eliminate the discharge of toxic drilling wastes and their potential negative impacts to the environment.

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 website (<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 Ave.
Omaha, Nebraska 68102-4901

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

Sincerely,



br Brad Thompson
Chief, Environmental Resources and Missouri
River Recovery Program Plan Formulation Section



United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Great Plains Regional Office
115 Fourth Avenue S.E., Suite 400
Aberdeen, South Dakota 57401



IN REPLY REFER TO:
DESCRM
MC-208

JUL 25 2011

Elgin Crows Breast, THPO
Mandan, Hidatsa and Arikara Nation
404 Frontage Road
New Town, North Dakota 58763

Dear Mr. Crows Breast:

We have considered the potential effects on cultural resources of three proposed oil well pad projects in Dunn County, North Dakota. Approximately 101.6 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the areas depicted in the enclosed reports. Five archaeological sites (32DU1595, 32DU1596, 32DU1616, 32DU1617, 32DU1618) were located that may possess the quality of integrity and meet at least one of the criteria (36 CFR 60.4) for inclusion on the National Register of Historic Places. No properties were located that appear to qualify for protection under the American Indian Religious Freedom Act (42 USC 1996).

As the surface management agency, and as provided for in 36 CFR 800.5, we have therefore reached a determination of **no historic properties affected** for these undertakings, as the archaeological sites can and will be avoided. Catalogued as **BIA Case Number AAO-1909/FB/11**, the proposed undertakings, locations, and project dimensions are described in the following reports:

Ó Donnchadha, Brian

(2011) MHA 2-06-31H-150-92, MHA 4-06-31H-150-92, MHA 1-05-04H-149-92 & MHA 3-05-04H-149-92 Well Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for QEP, Denver.

Ó Donnchadha, Brian, and Ian Randall

(2011a) MHA 2-05-04H-148-91 & MHA 4-05-04H-148-91 Well Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for QEP, Denver.

(2011b) MHA 1-05-04H-148-91 & MHA 3-05-04H-148-91 Well Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for QEP, Denver.

If your office concurs with this determination, consultation will be completed under the National Historic Preservation Act and its implementing regulations. We will adhere to the Standard Conditions of Compliance.

If you have any questions, please contact Dr. Carson N. Murdy, Regional Archaeologist, at (605) 226-7656.

Sincerely,

Regional Director

Enclosures

