



# United States Department of the Interior

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




IN REPLY REFER TO:  
DESCRM  
MC-208

MAR 02 2011

## MEMORANDUM

TO: Superintendent, Fort Berthold Agency

FROM: Regional Director, Great Plains Region 

SUBJECT: Environmental Assessment and Finding of No Significant Impact

In compliance with the regulations of the National Environmental Policy Act (NEPA) of 1969, as amended, for six proposed exploratory drilling wells located atop a single pad by QEP Energy on the Fort Berthold Reservation, an Environmental Assessment (EA) has been completed and a Finding of No Significant Impact (FONSI) has been issued.

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

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

Attachment

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

*Finding of No Significant Impact*

*Questar Exploration and Production Company (QEP)*

*Environmental Assessment for*

*Drilling of MHA 1-05-06H-149-90, MHA 3-05-06H-149-90, MHA 1-09-16H-149-90, MHA 3-09-16H-149-90, MHA 1-04-03H-149-90 and MHA 3-04-03H-149-90 Oil & Gas Wells*

*Fort Berthold Indian Reservation*

*McLean County, North Dakota*

The U.S. Bureau of Indian Affairs (BIA) has received a proposal to drill six oil and gas wells located atop a single well pad as follows:


- MHA 1-05-06H-149-90, MHA 3-05-06H-149-90, MHA 1-09-16H-149-90, MHA 3-09-16H-149-90, MHA 1-04-03H-149-90 and MHA 3-04-03H-149-90, located in T149N, R90W, 5<sup>th</sup> P.M., Section 5 (McLean County)

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

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

This determination is based on the following factors:

1. Agency and public involvement solicited for the preceding NEPA document was sufficient to ascertain potential environmental concerns associated with the currently proposed project.
2. Protective and prudent measures were designed to minimize impacts to air, water, soil, vegetation, wetlands, wildlife, public safety, water resources, and cultural resources. The remaining potential for impacts was disclosed for both the proposed action and the No Action alternatives.
3. Guidance from the U.S. Fish and Wildlife Service has been fully considered regarding wildlife impacts, particularly in regard to threatened or endangered species. This guidance includes the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.) (MBTA), the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.) (NEPA), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250) (BGEPA), Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds", and the Endangered Species Act (16 U.S.C. 1531 et seq.) (ESA).
4. The proposed action is designed to avoid adverse effects to historic, archaeological, cultural and traditional properties, sites and practices. Compliance with the procedures of the National Historic Preservation Act is complete.
5. Environmental justice was fully considered.
6. Cumulative effects to the environment are either mitigated or minimal.
7. No regulatory requirements have been waived or require compensatory mitigation measures.
8. The proposed project will improve the socio-economic condition of the affected Indian community.

  
Regional Director

3/2/11  
Date

# ENVIRONMENTAL ASSESSMENT

United States Bureau of Indian Affairs

Great Plains Regional Office  
Aberdeen, South Dakota



Questar Exploration and Production Company

Drilling of MHA 1-05-06H-149-90, MHA 3-05-06H-149-90, MHA 1-09-16H-149-90, MHA 3-09-16H-149-90, MHA 1-04-03H-149-90 and MHA 3-04-03H-149-90 Oil & Gas Wells

Fort Berthold Indian Reservation

February 2011

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# CHAPTER 1 PURPOSE AND NEED FOR ACTION

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## 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.

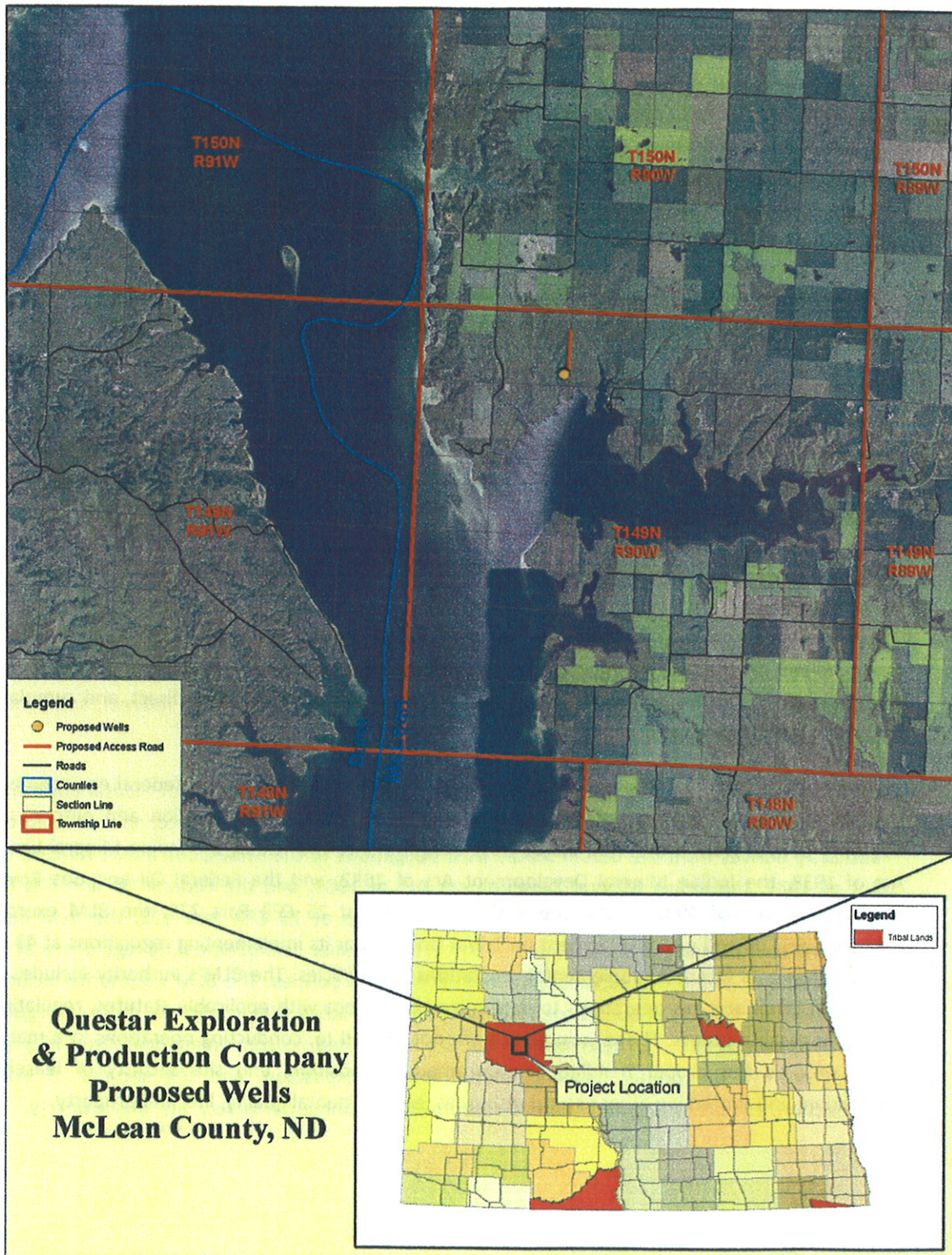
The Fort Berthold Reservation lies atop the Bakken Formation, a geologic formation rich in oil and gas deposits that extends approximately 25,000 square miles beneath North Dakota, Montana, Saskatchewan, and Manitoba, with approximately two-thirds of the acreage beneath North Dakota. The Three Forks 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 Questar Exploration and Production Company (QEP) to drill and complete six wells from a single well pad targeting the Bakken and Three Forks Formations. The proposed action is located on the Fort Berthold Reservation and is proposed to be positioned in located in T149N, R90W, 5<sup>th</sup> P.M., Section 5 (McLean County). Please refer to **Figure 1.1, Project Location Map**.

The well pad would support six wells. The six wells are proposed to be paired into three groups of two wells, as shown below:

- MHA 1-05-06H-149-90 and MHA 3-05-06H-149-90
- MHA 1-09-16H-149-90 and MHA 3-09-16H-149-90
- MHA 1-04-03H-149-90 and MHA 3-04-03H-149-90

Each of the three pairs would have its own spacing unit in which the minerals are to be developed. The wells beginning with "MHA 1" would target the Bakken Formation, while the wells beginning with "MHA 3" 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 six 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 six wells at the identified location.

### 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

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### 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 six-well pad, resulting in no drilling or completion of the six 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 a multiple well pad, resulting in the drilling and completion of six 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 three 1,280 acre spacing units developed by six individual wells, located atop a single well pad with an access road and associated infrastructure. The well pad is 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 road, and proposed horizontal drilling techniques were chosen to minimize surface disturbance.

The well location would require new right-of-way for access points, 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 in site surveys. The access road 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 pad and access road was conducted on October 20, 2010 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 point and a 200-foot wide corridor along the proposed access road. 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.

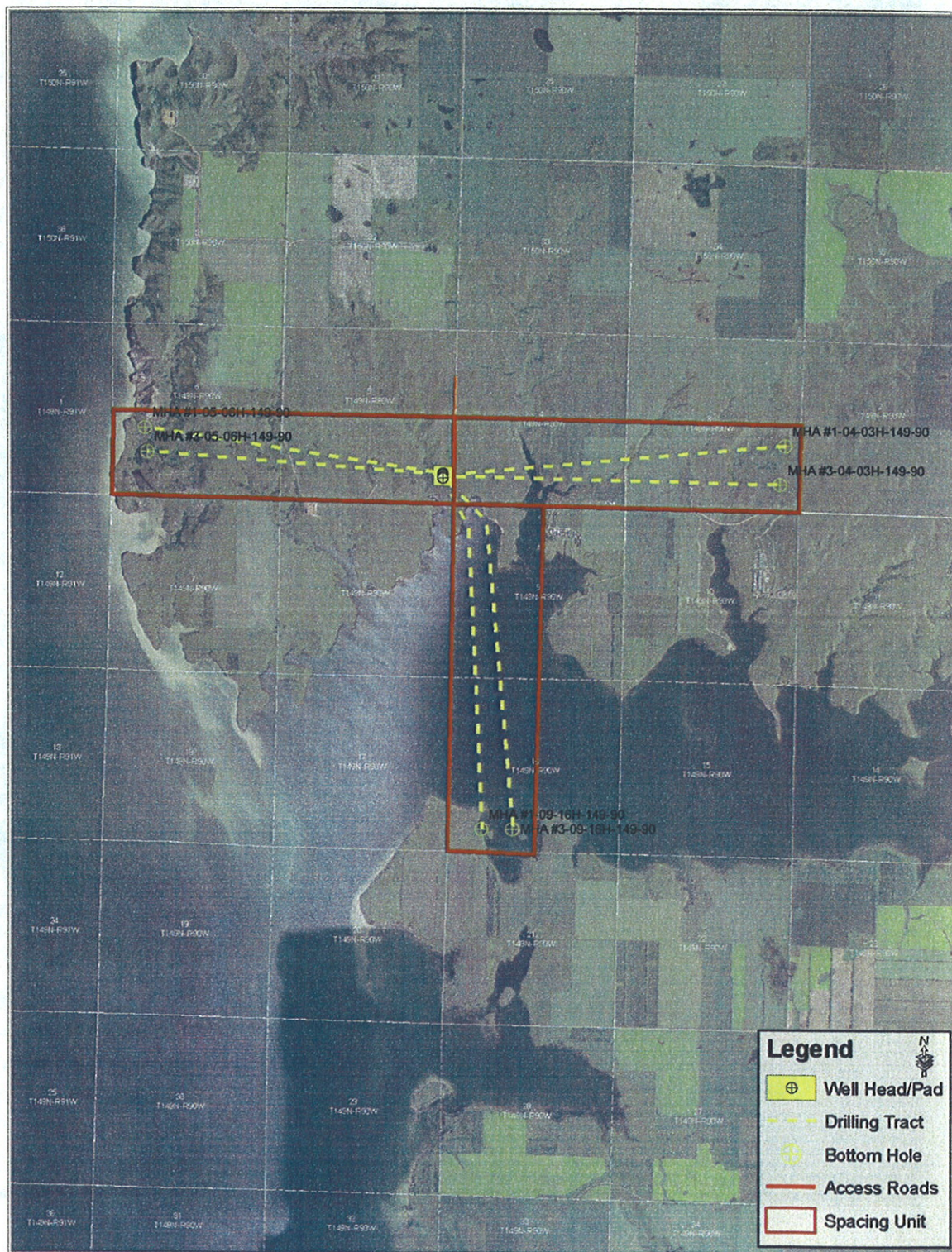
The BIA EA on-site assessment of the well pad and access road was also conducted on October 20, 2010. The BIA Environmental Protection Specialist and representatives from QEP and KL&J were present. The site was evaluated for cultural resources clearance on October 20, 2010 with representatives from the Tribal Historic Preservation Office and KL&J. 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 six proposed wells would be located in the NE¼NE¼ of Section 5, Township 149 North, Range 90 West, 5<sup>th</sup> P.M. to access potential oil and gas resources within the following spacing units:

- S½ of Sections 5 and 6, T 149 N, R 90 W; MHA 1-05-06H-149-90 and MHA 3-05-06H-149-90
- W½ of Sections 9 and 16, T 149 N, R 90 W; MHA 1-09-16H-149-90 and MHA 3-09-16H-149-90
- S½ of Sections 4 and 3, T 149N, R 90 W; MHA 1-04-03H-149-90 and MHA 3-04-03H-149-90

*Please refer to Figure 2.1, .*

The proposed wells would be accessed from the north. A new access road approximately 1,731 feet long would be constructed beginning near the south section line of Section 36, Township 150 North, Range 90 West. The proposed access road connects with the QEP MHA 1-32-31H-150-90 and MHA 2-32-31H-150-90 access road. The proposed access road would be used to access the wells on the six-well pad. 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. *Please refer to Figure 2.2, Proposed Access Road.*



**Figure 2.1, Location of Spacing Units**

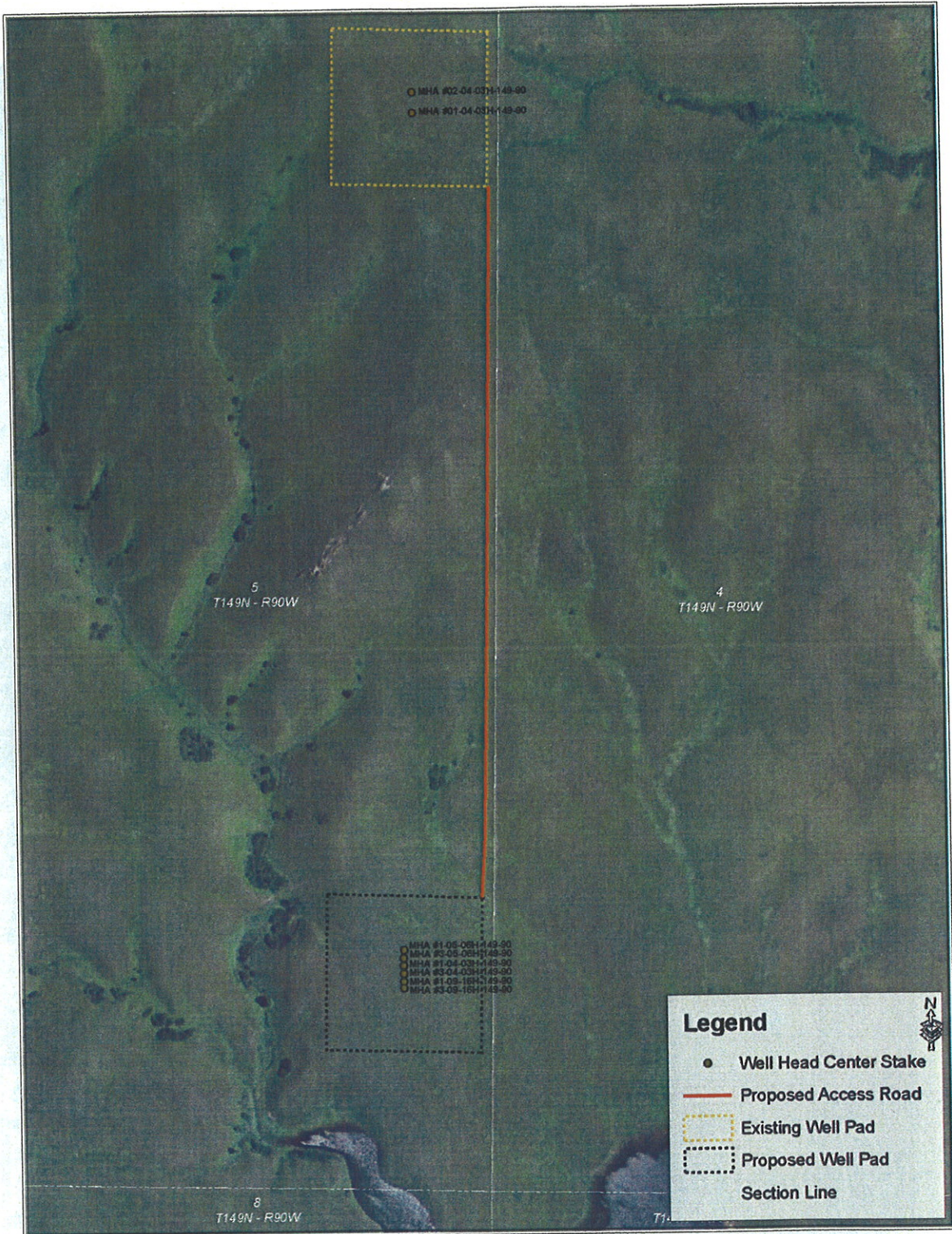


Figure 2.2, Proposed Access Road

## 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 wells; however, the construction of 2,764 feet of new access road (6.4 acres) would also be required starting at the MHA 1-32-31H-150-90/MHA 3-32-31H-150-90 well pad and heading in a southerly direction. 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 100 feet would be disturbed, consisting of a 20 to 28-foot wide roadway with the remainder of the disturbed area due to borrow ditches 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.

Planned construction would be during the spring of 2011 during the migratory bird breeding and nesting season (February 1 through July 15). In order to avoid impacts to migratory birds during the breeding/nesting season, the site would be mowed in the fall prior to construction to deter migratory birds from nesting in the area. 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. In addition, if any migratory bird is found onsite during construction, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.

## 2.6 Well Pads

The proposed well pad would consist of a leveled area covered with a reinforced liner with a minimum thickness of 20 mils. The pad location would be surfaced with several inches of gravel or crushed scoria. The pad corners would be rounded to increase the buffer distances to Lake Sakakawea. Subsurface groundwater sampling prior to construction of the well pad would be conducted to determine the depth of the water table. The pad would be used for the drilling rig and related equipment. The drill cuttings would be hauled to an approved area. The level well pad, plus cut and fill slope areas, required for drilling and completing operations would be approximately 600x600 feet (approximately 8.3 acres). Cut and fill slopes on the edge of the well pad would be 2:1 where less than 8 feet and 3:1 where 8 feet or greater. In areas where livestock are present, the entire well pad would also be fenced. By placing six wells on one pad location, the disturbance has been minimized from approximately 30-acres (5 acres/well location) to the approximate 9.5 acres that would be disturbed within the well pad fenced area.

The well pad area 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 alteration of drainages to the southeast and southwest of the proposed well pad would be avoided. A receptor trench would be placed along the south border of the well pad along with groundwater monitoring wells that would be developed for baseline data and sampled at periodic intervals for contamination resulting from the drilling or development of the six wells at the pad location.

Planned construction would be during the spring of 2011 during the migratory bird breeding and nesting season (February 1 through July 15). In order to avoid impacts to migratory birds during the breeding/nesting season, the site would be mowed in the fall prior to construction to deter migratory birds from nesting in the area. 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 site. The time for rigging up, drilling the well, and rigging down the well is anticipated to be about 60 days. During this phase, vehicles and equipment would access the site several times a day.

Initial drilling would be vertical to a depth of approximately 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 closed loop drilling system would be utilized. As part of this, QEP would implement a closed circulation drilling mud system, whereby drilling fluid is circulated from the well into steel mud tanks and the drill cuttings are separated from the drilling fluid. The cuttings would then be stabilized and hauled to an approved disposal area in accordance with BLM and NDIC regulations.

## 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 site, the site would become established as a production facility. Production equipment, including well pumping units, vertical heater treaters, storage tanks (eight 400 barrel steel oil tanks and two 400 barrel fiberglass saltwater tanks) and flare systems with associated piping would be installed. The storage tanks and heater/treater would be surrounded by an impermeable berm that would act as secondary containment to guard against possible spills. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. The cut side of the pad would be bermed to prevent run-on and run-off from the pad location. Sorbent booms 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 the MHA 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 ceases 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 six wells by incorporating applicable conditions, mitigation measures, and BMPs from the BLM's regulations, BLM's Gold Book (4<sup>th</sup> Edition, 2006), and applicable BLM Onshore Oil and Gas Orders, including Numbers 1, 2, and 7.



### 2.11 Reclamation

The drill cuttings would be hauled during drilling operations to an approved disposal site. Other interim reclamation measures to be implemented upon well completion include reduction of cut and fill slopes where necessary, redistribution of stockpiled topsoil, and re-seeding of the disturbed areas. 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 six proposed wells, or upon final abandonment of commercial operations, all disturbed areas would be promptly reclaimed. As part of the final reclamation process, all well facilities would be removed, well bores would be plugged with cement, and dry hole markers would be set in accordance with NDIC and BLM requirements. The access road and well pad area 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 six 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

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### 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 road 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 14.0 inches of rain annually, predominantly during spring and summer. Winters in this region are cold, with temperatures often falling near zero degrees Fahrenheit. Snow generally remains on the ground from November to March, and about 38 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 deciduous forest land along the lake. Please refer to *Figure 3.1, Land Use*.

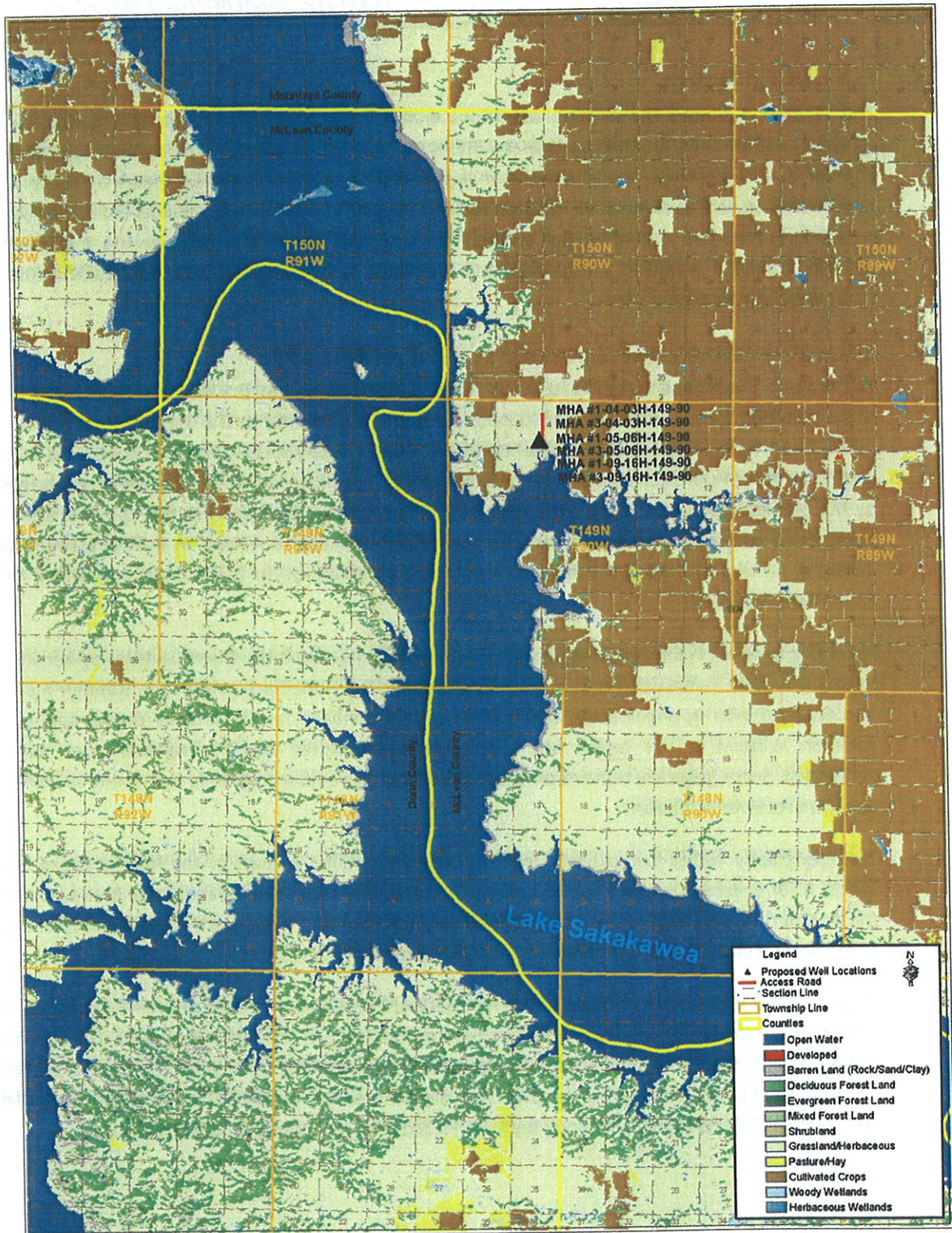


Figure 3.1, Land Use

### 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 15.9 acres of land from present use to part of an oil and gas network. Of this, 9.5 acres would be as a result of well pad construction and 6.4 acres would be from access road construction. The land-use of the affected area is 100% grassland.

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 McLean County dates from 1979, with updated information available online through the NRCS Web Soil Survey. There are four soil types identified within the project impact area. Location and 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 <sup>1</sup>		HYDROLOGIC SOIL GROUP <sup>2</sup>
			% sand	% silt	% clay	T	Kf	
ByB	Bowdle-Stady loams	2 to 6	42	38	20	4	.24	B
WoC	Williams-Bowbells loams	6 to 9	41	37	22	5	.28	B
ZcE	Zahl-Cabba complex	15 to 35	41	37	22	5	.28	B
ZmE	Zahl-Max loams	9 to 35	41	37	22	5	.28	B

These soils listed have low to moderate susceptibility to sheet and rill erosion. In addition, these soils can tolerate high to moderate levels of erosion without loss of productivity. Each of these soils is well drained, and depth to the water table is generally recorded at greater than six feet. None of the soils

<sup>1</sup> 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.

<sup>2</sup> 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).

listed within the project impact areas are susceptible to flooding or ponding, and available water capacity is low in the Bowdle-Stady loams and high in the other soil types noted.

### 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 site and access road 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 8 inches of existing topsoil. A minimum of 3,495 cubic yards of topsoil and 19,335 cubic yards of material would be stockpiled on site.

Based on NRCS soil data, topsoil exists in excess of 8 inches at the well site, yielding sufficient quantity of topsoil for construction and reclamation activities. Topsoil depths taken during the onsite survey also indicated a soil depth of greater than 8 inches at the well site. 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 stockpile would be located on the north side of the well pad.

Soil impacts would be localized, and BMPs would be implemented to minimize these impacts. Surface disturbance caused by well development, road improvements, and facilities construction would result in the removal of vegetation from the soil surface. This can damage soil crusts and destabilize the soil. As a result, the soil surface could become more prone to accelerated erosion by wind and water. BMPs used at 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, 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 wells<sup>3</sup>. The Energy Policy Act of 2005 excludes hydraulic fracturing operations related to oil, gas, or geothermal production activities from EPA regulation under the SDWA<sup>4</sup>.

### 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 site is 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 Deepwater Creek Watershed and the Lower Deepwater Creek Sub-Watershed. Please refer to **Figure 3.2, Surface Water Resources**. Runoff throughout the study area is by sheet flow until collected by ephemeral and perennial streams draining to Lake Sakakawea. Runoff from the proposed well pad would flow in a southeasterly direction through a depressed area to a coulee that travels south to a small inlet of Lake Sakakawea, for a total traveled distance of 0.30 miles. Another drainage flows to the southwest from the pad, through a coulee and to Lake Sakakawea a distance of 0.16 miles.

#### 3.4.1.1 Surface Water Impacts/Mitigation

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

Alternative B (Proposed Action) – No significant impacts to surface water are expected to result from Alternative B. The proposed 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 pad. Culverts would be implemented as needed. Roadway engineering and the implementation of BMPs to control erosion would minimize runoff of sediment downhill or downstream. The entire pad would be bermed to prevent run-off. The alteration of drainages to the southeast and southwest of the proposed well pad would be avoided. 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 sorbent booms, silt fences and catch trenches. In addition, impermeable berms would be constructed around the production tanks and heater/treater units. The cuttings would be hauled to an approved area. Spoil piles would be located along the south edge of the pad to act as secondary containment for the proposed pad. A receptor trench would also be located along the south edge of the pad. The pad was re-located to the north to avoid/minimize impacts to adjacent drainages. The southeast and southwest portions of the pad would be reclaimed once production is achieved to further avoid/minimize impacts to drainages. In addition, the six wells would be drilled using a closed-loop

<sup>3</sup> The SDWA does not regulate private wells that serve fewer than 25 individuals.

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

system. 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.



**Figure 3.2, Surface Water Resources**



### 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 pad, access road, or spacing units. The closest water well to the site was approximately 4.0 miles northeast of the proposed pad location. The White Shield Aquifer is located north-northeast of the proposed well site; however, no sole source aquifers have been identified within the state of North Dakota. Please refer to **Figure 3.3, 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 are available regarding the effects of hydrofracturing (or “fracking”) on ground water<sup>5</sup>. 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. In addition, a ground water survey would be conducted prior to construction of the pad. Approximately four groundwater monitoring wells would be located around the pad to analyze groundwater composition as it flows toward Lake Sakakawea. The monitoring wells would be developed and baseline groundwater quality would be established. Groundwater would be sampled, as directed by BIA, to monitor for contamination during the drilling, production development processes and during well production looking for chemicals used in the processes of drilling and production development along with petroleum hydrocarbons. The sample analysis parameters and frequency of sampling protocols are under development.

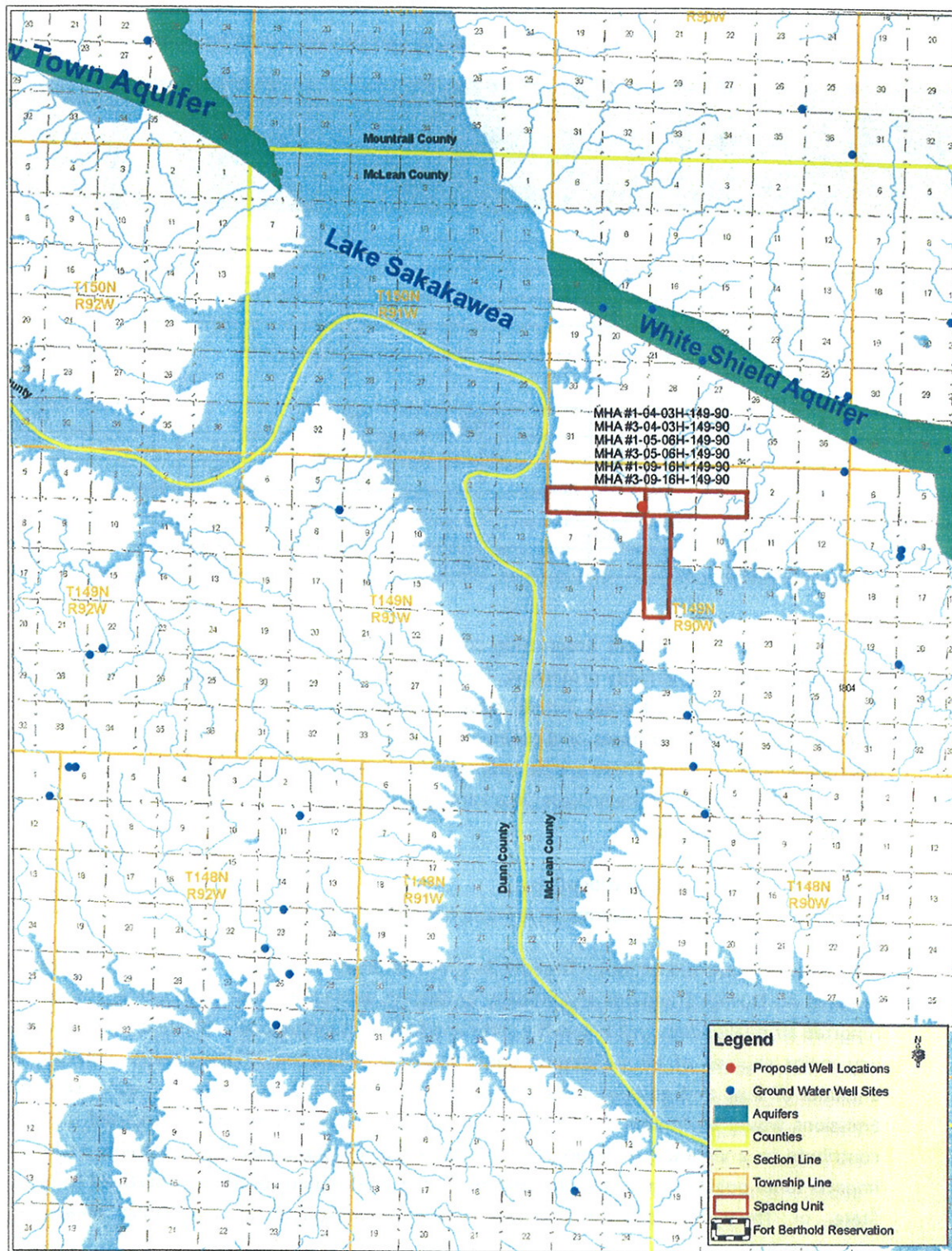
### 3.4.3 Air Quality

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 33.5 miles southwest of the proposed six well pad site. Criteria pollutants tracked under EPA's National Ambient Air Quality Standards in the Clean Air Act include SO<sub>2</sub> (sulfur dioxide), PM (particulate matter), NO<sub>2</sub> (nitrogen dioxide), O<sub>3</sub> (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).

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<sup>5</sup> 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**

**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/M <sup>3</sup>	PARTS PER MILLION	MG/M <sup>3</sup>	PARTS PER MILLION	MG/M <sup>3</sup>	PARTS PER MILLION
SO <sub>2</sub>	24-Hour	365	0.14	260	0.099	—	.0055
	Annual Mean	80	0.030	60	0.023	—	.0005
PM <sub>10</sub>	24-Hour	150	—	150	—	44.5	—
	Annual Mean	50	—	50	—	11.3	—
PM <sub>2.5</sub>	24-Hour	35	—	35	—	14.2	—
	Weighted Annual Mean	15	—	15	—	3.4	—
NO <sub>2</sub>	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 <sub>3</sub>	1-Hour	240	0.12	235	0.12	—	.064
	8-Hour	—	0.08	—	0.08	—	.055

In addition, the Fort Berthold Reservation complies with the North Dakota National Ambient Air Quality Standards and visibility protection. The Clean Air Act affords additional air quality protection near Class I areas. Class I areas include national parks greater than 6,000 acres in size, national monuments, national seashores, and federally designated wilderness areas larger than 5,000 acres designated prior to 1977. There are no Federal Class I areas within the project area. The Theodore Roosevelt National Park is the nearest Class I area, located approximately 49.0 miles southwest of the proposed six-well pad site.

#### 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, SO<sub>2</sub>, NO<sub>2</sub>, 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) October 2010 Endangered, Threatened, and Candidate Species and Designated Critical Habitat in North Dakota county list identified the gray wolf, interior least tern, pallid sturgeon, and whooping crane as endangered species that may be found within McLean 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, McLean 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 McLean County are as follows:

### 3.5.1 Endangered Species

#### *Gray Wolf (Canis lupus)*

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

#### *Interior Least Tern (Sterna antillarum)*

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

There is no existing or potential habitat within the project area. Potential habitat in the form of sandy/gravelly Lake Sakakawea shoreline may exist approximately 0.12 miles southwest of the proposed six-well site.

#### *Pallid Sturgeon (Scaphirhynchus albus)*

The pallid sturgeon is known to exist in the Yellowstone, Missouri, middle and lower Mississippi, and Atchafalaya Rivers, and seasonally in some tributaries. In North Dakota, the pallid sturgeon is found

principally in the Missouri River and upstream of Lake Sakakawea in the Yellowstone River. Dating to prehistoric times, the pallid sturgeon has become well adapted to living close to the bottom of silty river systems. According to the USFWS, its preferred habitat includes "a diversity of water depths and velocities formed by braided river channels, sand bars, sand flats, and gravel bars." Weighing up to 80 pounds, pallid sturgeons are long lived, with individuals possibly reaching 50 years of age.

Potential habitat for pallid sturgeon can be found in Lake Sakakawea approximately 0.12 miles south of the project site.

#### **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 site and access road do not contain shallow, emergent wetlands or cropland food sources; however the proposed project is 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 0.12 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 0.12 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.

Upland prairie grasses were observed in the study area; however, the grasslands within the area have been heavily grazed by cattle/horses reducing the numbers of wild flowers. Due to the current cattle/horse grazing activities, it is unlikely that the site contains the high quality prairie necessary to provide suitable Dakota skipper habitat. No Dakota skippers were observed during the field visits; however, the visit likely occurred after 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 area does consist of upland prairie grasses; however, the majority of the land within the project area has been disturbed by cattle and horse grazing. Due to the current grazing activities, it is unlikely that the site contains the undisturbed prairie habitat necessary for the Sprague's pipit. No Sprague's pipit were observed during the field survey.

#### **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 60 feet below the upland areas, and approximately 0.12 miles to the south. The stock piling of spoil piles should assist in providing sight and sound buffers for shoreline-nesting birds. In addition, a closed loop drilling system would be employed at the site location. Cuttings would be hauled to an approved disposal site and the entire pad would be lined with a reinforced material of not less than 20 mils. A groundwater study, that was previously mentioned in the groundwater section, would also be completed prior to pad construction. A receptor trench would be placed along the south border of the pad, along with monitoring wells to analyze the groundwater and flow.

Storage tanks and the heater/treater would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from the site. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. The entire pad would be bermed to prevent run-off. Due to the implementation of the closed loop system, secondary containment measures, and the pad parameters, the transfer of accidentally released fluids to Lake Sakakawea and its associated habitats is unlikely. Sorbent booms would also be employed in the drainage areas as tertiary containment. Given the distance from the lake (0.12 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. 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 is located in an area that is largely disturbed by grazing activities. As a result, the project area does not contain the undisturbed prairie habitat suitable for the Sprague's pipit. Even though potential habitat for the Sprague's pipit is limited within the project area, the proposed action 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.

Potential habitat for the Dakota skipper was observed at the project site in the form of upland prairie; however the grasslands within the area have been heavily grazed by cattle and horses. No Dakota skippers were observed during the field survey. Even though potential habitat for the Dakota skipper was limited within the project area, the proposed action 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 pad and access road was conducted on October 20, 2010 by KL&J. The purpose of this survey was to gather site-specific data and photos with regards to botanical, biological, and water resources. The study area consisted of 10 acres centered on the proposed well pad center point and a 200-foot wide corridor along the proposed access road. 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 pad and access road was also conducted on October 20, 2010. The BIA Environmental Protection Specialist, as well as representatives from QEP and KL&J were present. The site was evaluated for cultural resources clearance on October 20, 2010 with representatives from the Tribal Historic Preservation Office and KL&J. 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 (*Haliaeetus leucocephalus*) is sighted in North Dakota along the Missouri River during spring and fall migration periods and periodically in other places in the state such as the Devils Lake and Red River areas. 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 October 20, 2010.

The golden eagle (*Aquila chrysaetos*) can be spotted in North Dakota throughout the badlands and along the upper reaches of the Missouri River in the western part of the state. Golden eagle pairs maintain territories that can be as large as 60 square miles and nest in high places including cliffs, trees, and human-made structures. They perch on ledges and rocky outcrops and use soaring to search for prey. Golden eagle preferred habitat includes open prairie, plains, and forested areas. No golden eagle nests were observed within 0.5 miles of proposed project disturbance areas during the field survey conducted on October 20, 2010.

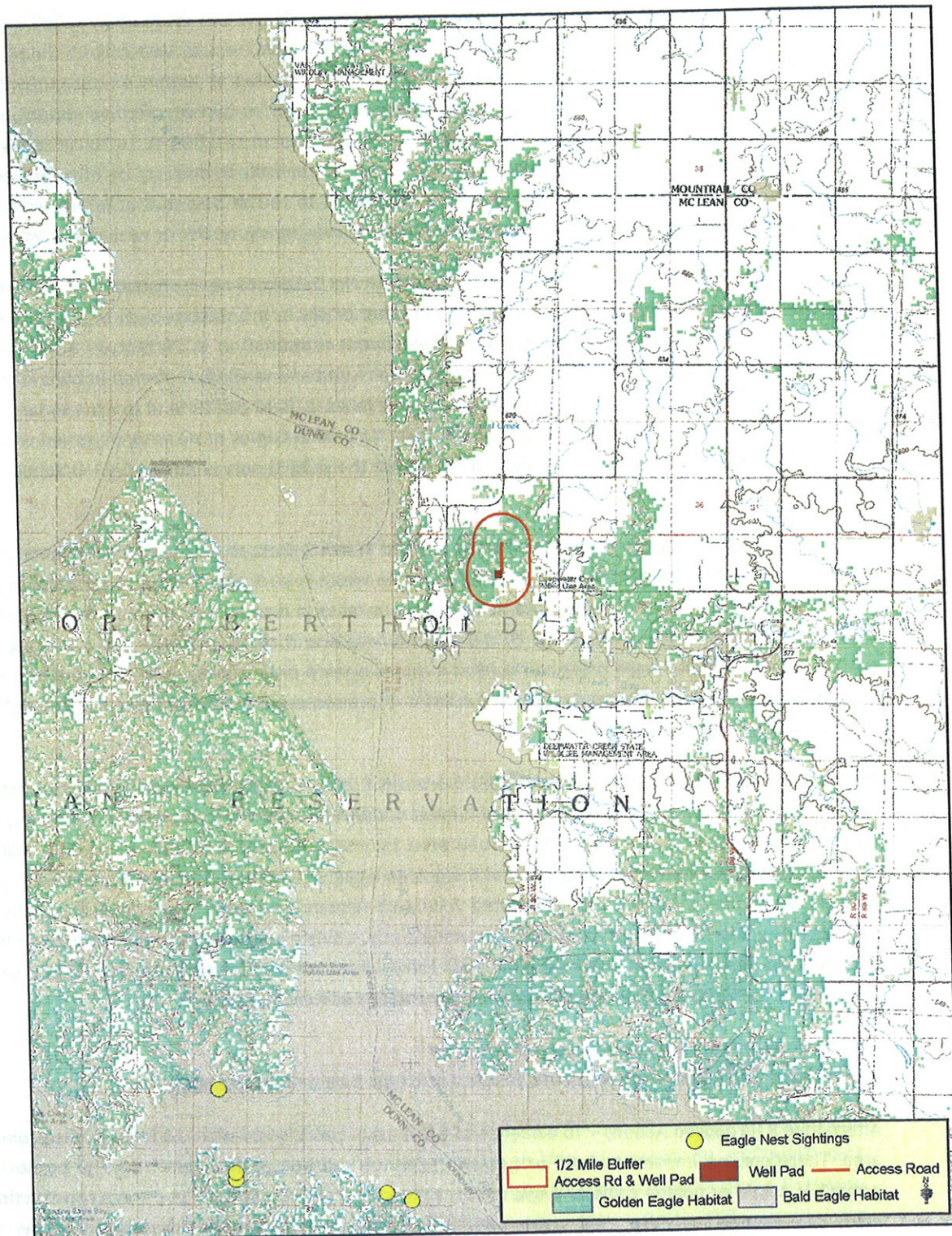
The United States Geological Survey (USGS) Northern Prairie Wildlife Research Center maintains information on bald eagle and golden eagle habitat within the state of North Dakota. According to the USGS data, the 0.5 mile buffered survey area for the proposed well pad site does contain recorded habitat for both the bald eagle and the golden eagle. In addition, Dr. Anne Marguerite Coyle of Dickinson State University has completed focused research on golden eagles and maintains a database of golden eagle nest sightings. According to Dr. Coyle’s information, the closest recorded golden eagle nest is located approximately 10.0 miles southwest of the proposed six-well pad site. Please refer to **Figure 3.4, 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 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 3.4, 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 (*Tympanuchu sphaianellus*), ring-necked pheasant (*Phasianus colchicas*), gray partridge (*Perdix perdix*), red tail hawk (*Buteoja maicensis*), 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. The following wildlife was observed during the field survey: sandhill crane, snow/blue geese, sharp-tailed grouse, badger, coyote and meadow vole.

#### 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, as construction of the wells is anticipated take place spring of 2011 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 60 feet) than the Lake Sakakawea shoreline. Additionally, the distance to Lake Sakakawea is approximately 0.12 miles. The topographic features of the area and location of the spoil piles along the south 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 the drilling are expected to deter wildlife from entering the area. Implementation of the closed loop system would minimize the effects on wildlife species by having no cuttings pit on the pad. Further avoidance/minimization of wildlife effects would be maintained by hauling cuttings to an approved area on-site.

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

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.

Vegetation at the six-well pad site largely consisted of heavily grazed upland grasses and shrubs. The access road leading to the proposed well pad was dominated by western snowberry (*Symphoricarpos occidentalis*), Kentucky bluegrass (*Poa pratensis*), green needlegrass (*Nasella viridula*), and blue grama (*Bouteloua gracilis*). Kentucky bluegrass (*Poa pratensis*), western snowberry (*Symphoricarpos occidentalis*), fringed sagewort (*Artemisia frigida*), green needlegrass (*Nasella viridula*), and prairie junegrass (*Koeleria pyramidata*) were all observed in large quantities at the pad location. Green ash (*Fraxinus pennsylvanica*) and silver buffaloberry (*Shepherdia argentea*) were observed growing in the drainages to the south and west of the well pad site. No wetland plant species were observed. There are no threatened or endangered plant species listed for McLean County. **Please refer to Figure 3.5, Access Road Vegetation, Figure 3.6, Dominant Well Pad Vegetation, Figure 3.7, Drainage Southwest of Well Pad Dominated by Green Ash and Silver Buffaloberry, and Figure 3.8, thistle on Southwest Pad Corner** for examples of vegetation observed at the site.



*Figure 3.5, Access Road Vegetation*



**Figure 3.6, Dominant Well Pad Vegetation**



**Figure 3.7, Drainage Southwest of Well Pad Dominated by Green Ash and Silver Buffaloberry**



**Figure 3.8, Canada thistle on Southwest Pad Corner**

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), four are known to occur in McLean County. 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 McLean County. Canada thistle was observed on the southwest pad corner during the October 20, 2010 on-site survey.

**Table 3.3, Noxious Weed Species**

COMMON NAME	SCIENTIFIC NAME	2009 MCLEAN COUNTY REPORTED ACRES
<b>Absinth wormwood</b>	<i>Artemesia absinthium L.</i>	<b>4,216</b>
<b>Canada thistle</b>	<i>Cirsium arvense (L.) Scop</i>	<b>6,581</b>
<b>Dalmation toadflax</b>	<i>Linaria genistifolia ssp. Dalmatica</i>	—
<b>Diffuse knapweed</b>	<i>Centaurea diffusa Lam</i>	—
<b>Leafy spurge</b>	<i>Euphorbia esula L.</i>	<b>707</b>
<b>Musk thistle</b>	<i>Carduus nutans L.</i>	<b>126</b>
<b>Purple loosestrife</b>	<i>Lythrum salicaria</i>	—
<b>Russian knapweed</b>	<i>Acroptilon repens (L) DC.</i>	—
<b>Salt cedar (tamarisk)</b>	<i>Tamarixra mosissima</i>	—
<b>Spotted knapweed</b>	<i>Centauream aculosa Lam.</i>	—
<b>Yellow Toadflax</b>	<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 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. 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. QEP would use certified weed-free seed mixtures for re-vegetation. Vehicles accessing the site would be pressure washed prior to being used on-site. 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

Historic properties, or cultural resources, on federal or tribal lands are protected by many laws, regulations and agreements. The *National Historic Preservation Act of 1966* (16 USC 470 *et seq.*) at Section 106 requires, for any federal, federally assisted or federally licensed undertaking, that the federal agency take into account the effect of that undertaking on any district, site, building, structure or object that is included in the National Register of Historic Places (National Register) before the expenditure of any federal funds or the issuance of any federal license. Cultural resources is a broad term encompassing sites, objects, or practices of archaeological, historical, cultural and religious significance. Eligibility criteria (36 CFR 60.6) include association with important events or people in our history, distinctive construction or artistic characteristics, and either a record of yielding or a potential to yield information important in prehistory or history. In practice, properties are generally not eligible for listing on the National Register if they lack diagnostic artifacts, subsurface remains or structural features, but those considered eligible are treated as though they were listed on the National Register, even when no formal nomination has been filed. This process of taking into account an undertaking's effect on historic properties is known as "Section 106 review," or more commonly as a cultural resource inventory.

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

Whatever the nature of the cultural resource addressed by a particular statute or tradition, implementing procedures invariably include consultation requirements at various stages of a federal undertaking. The MHA Nation has designated a Tribal Historic Preservation Officer (THPO) by Tribal Council resolution, whose office and functions are certified by the National Park Service. The THPO operates with the same authority exercised in most of the rest of North Dakota by the State Historic Preservation Officer (SHPO). Thus, BIA consults and corresponds with the THPO regarding cultural resources on all projects proposed within the exterior boundaries of the Fort Berthold Reservation.

A cultural resource inventory of this well pad and access road was conducted by personnel of Kadmas, Lee & Jackson, Inc., using an intensive pedestrian methodology. Approximately 28.7 acres were inventoried on October 20, 2010 (Ó Donnchadha 2010). Two 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 this undertaking, as the archaeological sites can and will be avoided. This determination was communicated to the THPO on December 27, 2010; 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) – Cultural resources sites were identified within the APE. The pad location and access road were moved to avoid these sites. 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<sup>6</sup>. 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

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<sup>7</sup>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.

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 McLean 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.

As of 2000, the Fort Berthold Reservation and McLean County have lower than statewide averages of per capita income and median household income. In addition, McLean County has slightly lower rates of unemployment than the state average, while Fort Berthold's rate of unemployment was substantially greater<sup>7</sup>. Please refer to **Table 3.4, Employment and Income**.

*Table 3.4, Employment and Income*

LOCATION	PER CAPITA INCOME	MEDIAN HOUSEHOLD INCOME	UNEMPLOYMENT RATE	INDIVIDUALS LIVING BELOW POVERTY LEVEL
McLean County	\$16,220	\$32,337	3.2%	13.5%
Fort Berthold Reservation	\$10,291	\$26,274	11.1%	28.1%
Statewide	\$17,769	\$34,604	4.6%	11.9%

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

Population decline in rural areas of North Dakota has been a growing trend as individuals move toward metropolitan areas of the state, such as Bismarck and Fargo. While McLean 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 McLean County and the State of North Dakota. *Please refer to Table 3.5, Demographic Trends.*

<sup>7</sup>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 3.5, Demographic Trends*

LOCATION	POPULATION IN 2000	% OF STATE POPULATION	% CHANGE 1990-2000	PREDOMINANT RACE	PREDOMINANT MINORITY
McLean County	3,511	1.45%	-10.9%	White	American Indian (5.9%)
Fort Berthold Reservation	5,915	0.92%	+9.8%	American Indian <sup>8</sup>	White (26.9%)
Statewide	642,200	—	+0.5%	White	American Indian (5.0%)

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

<sup>8</sup> 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 0.33 miles west 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 a new gravel roadway approximately 0.52 miles long.

Safety hazards posed from increased traffic during the drilling phase are anticipated to be short-term and minimal for the proposed site. It is anticipated that approximately 30 to 40 trips, over the course of several days, would be required to transport the drilling rig and associated equipment to the proposed well site. 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 day<sup>9</sup> temporarily until the wells would be connected to the MHA Gathering Line. Produced water would also be hauled from the site using a tanker, which would typically haul 110

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<sup>9</sup>A typical Bakken oil well initially produces at a high rate and then declines rapidly over the next several months to a more moderate rate. In the vicinity of the proposed project areas, initial rates of 500 to 1,000 BOPD (barrels of oil per day) could be expected, dropping to 200 to 400 BOPD after several months.

barrels of water per load. The number of visits would be dependent upon daily water production<sup>10</sup>. 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 McLean 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 site may also require the installation of supporting electrical lines. In addition, if commercially recoverable oil and gas are discovered at the well site, 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 (H<sub>2</sub>S) gas<sup>11</sup> 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 H<sub>2</sub>S gases and hazardous materials as described below.

**H<sub>2</sub>S Gases.** It is unlikely that the proposed action would result in release of H<sub>2</sub>S in dangerous concentrations; however, QEP will submit H<sub>2</sub>S Contingency Plans to the BLM as part of the site APDs. These plans establish safety measures to be implemented throughout the drilling process to prevent accidental release of H<sub>2</sub>S into the atmosphere. The Contingency Plans are designed to protect persons living and/or working within 3,000 feet (0.57 miles) of each well location and include emergency response procedures and safety precautions to minimize the potential for an H<sub>2</sub>S gas leak during

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<sup>10</sup>A typical Bakken oil well initially produces water at 200 bbls per day and then declines rapidly over the next several months to a more moderate rate. In the vicinity of the proposed project areas, initial rates of 200 BWP (barrels of water per day) could be expected, dropping to 30 to 70 BWP after several months.

<sup>11</sup>H<sub>2</sub>S is extremely toxic in concentrations above 500 parts per million. H<sub>2</sub>S has not been found in measurable quantities in the Bakken Formation. However, before reaching the Bakken, drilling would penetrate the Mission Canyon Formation, which is known to contain varying concentrations of H<sub>2</sub>S.

drilling activities. Satellite imagery revealed that there are no residences/buildings within 3,000 feet of the proposed site.

**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.

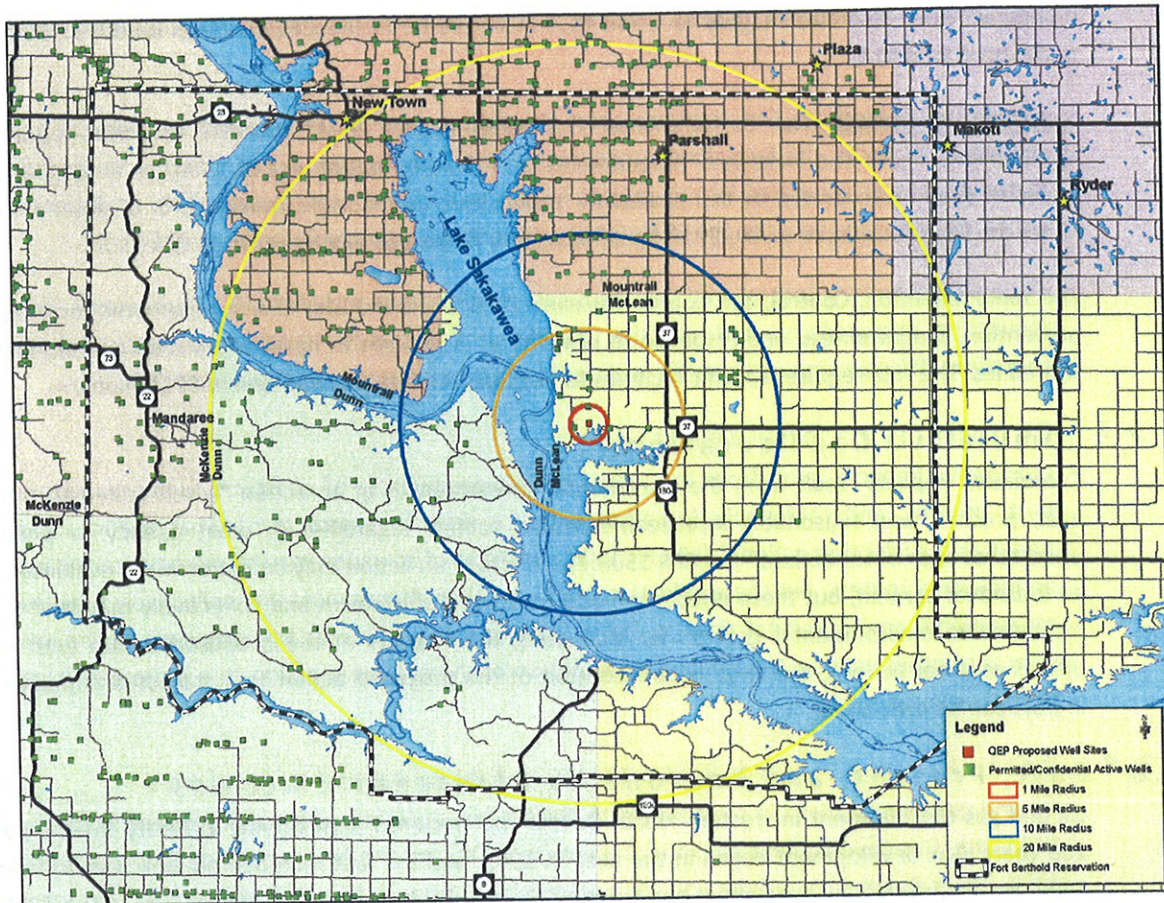
### 3.7 Cumulative Considerations

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 January 4, 2011, there were approximately 316 active and/or confidential oil and gas wells within the Fort Berthold Reservation and 346 within the 20-mile radius outside the boundaries of the Fort Berthold Reservation. Please refer to **Figure 3.9, Existing and Proposed Oil and Gas Wells.**



**Figure 3.9, 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
<b>1 mile radius</b>	3
<b>5 mile radius</b>	13
<b>10 mile radius</b>	54
<b>20 mile radius</b>	346

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 a well pad, access road, and associated uses. However, the well pad (six wells) and access road 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 six wells on one pad location, QEP has minimized land-use utilizing one location instead of six 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. 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 a closed loop drilling system, as well as secondary and tertiary containment measures 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 pad has 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 road and well pad 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 south edge of the proposed pad 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 biolags) 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 pad and access road will avoid surface waters. The proposed project will not alter stream channels or change drainage patterns.
- The drill cuttings would be hauled to an approved site using the closed loop drilling system, and the pad would have a reinforced synthetic liner to prevent potential leaks. All spills or leaks of chemicals and other pollutants will be reported to the BLM and EPA. The procedures of the surface management agency shall be followed to contain leaks or spills.
- The six 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 pad and access road 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 access road will be located at least 75 feet away from identified cultural resources. The boundaries of these 75-foot "exclusion zones" would be pin-flagged as an extra measure to ensure that inadvertent impacts to cultural resources are avoided.
- All project workers are prohibited from collecting artifacts or disturbing cultural resources in any area under any circumstances.
- 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. Furthermore, electrical lines, if installed, would be buried to prevent the potential for electrical line strikes by the interior least tern and piping plover.
- An H<sub>2</sub>S 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 closed loop drilling system will be utilized. As part of this, QEP would implement a closed circulation drilling mud system, whereby drilling fluid is circulated from the well into steel mud tanks and the drill cuttings are separated from the drilling fluid. The cuttings would then be stabilized, and hauled to an approved location off-site.
- The entire pad would be bermed to prevent run-off. The pad would be lined with a reinforced material of not less than 20 mils thickness. The corner would be rounded to create a greater buffer to drainages. A groundwater study would be conducted prior to construction, and a receptor trench constructed along the south edge of the pad along with monitoring wells to analyze flow and potential impacts.
- 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 for the spring of 2011, which is 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 or eagle nest is sighted within 0.5 miles of the project construction area, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.
- Wire mesh or grate covers will be placed over barrels or buckets placed under valves and spigots to collect dripped oil.
- All storage tanks and heater/treater will be surrounded by an impermeable berm that would act as secondary containment to guard against possible spills. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production.
- 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 Questar Exploration and Production 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	
Questar Exploration and Production Company	Debbie Stanberry	Supervisor Regulatory Affairs	Project development, alternatives, document review
	Tracy Opp	Operations Specialist	Project development, alternatives, document review
Kadrmass, Lee & Jackson, Inc.	Charlotte Brett	Environmental Planner	Senior review
	Steve Czczok	Environmental Planner	Impact assessment, exhibit creation
	Rick Leach	Surveyor	Site Plats
	Brian O'Donnchadha	Archaeologist	Cultural resources surveys
	Jerry Reinisch	Environmental Planner/Biologist	Project coordination, field resources surveys, impact assessment, principal author
	Grady Wolf	Environmental Planner	Project Manager

#### 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 November 15, 2010. This scoping package included a brief description of the proposed project, as well as a location map. Pursuant to Section 102(2) (D) (IV) of 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

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### 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](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](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/endangered/fishes/pallid\\_fc.html](http://www.fws.gov/midwest/endangered/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 antillarumathalassos*)." 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/](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](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.npwr.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.npwr.usgs.gov/resource/habitat/ndsdeco/nodak.htm>>.
- Ó Donnchadha, Brian  
(2010) MHA 1-05-06H-149-90, MHA 3-05-06H-149-90, MHA 1-09-16H-149-90, MHA-3-09-16H-149-90, MHA 1-04-03H-149-90 and MHA 3-04-03H-149-90 Well Pad and Access Road: A Class III Cultural Resource Inventory, McLean County, North Dakota. KLJ Cultural Resources for QEP, Denver.
- "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/piping\\_plover/](http://www.fws.gov/mountainprairie/species/birds/piping_plover/)>.
- 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://soildatamartnrsc.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](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](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>

# Appendix A

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## *Agency Scoping Materials*

November 15, 2010

Dear interested Party:

On behalf of Questar Exploration and Production Company (QEP), Kadrmass, Lee & Jackson, Inc. is preparing an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) for the Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM). The proposed action includes approval by the BIA and BLM of the development of one well pad, with six wells, and approximately 2,764 feet of new access road in McLean County on the Fort Berthold Reservation.

The proposed action would advance the exploration and production of oil from the Bakken and Three Forks Pools. The well pad and associated access road would be located in the SE¼SE¼ of Section 5, Township 149 North, Range 90 West, 5<sup>th</sup> P.M. *Please refer to the enclosed project location map.* The proposed wells are: MHA 1-05-06H-149-90, MHA 3-05-06H-149-90, MHA 1-09-16H-149-90, MHA 3-09-16H-149-90, MHA 1-04-03H-149-90, and MHA 3-04-03H-149-90. The study area is comprised of 10 acres centered on the well pad center point and a 200-foot wide access road corridor. Construction of the proposed well pad and access road is proposed to begin as early as the spring of 2011.

To ensure that social, economic, and environmental effects are considered in the development of this project, we solicit your views and comments on the proposed action pursuant to Section 102(2)(D)(IV) of NEPA. 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 have an interest in within the project study area.

Please provide your comments by **December 15, 2010**. We request your comments by that date to ensure that we will have ample time to review them and incorporate them into the EA.

If you would like further information regarding this project, please contact Tracy Opp, QEP, at (303) 916-8042 or me at (701) 355-8705. Thank you for your cooperation.

Sincerely,

Kadrmass, Lee & Jackson, Inc.

Jerry D. Reinisch  
Environmental Planner

Enclosure (Map)

November 15, 2010

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

**Re: Questar Exploration and Production  
MHA 1-05-06H-149-90, MHA 3-05-06H-149-90,  
MHA 1-09-16H-149-90, MHA 3-09-16H-149-90,  
MHA 1-04-03 H-149-90 and MHA 3-04-03 H-149-90  
Fort Berthold Reservation  
McLean County, North Dakota**

Dear Mr. Towner,

On behalf of Questar Exploration and Production (QEP), Kadmas, Lee & Jackson, Inc. (KL&J) is preparing an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) for the Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM). The proposed action includes approval by the BIA and BLM of the development of one multiple well pad, resulting in the drilling and completion of six exploratory oil and gas wells (MHA 1-05-06H-149-90, MHA 3-05-06H-149-90, MHA 1-09-16H-149-90, MHA 3-09-16H-149-90, MHA 1-04-03H-149-90, and MHA 3-04-03H-149-90) on the Fort Berthold Reservation. The well pad and associated access road would be located in the SE¼SE¼ of Section 5, Township 149 North, Range 90 West, 5<sup>th</sup> P.M. **Please refer to the enclosed Project Location Map.**

The proposed action would advance the exploration and production of oil from the Bakken and Three Forks Pools. The well pad has been positioned to utilize existing roadways for access to the extent possible and to minimize environmental impacts by drilling ten wells from the same pad location. Construction of the proposed well pad and approximately 2,764 feet of new access road is proposed to begin in the spring of 2011.

An intensive, pedestrian resource survey of the well pad and access road was conducted on October 20, 2010, 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, raptors, and water resources. A study area of 10 acres centered on the well pad center point, and a 200-foot wide access road corridor, were used to evaluate the resources mentioned above. **Please refer to enclosed study area map.** 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 site. **Please refer to the enclosed eagle buffer map.**

BIA-facilitated EA on-site assessments of the well pad and access road were also conducted on October 20, 2010. The BIA Environmental Protection Specialist, as well as representatives from QEP and KL&J, were present. The site was evaluated for cultural resources clearance on October 20, 2010, with

Questar Exploration and Production  
 MHA 1-05-06H-149-90, MHA 3-05-06H-149-90, MHA 1-09-16H-149-90,  
 MHA 3-09-16H-149-90, MHA 1-04-03H-149-90, and MHA 3-04-03H-149-90 Wells  
 Fort Berthold Reservation

representatives from the Tribal Historic Preservation Office and KL&J. During these assessments, construction suitability with respect to topography, stockpiling, drainage, erosion control, and other surface issues were considered. Well pad and access road locations were adjusted as appropriate to avoid conflicts with identified environmental areas of concern. Those present at the on-site assessment agreed that the chosen location, along with the minimization measures QEP plans to implement, are positioned in areas which would minimize impacts to sensitive wildlife and botanical resources. Best management practices (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 site occurs in McLean County, North Dakota. In McLean County, the interior least tern, whooping crane, 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 candidate species. McLean 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. No shallow, emergent wetlands or cropland food sources were observed near the study area. However, the proposed project is located in the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred. Therefore, the proposed project may affect, but is not likely to adversely affect, whooping cranes. Per USFWS recommendations on previous projects of a similar nature, if a whooping crane is sighted within one-mile of a well site or associated facilities while 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.

Suitable habitat for the interior least tern, pallid sturgeon, and piping plover is largely associated with Lake Sakakawea and its shoreline. Potential habitat for these species exists approximately 0.12 miles southeast of the proposed site. Elevation changes in the area from the proposed pad location to Lake Sakakawea were approximately 50-60 feet. The well pad and access road are located on upland prairie grassland, with the shoreline of Lake Sakakawea approximately 0.12 miles away. Rounding of the southwest and southeast corners would further distance the pad from the lake shoreline. The placement of spoil piles should provide some degree of sight and sound buffers for shoreline-nesting birds.

The primary containment would consist of a minimum 18-inch berm around the entire pad, and a liner under the pad location. Storage tanks and the heater/treater would be surrounded by an impermeable berm that would act as

secondary containment to guard against accidental release of fluids from the site. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. As a tertiary containment measure, sorbent booms will be placed in select locations down-gradient of the well pad in order to prevent materials from entering surface drainageways in the event of an accidental release. The location would be drilled using a closed-loop system (no pit on the well pad). Cuttings would be hauled to an approved location off-site. This would further reduce the possibility of transfer of accidentally released fluids to Lake Sakakawea and associated habitats. With the given distance from the Lake, construction methodologies to minimize impacts, and the level of containment measures, the proposed project may affect, but is not likely to adversely affect, the interior least tern, pallid sturgeon, or piping plover, and is not likely to destroy or adversely modify critical habitat.

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 area is located far from other known wolf populations and is positioned on heavily grazed grasslands. Due to a lack of preferred habitat characteristics and known populations, the proposed project is anticipated to have no effect to the gray wolf.

The preferred habitat for the Dakota skipper consists of flat, moist bluestem prairies and upland prairies with an abundance of wildflowers. Upland prairie grasses were observed in the study area; however, the grasslands within the area have been heavily grazed by cattle. Due to a lack of preferred habitat, the proposed project is anticipated to have no effect to 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 areas with minimal human disturbance. The proposed project area does consist of upland prairie, which may provide potential habitat for the Sprague's pipit, but the study area has been heavily grazed. Due to the lack of potential habitat for the Sprague's pipit within the project area, the proposed project is anticipated to have no effect on the Sprague's pipit.

**Botanical Resources:** The MHA 3-31-36H-150-92, MHA 1-31-36H-150-92, MHA 4-31-36H-150-92, MHA 2-31-36H-150-92, MHA 1-31-25H-150-92, MHA 3-31-25H-150-92, MHA 2-31-30H-150-92, MHA 4-31-30H-150-92, MHA 1-31-30H-150-92, and MHA 3-31-30H-150-92 well pad consisted of heavily grazed upland grassland. The access road leading to the proposed well pad was dominated by Kentucky bluegrass, green needlegrass and western snowberry. Fringed sagewort, prairie coneflower, green needlegrass, Kentucky bluegrass, little bluestem, western snowberry, prairie junegrass, and Canada thistle were all

Questar Exploration and Production  
MHA 1-05-06H-149-90, MHA 3-05-06H-149-90, MHA 1-09-16H-149-90,  
MHA 3-09-16H-149-90, MHA 1-04-03H-149-90, and MHA 3-04-03H-149-90 Wells  
Fort Berthold Reservation

found throughout the study area (10-acre pad site). Chokecherry and silver buffaloberry were observed growing in the drainages to the south and west of the site. No wetlands were observed in the study area; therefore, no wetland plant species were observed. One noxious weed species was observed (Canada thistle). There are no threatened or endangered plant species listed for McLean County.

**Biological Resources:** The project area contains suitable habitat for mule deer, whitetail deer, sharp-tailed grouse, ring-necked pheasant, golden eagle, red-tailed hawk, bald eagle, badger, song birds, coyote, red fox, cottontail rabbit, jackrabbit, and North American porcupine. Sandhill crane, snow geese, sharptail grouse, badger and coyote were observed on the day of the on-site assessment.

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. In addition, the use of the closed loop system (pit less) would further reduce the risks of wildlife coming into contact with drilling fluids. The absence of exposed liquids in the pit would also minimize their attractiveness to wildlife.

Design considerations will be implemented to further protect against potential habitat degradation. BMPs previously mentioned would be applied to protect the biological resources.

Construction activities are anticipated to be completed during the 2011 spring migratory bird breeding and nesting season (February 1 through July 15). In order to minimize impacts to migratory birds during the breeding/nesting season, the site would be mowed in the fall prior to construction to deter migratory birds from nesting in the area. An acceptable alternative to mowing would be to 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. In addition, if any migratory bird is found on-site during construction, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.

Additionally, all reasonable, prudent, and effective measures to avoid the taking of migratory bird species will be implemented during the construction and operation phases. These measures 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; and maintaining open pits and ponds that are free from oil.

**Eagles:** Surveys for eagle nests were conducted on October 20, 2010, and no evidence of eagle nests or observations of eagles were noted within 0.5 miles of the project area (although eagle sightings were not expected due to the seasonal

timing for the survey). 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. According to the Coyle data, the nearest recorded golden eagle nest is approximately 12.0 miles to the south.

**Water Resources:** The study area sloped slightly to the southeast away from the pad toward Lake Sakakawea. The proposed pad location was moved from the original location north to further avoid and minimize the effects to adjacent drainages and to minimize areas of cut and fill during construction of the pad by using the natural topography as a secondary containment in the event of a spill or release from the well pad. A groundwater study would be conducted prior to construction to evaluate groundwater depths near the proposed location. Once the pad is constructed, monitoring wells, in addition to the receptor trench that is required by USACE, would be constructed along the south edge. These wells would be developed following standard practices, sampled during the drilling phase, and after the oil and gas wells would be put into production.

**Best Management Practices:** BMPs for soil and wind erosion would be implemented as needed to include over-seeding of cut areas and spoil piles via drill-seeding, as well as the use of silt fences and/or mats. Any woody vegetation removed during site construction would be chipped and incorporated into topsoil stockpiles. The alteration of drainages to the west of the proposed well pad would be avoided. Sorbent booms would be placed in select locations down-gradient of the well pad in order to prevent materials from entering surface drainageways in the event of an accidental release. Upon well completion, the southeast and southwest portions of the well pad would be reclaimed to reduce the well pad footprint and increase the distance to shoreline and drainages. Additionally, culverts to maintain drainage along the access road would also be installed where needed.

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

- The reinforced lining of the pad would have a minimum thickness of 20mm to prevent seepage and contamination of underlying soil. A minimum 18-inch berm would be constructed around the pad. The drilling system to be used would be a closed loop system with cuttings being hauled off-site. Drill fluids and cuttings would be removed and disposed of in accordance with BLM and North Dakota Industrial Commission (NDIC) rules and regulations. All liquids from drilling would be transported off-site.



- The total disturbance area (pad and spoil piles) would be fenced prior to drilling operations in order to prevent wildlife and livestock from accessing the pad.
- Construction is anticipated to take place during the migratory bird nesting season (spring 2011). Minimization measures would include either fall mowing or pre-construction surveys for migratory birds or their nests conducted by a qualified biologist within five days prior to the initiation of all construction activities. In addition, if any migratory bird is found on-site during construction, construction activities shall cease and the USFWS shall be notified for advice on how to proceed. 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 MHA 1-05-06H-149-90, MHA 3-05-06H-149-90, MHA 1-09-16H-149-90, MHA 3-09-16H-149-90, MHA 1-04-03H-149-90, and MHA 3-04-03H-149-90 and spigots to collect dripped oil; and maintaining open pits and ponds that are free from oil.
- If a whooping crane is sighted within one-mile of a well site or associated facilities while 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.
- The entire pad location would be lined and a minimum 18 inch berm would be placed around the edge of the pad. Storage tanks and heater/treater unit will be surrounded by an impermeable berm that will act as secondary containment to guard against possible spills. The berm will be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. BMPs would be implemented to minimize wind and water erosion of soil resources and a closed loop system would be used during drilling. As a tertiary containment measure, sorbent booms will be placed in select locations down-gradient of the well pad in order to prevent materials from entering surface drainageways in the event of an accidental release. A ground water study would be completed prior to the construction of the pad location to determine the groundwater depth in the area. Monitoring wells would also be drilled along the south border of the pad location, and sampled during and after the production phase to insure that no releases have occurred.

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

Questar Exploration and Production  
MHA 1-05-06H-149-90, MHA 3-05-06H-149-90, MHA 1-09-16H-149-90,  
MHA 3-09-16H-149-90, MHA 1-04-03H-149-90, and MHA 3-04-03H-149-90 Wells  
Fort Berthold Reservation

Page 7

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

It is requested that any comments or information be forwarded to our office on or before **December 15, 2010**. We request your comments by that date to ensure that we will have ample time to review them and incorporate them into the necessary environmental documentation.

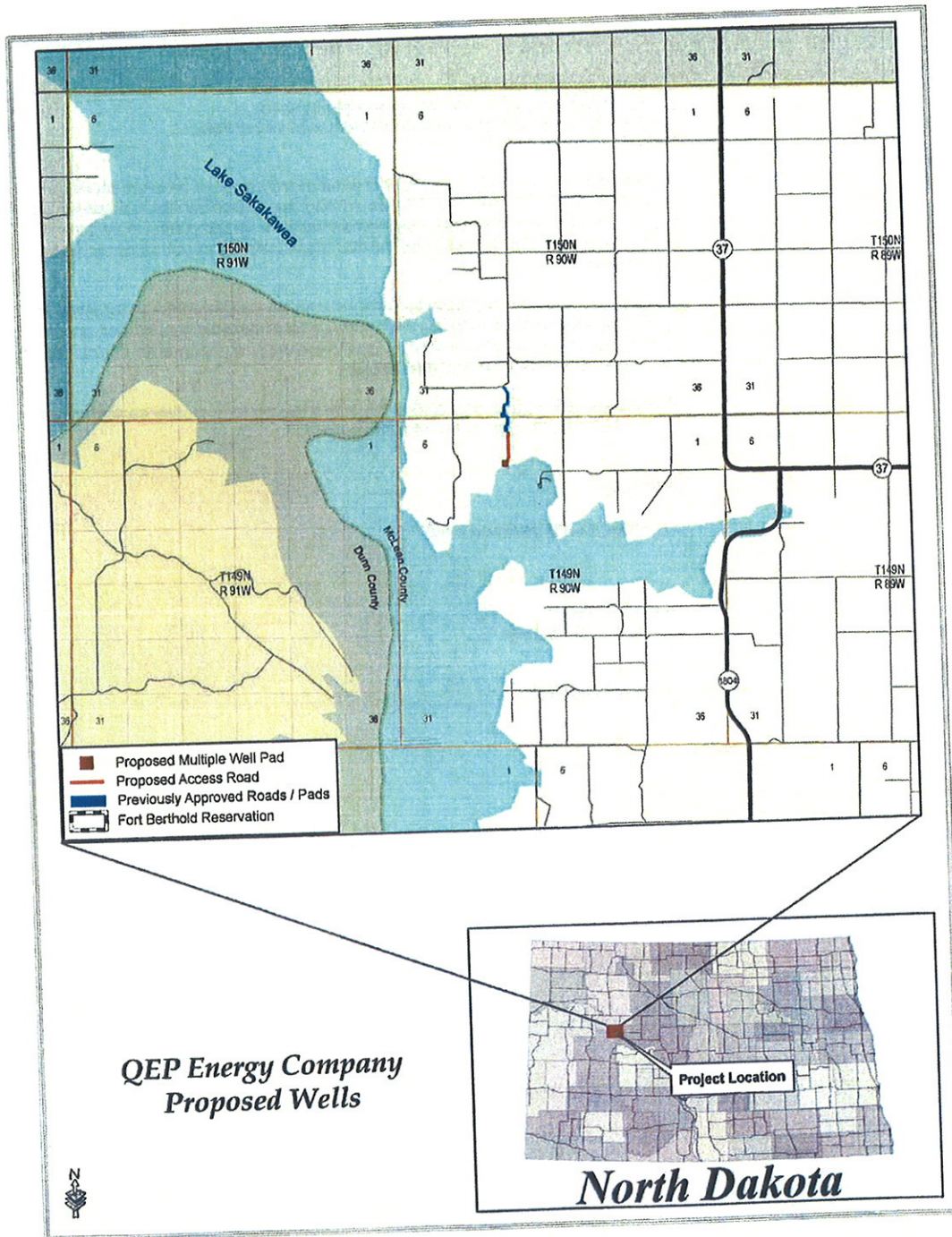
If you would like further information regarding this project, please contact me at (701) 355-8705. Thank you for your cooperation.

Sincerely,

**Kadmas, Lee & Jackson, Inc.**

Jerry D. Reinisch  
Environmental Planner

Enclosures (Maps)



Questar Exploration and Production Company | Drilling of MHA 1-05-06H-149-90, MHA 3-05-06H-149-90, MHA 1-09-16H-149-90, MHA 3-09-16H-149-90, MHA 1-04-03H-149-90 and MHA 3-04-03H-149-90  
 Fort Berthold Reservation | Draft Environmental Assessment  
 February 2011



Questar Exploration and Production Company | Drilling of MHA 1-05-06H-149-90, MHA 3-05-06H-149-90, MHA 1-09-16H-149-90, MHA 3-09-16H-149-90, MHA 1-04-03H-149-90 and MHA 3-04-03H-149-90  
 Fort Berthold Reservation | Draft Environmental Assessment  
 February 2011

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

SOV MASTER LIST

City	First	Last	Title	Department	Agency	Address	City	State	Zip
Mr.	Weldon	Loudermilk	Regional Director		Bureau of Indian Affairs	115 4th Ave. SE	Aberdeen	SD	57401
Mr.	Jeffrey	Desjardins	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		Bureau of Reclamation	PO Box 1017	Bismarck	ND	58502-1017
Mr.	Steve	Chenauer	Manager	Dakota Area Office	Federal Aviation Administration	2301 University Drive, Bldg 23B	Bismarck	ND	58504
Mr.	Dann	Chenaresi	Manager	Bismarck Airports District Office	US Army Corps of Engineers	1513 S. 12th St.	Bismarck	ND	58504
Mr.	Cherries	Soransin	Natural Resource Specialist	ND Regulatory Office	US Army Corps of Engineers	PO Box 527	Riversdale	ND	58565
Ms.	Candace	Gordon	Chief, Env., Economics, & Cultural Resource Section	Omaha District	US Army Corps of Engineers	106 S. 15th St.	Omaha	NE	68102-1618
Mr.	Paul	Sweeney	State Conservationist		US Department of Agriculture	PO Box 1458	Bismarck	ND	58502-1458
Mr.	Gerald	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	US Environmental Protection Agency	1595 Wisconsin Street	Denver	CO	80222-1129
Mr.	Jeffrey	Townser	Field Supervisor	ND Field Office	US Fish & Wildlife Service	3425 Minn. Ave.	Bismarck	ND	58501
Mr.	Scott	Davis	Executive Director		Indian Affairs Commission	1st Floor, Judicial Wing, Rm 117	Bismarck	ND	58506-0300
Mr.	Greg	Wiche	Director	Water Resources Division	US Geological Survey	821 E. Inman St.	Bismarck	ND	58501
Mr.	L. David	Glatt	Chief	Environmental Health Section	ND Department of Health	919 E. Divide Ave., 4th floor	Bismarck	ND	58501-1947
Mr.	Paul	Schadewald	Chief	Conservation & Communications Division	ND Game & Fish Department	100 Bismarck Expressway	Bismarck	ND	58501-5095
Mr.	Mark	Zimmerman	Director		ND Parks & Recreation Dept.	1600 E. Century Ave., Suite 3	Bismarck	ND	58503-0949
Mr.	Dale	Frank	State Engineer		ND State Water Commission	500 E. Blvd. Ave.	Bismarck	ND	58505-0950
Mr.	Bill	Boyd	Construction Manager		Midcontinent Cable Company	719 Memorial Hwy	Bismarck	ND	58501
Mr.	Doug	Dvach	General Manager	Beauregard Region	Montana Dakota Utilities	PO Box 1405	Williston	ND	58022-1405
Mr.	George	Berg	Manager		McDak Electric Coop., Inc.	Box 13000	Grand Forks	ND	58028-3000
Mr.	Ken	Miller	Manager	Land Department	Northern Border Pipeline Company	13710 FNB Parkway	Omaha	NE	68154-5200
Mr.	Ray	Christenson	Manager/CEO		Southwest Water Authority	4865 2nd St. W.	Dickinson	ND	58022-1038
Mr.	David C.	Schloch	CEO		West Plains Electric Coop., Inc.	PO Box 1038	Dickinson	ND	58109-2147
Sir	David	or Madam	Manager		Xcel Energy	PO Box 2747	Fargo	ND	58163
Sir	Jim	Redding	District Engineer	Minot District	Mounth-Williams Electric Cooperative	355 Main St.	New Town	ND	58701
Mr.	Lanny	Bagley	Field Office Manager	North Dakota Field Office	ND Department of Transportation	1305 Hwy 2 Bypass E	Minot	ND	58601
Mr.	Mike	Nash	Assistant Field Office Manager	Division on Mineral Resources	Bureau of Land Management	99 23rd Ave W, Suite A	Dickinson	ND	58601
Mr.	Michael	Salvage	Tribal Chairman		Bureau of Land Management	99 23rd Ave W, Suite A	Dickinson	ND	58601
Ms.	Myra	Pearson	Tribal Chairman		Sisseton-Wahpeton Sioux Tribe	PO Box 509	Sisseton	SD	57282-0267
Mr.	Charles	Murphy	Tribal Chairman		Spirit Lake Sioux Tribe	PO Box 359	P. Tollen	ND	58325
Mr.	Elgin	Crows Breast	Tribal Chairman		Standing Rock Sioux Tribe	PO Box D	Fort Yates	ND	58763
Mr.	Tex	Hall	Tribal Chairman		Three Affiliated Tribes	HC3 Box 2	New Town	ND	58763
Mr.	Melie	St. Claire	Tribal Chairman		Three Affiliated Tribes	HC3 Box 2	New Town	ND	58763
Mr.	Damon	Williams	Tribal Attorney		Turtle Mountain Chippewa	PO Box 900	Belcourt	ND	58516-9500
Mr.	Fred	Fox	Director	Energy Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Ms.	V. Judy	Burch	Representative	Four Bears Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Ms.	Arnold	Strahs	Representative	Wendaree Segment	Three Affiliated Tribes	PO Box 635	Mandaree	ND	58757
Mr.	Scott	Eggie	Representative	Shell Creek Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Marvin	Packneau	Representative	Parshall/Lucky Mound Segment	Three Affiliated Tribes	PO Box 468	Parshall	ND	58770
Mr.	Frank	Whitecall	Representative	White Shield Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Barry	Benson	Representative	Twin Buttes Segment	Three Affiliated Tribes	70879 E Ave NW	Holiday	ND	58636
Mr.	Fred	Potra	Director	Game and Fish Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Roger	Howda	Operations Manager	Natural Resources Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Steve	Lee	Chairman	County Commission	Reservation Telephone Cooperative	PO Box 88	Parshall	ND	58770-0688
Ms.	Leslie	Korgal	Auditor		McLean County	PO Box 1108	Washburn	ND	58577-1108
Mr.	Tracy	Opp	Permit Agent-Contracts		McLean County	PO Box 1108	Washburn	ND	58577-1108
					Questar Exploration and Production Company	1050 17th Street, Suite 500	Denver	CO	80266

# Appendix B

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## *Agency Scoping Responses*

United States Department of Agriculture



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

December 1, 2010

Jerry Reinisch  
Kadrnas, Lee & Jackson  
128 Soo Line Drive  
PO Box 1157  
Bismarck, ND 58502-1157

RE: SE ¼ SE ¼ of Section 5, Township 149 North, Range 90 West, 5<sup>th</sup> P.M.  
Fort Berthold Reservation  
McLean County, ND

Dear Mr. Reinisch:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated November 15, 2010, regarding an access road, one well pad, and drilling of up to six wells located in the SE ¼ SE ¼ of Section 5, Township 149 North, Range 90 West, Fort Berthold Indian Reservation, McLean County, North Dakota.

*Important Farmlands* - NRCS has a major responsibility with Federal Protection Policy 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.

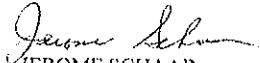
*Helping People Help the Land*  
An Equal Opportunity Provider and Employer

Mr. Reinisch  
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





REPLY TO  
ATTENTION OF

North Dakota Regulatory Office

DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, OMAHA DISTRICT  
NORTH DAKOTA REGULATORY OFFICE  
1513 SOUTH 12<sup>TH</sup> STREET  
BISMARCK ND 58504-6640  
November 17, 2010

Kadrmars Lee & Jackson, Inc.  
Attn: Jerry D. Reinisch, Environmental Planner  
PO Box 1157  
Bismarck, North Dakota 58502-1157

Dear Mr. Reinisch:

This is in response to your solicitation letter on behalf of **Questar Exploration and Production Company (QEP)**, received on November 16, 2010 requesting Department of the Army (DA), United States Army Corps of Engineers (Corps) comments for a well pad and associated access road to be located in Section 5, Township 149 North, Range 90 West, McLean County, North Dakota within the Fort Berthold Indian Reservation. The proposed wells include: **MHA 1-05-06H-149-90, MHA 3-05-06H-149-90, MHA 1-09-16H-149-90, MHA 3-09-16H-149-90, MHA 1-04-03H-149-90, and MHA 3-04-03H-149-90.**

Corps Regulatory Offices administer Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Section 10 of the Rivers and Harbors Act regulates work in or affecting navigable waters. This would include work over, through, or under Section 10 water. Section 10 waters in North Dakota include the Missouri River (including Lake Sakakawea and Lake Oahe), Yellowstone River, James River south of Jamestown, North Dakota, Bois de Sioux River, Red River of the North, and the Upper Des Lacs Lake. Section 404 of the Clean Water Act regulates the discharge of dredge or fill material (temporarily or permanently) in waters of the United States. 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.

For any proposed well where the well line and/or bottom hole is under or crosses under Lake Sakakawea, regardless of depth, we require that project proponent provide a DA permit application (ENG Form 4345) to the Corps.

Enclosed for your information is the fact sheet for Nationwide Permit 12, Utility Line Activities. Pipeline projects are already authorized by Nationwide Permit 12 **provided the utility line can be placed without any change to pre-construction contours and all other proposed construction activities and facilities are in compliance with the Nationwide's permit conditions and 401 Water Quality Certification is obtained.** Please note the pre-construction notification requirements on page 2 of the fact sheet. **If a project involves any one of the seven notification requirements, the project proponent must submit a DA application.** Furthermore, a project must also be in compliance with the "Regional Conditions for Nationwide Permits within the State of North Dakota", found on pages 12 and 13 of the fact sheet. [The following info is for activities on a reservation]. Please be advised that the United States Environmental Protection Agency (EPA), Region 8 has denied 401 Water Quality Certification for activities in perennial drainages and wetlands. Furthermore, EPA has placed conditions on activities in ephemeral and intermittent drainages. It is recommended you contact the U.S. Environmental Protection Agency, Region 8, Attn: Brent Truskowski, 1595 Wynkoop Street, Denver, Colorado 80202-1129 to review the conditions pursuant to Section 401 of the Clean Water Act prior to any construction.



Also enclosed for your information is the fact sheet for Nationwide Permit 14, Linear Transportation Projects. Road crossings are already authorized by Nationwide Permit 14 provided the discharge does not cause the loss of greater than ½ acre of waters of the United States per crossing and all other proposed construction activities are in compliance with the Nationwide's permit conditions. Please note the pre-construction notification requirements on the front page of the fact sheet. If a project involves (1) the loss of waters of the United States exceeding 1/10 acre per crossing; or (2) there is a discharge in a special aquatic site, including wetlands, the project proponent must submit a DA application prior to the start of construction. Please reference General Condition 27, Pre Construction Notification on page 8 of the fact sheet. Furthermore, a project must also be in compliance with the "Regional Conditions for Nationwide Permits within the State of North Dakota", found on pages 11 and 12 of the fact sheet. Enclosed is a copy of the United States Environmental Protection Agency, Region 8's; General Conditions for all Nationwide Permits and specific conditions for Nationwide Permit 14.

In the event your project requires approval from the U.S. Army Corps of Engineers and cannot be authorized by Nationwide Permit(s), a Standard or Individual Permit will be required. A project that requires a Standard or Individual Permit is intensely reviewed and will require the issuance of a public notice. A Standard or Individual Permit generally requires a minimum of 120 days for processing but based on the project impacts and comments received through the public notice may extend beyond 120 days.

**This correspondence letter is neither authorization for the proposed construction nor confirmation that the proposed project complies with the Nationwide Permit(s).**

If any of these projects require a Section 10 and/or Section 404 permit, please complete and submit the enclosed Department of the Army permit application (ENG Form 4345) to the U.S. Army Corps of Engineers, North Dakota Regulatory Office, 1513 South 12<sup>th</sup> Street, Bismarck, North Dakota 58504. If you are unsure if a permit is required, you may submit an application; include a project location map, description of work, and construction methodology.

If we can be of further assistance or should you have any questions regarding our program, please do not hesitate to contact this office by letter or phone at (701) 255-0015.

Sincerely,



Daniel E. Cimarosti  
Regulatory Program Manager  
North Dakota

Enclosure  
ENG Form 4345  
Fact Sheet NWP 12 and 14  
EPA 401 Conditions for Nationwide Permits

CF w/o encl  
EPA Denver (Brent Truskowski)



REPLY TO  
ATTENTION OF

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

December 8, 2010

Planning, Programs, and Project Management Division

Mr. Jerry Reinisch  
Kadrmass, Lee & Jackson  
1505 South 30<sup>th</sup> Avenue  
Moorhead, Minnesota 56561

Dear Mr. Reinisch:

The U.S. Army Corps of Engineers, Omaha District (Corps) has reviewed your letter dated November 15, 2010, regarding the proposed drilling and completion of up to six exploratory oil and gas wells at one single pad location on the Fort Berthold Reservation in McLean County, North Dakota. The Corps offers the following comments:

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

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

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

Any proposed placement of dredged or fill material into waters of the United States (including jurisdictional wetlands) requires Department of the Army authorization under Section 404 of the Clean Water Act. You can visit the Omaha District's Regulatory website for permit applications and related information. Please review the information on the provided 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:



-2-

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

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

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

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

Sincerely,



Randal P. Sellers  
Acting Chief, Environmental Resources and Missouri  
River Recovery Program Plan Formulation Section

-3-

**Jerry Reinisch**

---

**From:** Sorensen, Charles G NWO [Charles.G.Sorensen@usace.army.mil]  
**Sent:** Monday, December 06, 2010 3:53 PM  
**To:** jerryreinisch@kljeng.com  
**Cc:** Ames, Joel O NWO  
**Subject:** Questar MHA 1-05-06h MHA 3-05-06H, MHA 1-09-16H, MHA 3-09-16H, MHA 1-04-03H and MHA 3-04-03H well locations

December 6, 2010

Jerry

Thank you for letting the U.S. Army Corps of Engineers Garrison Dam/Lake Sakakawea Project comment on Questar Explorations proposed MHA 1-05-06h MHA 3-05-06H, MHA 1-09-16H, MHA 3-09-16H, MHA 1-04-03H and MHA 3-04-03H well locations.

At this time the U.S. Army Corps of Engineers Garrison Dam/Lake Sakakawea Project request that consideration and if at all possible implement the following management practices during the exploration phase of the those wells listed in the request letter

Due to the close proximity of the well location to lands managed by the U.S. Army Corps of Engineers (USACE) there is a high risk that any storm water runoff from the well location will enter the Missouri River/Lake Sakakawea. As such the USACE would request that Questar Exploration consider the construction/establishment of a catch trench located on the down sloping side of the well pad. Said trench would help in containing any hazardous wastes from the well pad. Those fluids that accumulate in the trench should be pumped out and disposed of properly

As previously mentioned the location of the proposed well site is extremely close to lands managed by the USACE and as previously stated the possibility for contamination of the Missouri River/Lake Sakakawea is of great concern to this agency. To aid in the prevention of hazardous wastes from entering the aforementioned bodies of water, the USACE would strongly recommend that a Closed Loop Drilling Method be used in the handling of all drilling fluids

Should living quarters be established onsite it is requested that all sewage collection systems be of a closed design and all holding tanks are to be either double walled or contained in a secondary containment system. All sewage waste removed from the well site location should be disposed of properly.

That all additional fill material required for the construction of the well pad is obtained from a private supplier whose material has been certified as being free of all noxious weeds.

Prior to the drilling rig and associated equipment being moved/ placed that all equipment be either 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.

That no surface occupancy be allowed within ½ mile of any known Threatened or Endangered Species critical habitat.



If possible, all construction activities should occur between August 15th and April 1st.

If trees are present, the appropriate dates are August 15th – February 1st. By constructing during these dates, disruptions to wildlife during the breeding season maybe kept to a minimum.

Cumulative impacts are often overlooked, in the completion of NEPA compliance. To adequately assess cumulative impacts, the following activities should consider.

- a. Has the project area already been degraded, and if so, to what extent?
  - b. Are other ongoing activities in the area causing impacts, and if so, to what extent?
  - c. What is the likelihood that this project will lead to a number of associated projects?
- d. What are the trends for activities and impacts in the area?

If you have any questions regarding the above recommendations please feel free to contact me

Charles Sorensen

Natural Resource Specialist

U.S. Army Corps of Engineers

Garrison Dam/Lake Sakakawea Project

Charles Sorensen  
Natural Resource Specialist  
U.S. Army Corps of Engineers  
Garrison Dam/Lake Sakakawea Project

Riverdale, North Dakota Office  
(701) 654 7411 ext 232



IN REPLY REFER TO:

DK-5000  
ENV-6.00

## United States Department of the Interior

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



NOV 30 2010

Mr. Jerry D. Reinisch  
Environmental Planner  
Kadmas, Lee, & Jackson, Inc.  
P.O. Box 1157  
Bismarck, ND 58502-1157

**Subject: Solicitation for an Environmental Assessment for the Proposed Construction, Drilling, Completion, and Production of Six Exploratory Oil and Gas Wells On One Pad and 2,764 Feet of Access Road on the Fort Berthold Reservation in McLean County, North Dakota by Questar Exploration and Production Company**

Dear Mr. Reinisch:

This letter is written to inform you that we received your letter dated November 16, 2010, and the information and map have been reviewed by Bureau of Reclamation staff.

It appears that there are Reclamation facilities in the vicinity of your proposed 10 acre pad and access road in McLean County so this development activity could potentially affect Reclamation facilities in the form of the rural water pipelines of the Fort Berthold Rural Water System. Your access road and pad development could potentially impact proposed or existing water pipelines in the vicinity of:

Fort Berthold- MHA-1-05-06H-149-90 and MHA-3-05-06H-149-90, MHA-1-09-16H-149-90 and MHA-3-09-16H-149-90, MHA-1-04-03H-149-90, and MHA-3-04-03H-149-90 - SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 05, T. 149N., R. 90W.

**Note that blue and orange lines represent Reclamation water lines.**

We are providing an index map depicting water pipeline alignments in the vicinity of the proposed wells and surrounding area to aid you in identification of potential for adverse effect to Federal facilities. Also, should you have need to cross a Fort Berthold Rural Water System pipeline, please refer to the enclosed sheet for pipeline crossing specifications and contact our engineer Ryan Waters, 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. Also, we would like to see a copy of the draft environmental assessment when available.



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 Ryan Waters, General Engineer, for engineering questions at 701-221-1262.

Sincerely,



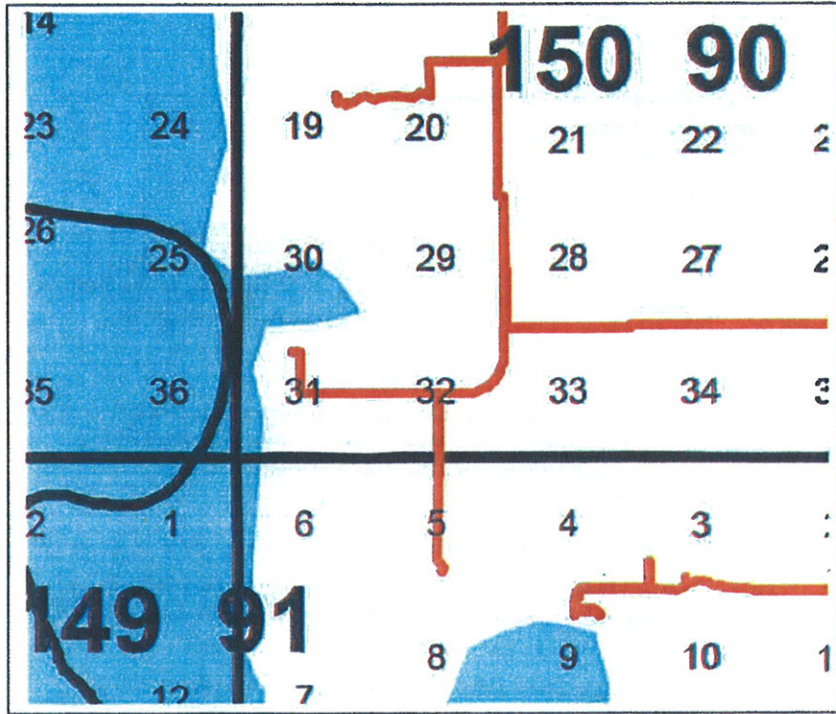
Kelly B. McPhillips  
Environmental Specialist

Enclosures - 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)

**Fort Berthold- MHA-1-05-06H-149-90 and MHA-3-05-06H-149-90,  
MHA-1-09-16H-149-90 and MHA-3-09-16H-149-90,  
MHA-1-04-03H-149-90, and MHA-3-04-03H-149-90 - SE¼SE¼  
sec. 05, T. 149N., R. 90W.**





United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
3425 Miriam Avenue  
Bismarck, North Dakota 58501



JAN 27 2011

Mr. Jerry Reinisch, Environmental Planner  
Kadmas, Lee & Jackson  
128 Soo Line Drive  
P.O. Box 1157  
Bismarck, North Dakota 58502-1157

Re: Questar Exploration and Production  
Scoping for Proposed Multiple Well  
Pad, Six MHA Wells, on Fort Berthold  
Reservation, McLean County

Dear Mr Reinisch:

This is in response to your November 15, 2010, scoping document regarding six exploratory oil and gas wells on one pad, proposed to be drilled and completed by Questar Exploration and Production (QEP) on the Fort Berthold Reservation, McLean County, North Dakota.

Specific location for the proposed pad is:

MHA 1-05-06H-149-90, MHA 3-05-06H-149-90, MHA 1-09-16H-149-90, MHA 3-09-16H-149-90, MHA 1-04-03H-149-90, MHA 3-04-03H-149-90: T. 149 N., R. 90 W., 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), 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", the Endangered Species Act (16 U.S.C. 1531 et seq.) (ESA), and the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57).

**Threatened and Endangered Species**

In an e-mail dated October 13, 2009, the Bureau of Indian Affairs (BIA) designated QEP to represent the BIA for informal Section 7 consultation under the ESA. Therefore, the U.S. Fish and Wildlife Service (Service) is responding to you as the designated non-

Federal representative for the purposes of ESA, and under our other authorities as the entity preparing the NEPA document for adoption by the BIA.

The Service concurs with your “may affect, not likely to adversely affect” determination for piping plover, interior least tern, and pallid sturgeon. This concurrence is predicated on QEP’s commitment to use a closed-loop (pitless) drilling system since the pad is approximately 0.12 mile from Lake Sakakawea and suitable habitat for these species. The Service believes that the absence of a reserve pit greatly reduces the potential of migration of fluids off the pad; additionally, the potential for leaching is minimized or eliminated, so risk to these species from contamination through drainage to the lake reduces the threat to an insignificant or discountable level. QEP will also construct and maintain an 18 inch containment berm around the well pad.

The Service concurs with your “may affect, is not likely to adversely affect” determination for whooping cranes. This concurrence is predicated on QEP’s commitment to stop work on the proposed site if a whooping crane is sighted within 1 mile of the proposed project area and immediately contacting the Service.

The Service concurs with your “may affect, not likely to adversely affect” determination for gray wolf.

The Dakota skipper is a small to medium-sized hesperiine butterfly associated with high quality prairie ranging from wet-mesic tallgrass prairie to dry-mesic mixed grass prairie. The first type of habitat is relatively flat and moist native bluestem prairie. Three species of wildflowers are usually present: wood lily (*Lilium philadelphicum*), harebell (*Campanula rotundifolia*), and smooth camas (*Zygadenus elegans*). The second habitat type is upland (dry) prairie that is often on ridges and hillsides. Bluestem grasses and needlegrasses dominate these habitats. On this habitat type, three wildflowers are typically present in high quality sites that are suitable for Dakota skipper: pale purple (*Echinacea pallida*) and upright (*E. angustifolia*) coneflowers and blanketflower (*Gaillardia sp.*). Because of the difficulty of surveying for Dakota skippers and a short survey window, we recommend that the project avoid any impacts to potential Dakota skipper habitat. If Dakota skipper habitat is present near the proposed project, and you intend to take precautions to avoid impacts to skipper habitat, please notify the Service for further direction.

In 2010, the Sprague’s pipit was added to the candidate species list. Migratory bird species, such as the Sprague’s pipit, that are candidates are still protected under the MBTA. Sprague’s pipits require large patches of grassland habitat for breeding, with preferred grass height between 4 and 12 inches. The species prefers to breed in well-drained, open grasslands and avoids grasslands with excessive shrubs. They can be found in lightly to heavily grazed areas. They avoid intrusive human features on the landscape, so the impact of a development can be much larger than the actual footprint of the feature. If Sprague’s pipit habitat is present within or adjacent to the proposed project area, the Service requests that you document any steps taken to avoid and minimize disturbance of this habitat.

The Dakota skipper and Sprague's pipit are candidate species for listing under the ESA; therefore, an effects determination is not necessary for these species. No legal requirement exists to protect candidate species; however, it is within the spirit of the ESA to consider these species as having significant value and worth protecting. Although not required, Federal action agencies such as the BIA, have the option of requesting a conference on any proposed action that may affect candidate species such as the Dakota skipper and Sprague's pipit.

#### **Migratory Birds**

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

- Construction will be completed outside of the migratory bird nesting season (Feb. 1-July 15);
- If construction needs to take place within the breeding and nesting season, pre-construction surveys for migratory birds and their nests will be conducted within five days prior to the initiation of construction activities. If birds or nests are discovered, the Service will be contacted for additional information on how to proceed.

#### **Bald and Golden Eagles**

The document states that a ground survey for cliff, tree and ground raptor nests was conducted within line-of-sight of the proposed project on October 20, 2010. No eagles or nests were discovered within 0.5 mile of the project area. The North Dakota Game and Fish Department's golden eagle nest database does not indicate any recorded eagle nests within 0.5 mile of the project area.

The Service believes that QEP's commitment to implement the aforementioned measures does demonstrate compliance with the MBTA and the BGEPA.

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

Sincerely,



Jeffrey K. Towner  
Field Supervisor  
North Dakota Field Office

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



**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



RECEIVED

NOV 26 2010

November 19, 2010

Mr. Jerry Reinisch  
Environmental Planner  
Kadmas, Lee & Jackson, Inc.  
P.O. Box 1157  
Bismarck, ND 58502-1157

Re: Questar Exploration and Production Company  
Development of One Well Pad and An Access Road for Six Wells  
Ft. Berthold Reservation, McLean County

Dear Mr. Reinisch:

This department has reviewed the information concerning the above-referenced project submitted under date of November 15, 2010, with respect to possible environmental impacts.

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

1. Development of the production facilities and any access roads or well pads should have a minimal effect on air quality provided measures are taken to minimize fugitive dust. However, operation of the 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.
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 within North Dakota may be required to obtain a permit to discharge storm water runoff from the U.S. Environmental Protection Agency. Further information may be obtained from the U.S. EPA website or by calling the U.S. EPA - Region 8 at (303) 312-6312. Also, cities or counties

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

Printed on recycled paper.

Mr. Jerry D. Reinisch

2.

November 19, 2010

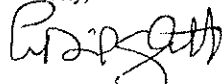
may impose additional requirements and/or specific best management practices for construction affecting their storm drainage system. Check with the local officials to be sure any local storm water management considerations are addressed.

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,



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.

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
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"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 701-328-6382

December 6, 2010

Jerry D. Reinisch  
Environmental Planner  
Kadrmas, Lee & Jackson, Inc.  
PO Box 1157  
Bismarck, ND 58502-1157

Dear Mr. Reinisch:

RE: MHA 1-05-06H-149-90 & MHA 3-05-06H-149-90  
MHA 1-09-16H-149-90 & MHA 3-09-16H-149-90  
MHA 1-04-03H-149-90 & MHA 3-04-03H-149-90

Questar Exploration and Production Company is proposing six oil and gas wells on one well pad on the Fort Berthold Reservation in McLean 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.

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

Sincerely,

A handwritten signature in blue ink, appearing to read "Paul Schadewald". The signature is fluid and cursive.

Paul Schadewald  
Chief  
Conservation & Communication Division

js



John Hoeven, Governor  
Mark A. Zimmerman, Director

1600 East Century Avenue, Suite 3  
Bismarck, ND 58503-0649  
Phone 701-328-5357  
Fax 701-328-5363  
E-mail [parkrec@nd.gov](mailto:parkrec@nd.gov)  
[www.parkrec.nd.gov](http://www.parkrec.nd.gov)

November 29, 2010

Jerry D. Reinisch  
Kadmas, Lee & Jackson  
PO Box 1157  
Bismarck, ND 58502-1157

Re: Questar Exploration and Production Company Proposal for the Development of 6 Wells

Dear Mr. Reinisch:

The North Dakota Parks and Recreation Department (NDPRD) has reviewed the above referenced project proposal submitted by Questar Exploration and Production Company to develop a well pad, 6 wells, and an access road located in Section 5, T149N, R90W, McLean County.

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

The North Dakota Natural Heritage biological conservation database has been reviewed to determine if any current or historical 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, we do have records for the occurrence of *Chardrius melodus* (piping plover) in a section adjacent to the project area indicating that the habitat in the project area may be suited for this specie or other rare, threatened, sensitive or endangered species. Please see the attached spreadsheet and map for more information on this occurrence. We defer further comments regarding animal species to the North Dakota Game and Fish Department and the United States Fish and Wildlife Service.

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

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

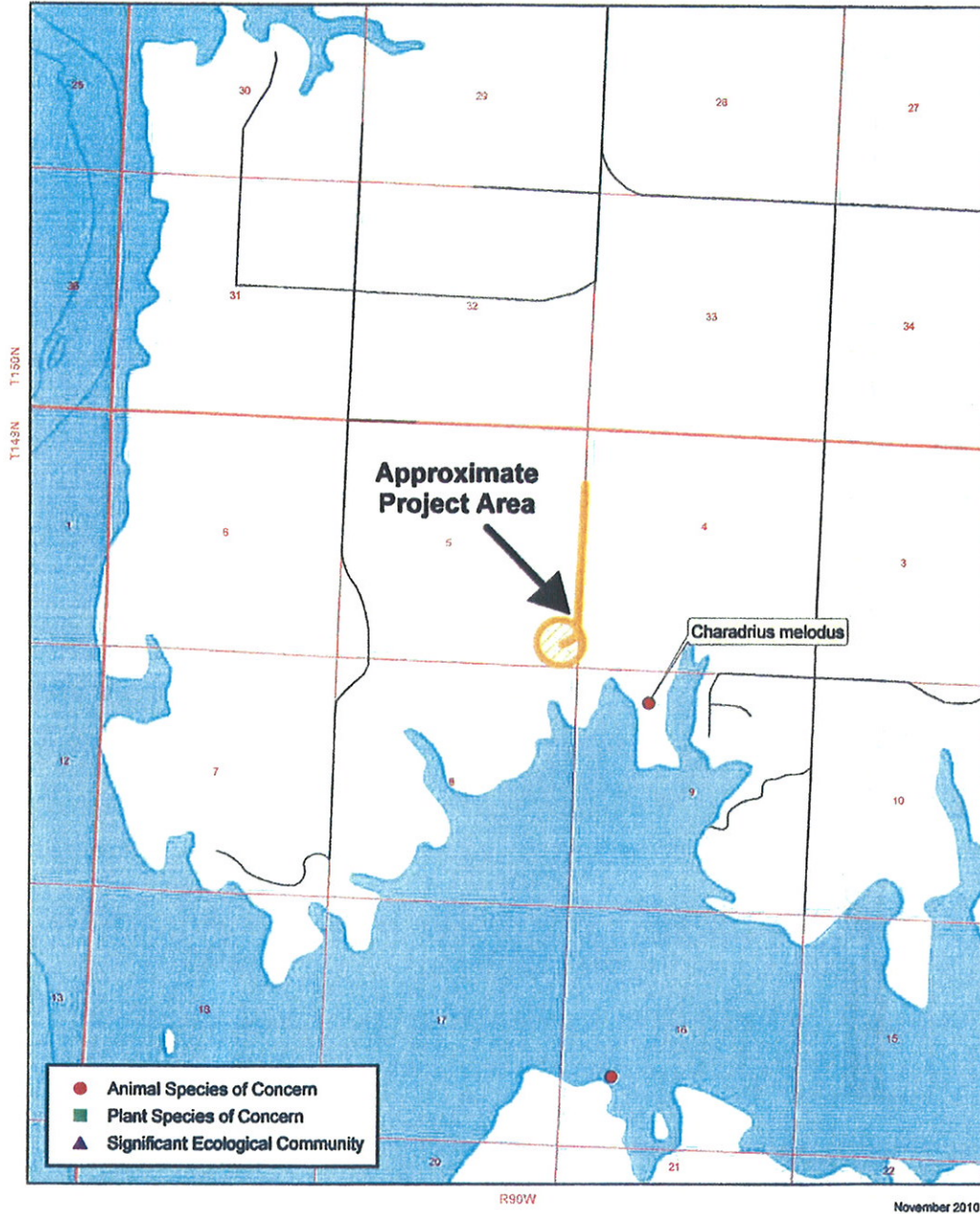
Thank you for the opportunity to comment on this project. Please contact Kathy Duttonhefner (701-328-5370 or [kgduttonhefner@nd.gov](mailto:kgduttonhefner@nd.gov)) of our staff if additional information is needed.

Sincerely,

  
Jesse Hanson, Manager  
Planning and Natural Resources Division  
R.USNDNHI\*2010-266  
CD/1123/DL.1215

.....  
*Play in our backyard!*

North Dakota Parks and Recreation Department  
North Dakota Natural Heritage Inventory



North Dakota Natural Heritage Inventory  
Rare Animal and Plant Species and Significant Ecological Communities

State Scientific Name	State Common Name	State Rank	Global Rank	Federal Status	Township Range Section	County	Last Observation	Estimated Representation Accuracy	Precision
<i>Charadrius melodus</i>	Piping Plover	S1S2	G3	LE, LT	149N09W - 09	McLean	1996		S



## North Dakota State Water Commission

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

RECEIVED  
NOV 26 2010

November 24, 2010

Jerry Reinisch  
Kadmas, Lee & Jackson  
PO Box 1157  
Bismarck, ND 58502-1157

Dear Mr. Reinisch:

This is in response to your request for review of environmental impacts associated with the development of one well pad, with six wells, and approximately 2,764 feet of new access road in McLean County on the Fort Berthold Reservation.

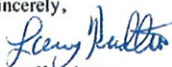
The proposed project has been reviewed by State Water Commission staff and the following comments are provided:

- The property is not located in an identified floodplain and it is believed the project will not affect an identified floodplain.
- It is the responsibility of the project sponsor to ensure that local, state and federal agencies are contacted for any required approvals, permits, and easements.
- All waste material associated with the project must be disposed of properly and not placed in identified floodway areas.
- No sole-source aquifers have been designated in ND.

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

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

Sincerely,

  
Larry Knudtson  
Research Analyst

LJK:dp/1570

JOHN HOEVEN, GOVERNOR  
CHAIRMAN

TODD SANDO, P.E.  
SECRETARY AND STATE ENGINEER



## United States Department of the Interior

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



DEC 27 2010

IN REPLY REFER TO:  
DESCRM  
MC-208

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 a multiple oil well pad and access road in McLean County, North Dakota. Approximately 28.7 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the areas depicted in the enclosed reports. Two archaeological sites (32ML1165, 32ML1166) 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 this undertaking, as the archaeological sites will be avoided. Catalogued as **BIA Case Number AAO-1883/FB/11**, the proposed undertaking, location, and project dimensions are described in the following report:

Ó Donnchadha, Brian  
(2010) MHA 1-05-06H-149-90, MHA 3-05-06H-149-90, MHA 1-09-16H-149-90, MHA-3-09-16H-149-90, MHA 1-04-03H-149-90 and MHA 3-04-03H-149-90 Well Pad and Access Road: A Class III Cultural Resource Inventory, McLean 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. The Standard Conditions of Compliance will be adhered to.

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

Sincerely,

ACTING Regional Director

Enclosure

cc: Chairman, Three Affiliated Tribes  
Superintendent, Fort Berthold Agency

# **Notice of Availability and Appeal Rights**

**QEP: MHA 1-05-06H-149-90, MHA 3-05-06H-149-90, MHA 1-09-16H-149-90, MHA 3-09-16H-149-90, MHA 1-04-03H-149-90 and MHA 3-04-03H-149-90**

**The Bureau of Indian Affairs (BIA) is planning to issue administrative approvals related to installation of four wells atop two pads 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 Howard Bemer, Superintendent at 701-627-4707 for more information and/or copies of the EA and the Finding of No Significant Impact (FONSI).**

**The FONSI is only a finding on environmental impacts – it is not a decision to proceed with an action and *cannot* be appealed. BIA’s decision to proceed with administrative actions *can* be appealed until April 1, 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.**

