United States Department of the Interior

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

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IN REPLY REFER TO:
DESCRM
MC-208

SEP 0 2 2010

MEMORANDUM

TO: Superintendent, Fort Berthold Agency

FROM: Acting Regional Director, Great Plains Regional Office

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 four proposed exploratory drilling wells by QEP Energy Company on MHA-1-33-34H-150-91, MHA-1-32-29H-150-91, MHA-1-04-03H-149-91and MHA-1-35-36H-149-91 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 requires 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: Marcus Levings, Chairman, Three Affiliated Tribes (with attachment)
Perry "No Tears" Brady, THPO (with attachment)
Tracy Opp, Questar (with attachment)
Roy Swalling, Bureau of Land Management (with attachment)
Jonathon Shelman, Corps of Engineers (with attachment)
Jeff Hunt, Virtual One Stop Shop, Fort Berthold Agency (with attachment)

Finding of No Significant Impact
QEP Energy Company
Environmental Assessment for
Drilling of MHA 1-33-34H-150-91, MHA 1-32-29H-150-91, MHA 1-04-03H-149-91and MHA 1-35-36H-149-91 Exploratory Oil and Gas Wells
Fort Berthold Indian Reservation
Dunn County, North Dakota

The U.S. Bureau of Indian Affairs (BIA) has received a proposal to drill up to four exploratory oil and gas wells located atop three well pads as follows:

- MHA-1-33-34H-150-91 located in T150N, R91W, Section 32.
- MHA-1-32-29H-150-91 and MHA-1-04-03H-149-91 located in T150N, R91W, Section 32 (dual pad).
- MHA-1-35-36H-149-91 located in T149N, R91W, Section 35.

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 actions 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 actions and the No Action alternative.
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 actions are 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 projects will improve the socio-economic condition of the affected Indian community.

Acting Regional Director _____ Date 9/2/10

Environmental Assessment

United States Bureau of Indian Affairs

Great Plains Regional Office
Aberdeen, South Dakota

QEP Energy Company

Drilling of MHA 1-33-34H-150-91, MHA 1-32-29H-150-91, MHA 1-04-03H-149-91and MHA 1-35-36H-149-91 Exploratory Oil and Gas Wells

Fort Berthold Indian Reservation

August 2010

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

Notice of Availability and Appeal Rights

Questar: MHA-1-33-34H-150-91, MHA-1-32-29H-150-91, MHA-1-04-03H-149-91 and MHA-1-35-36H-149-91

The Bureau of Indian Affairs (BIA) is planning to issue administrative approvals for the drilling of four wells and related infrastructure on MHA-1-33-34H-150-91, MHA-1-32-29H-150-91, MHA-1-04-03H-149-91 and MHA-1-35-36H-149-91 as shown on the attached map. Construction by Questar is expected to begin in the Fall of 2010.

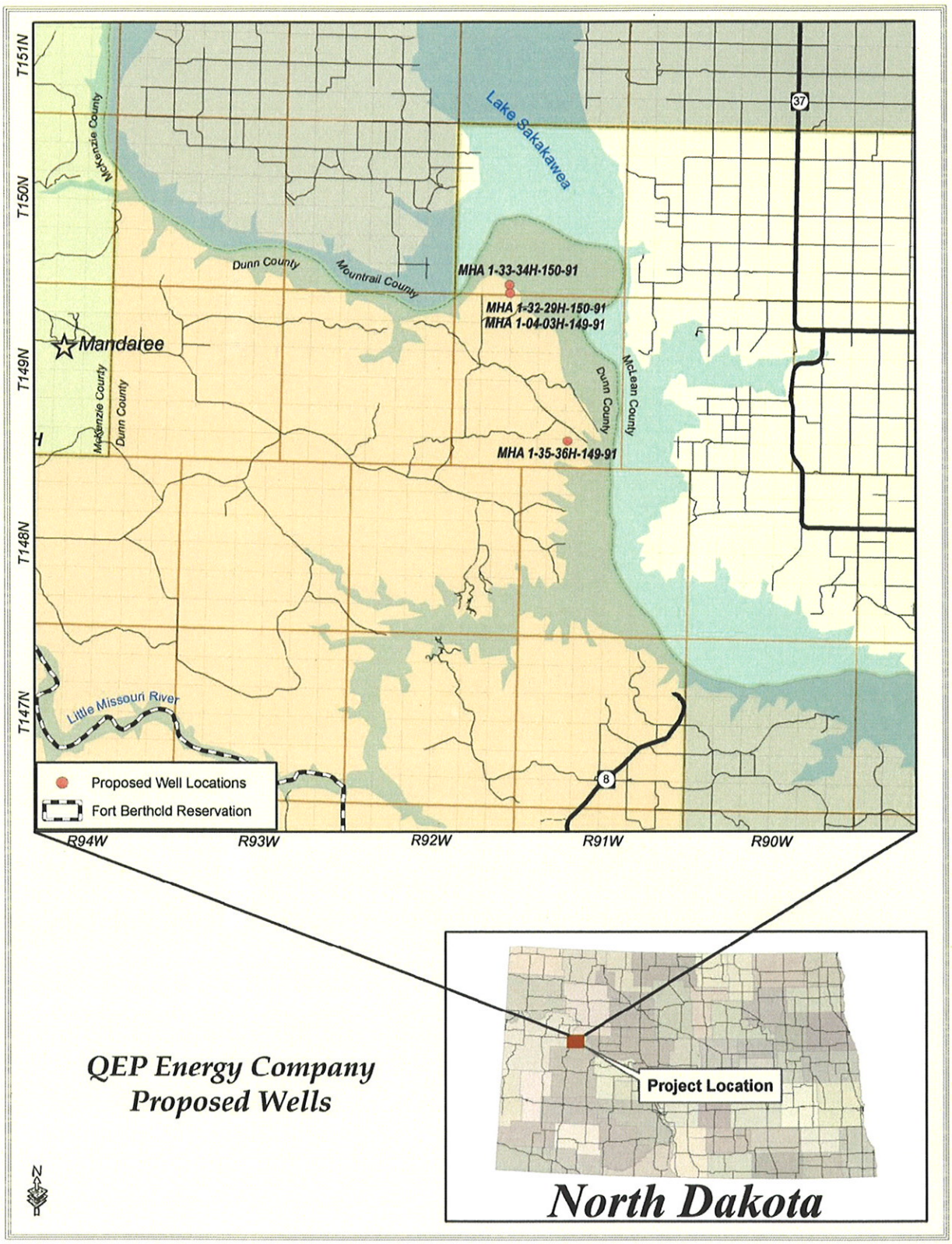
An environmental assessment (EA) determined that proposed activities will not cause significant impacts to the human environment. An environmental impact statement is not required. Contact Howard Bemer, Superintendent at 701-627-4707 for more information and/or copies of the EA and the Finding of No 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 October 2, 2010, 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.



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Chapter 1 Purpose and Need for Action

1.1 Introduction

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

1.2 Description of the Proposed Action

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

The proposed action includes approval by the BIA and BLM for QEP Energy Company (QEP) to drill and complete up to a total of four exploratory oil and gas wells atop three well pads on the Fort Berthold Reservation. These well sites are proposed to be positioned in the following locations:

- MHA# 1-33-34H-150-91 located in T150N, R91W, Section 32
- MHA# 1-04-03H-149-91 and MHA# 1-32-29H-150-91 located in T150N, R91W, Section 32
- MHA# 1-35-36H-149-91 located in T149N, R91W, Section 35

Please refer to Figure 1-1, Project Location Map. Each well site would include a drilling unit in which the minerals to be developed by each well are located. Completion activities include acquisition of rights-of-way, infrastructure for the proposed wells, and roadway improvements.

1.3 Need for the Proposed Action

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

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

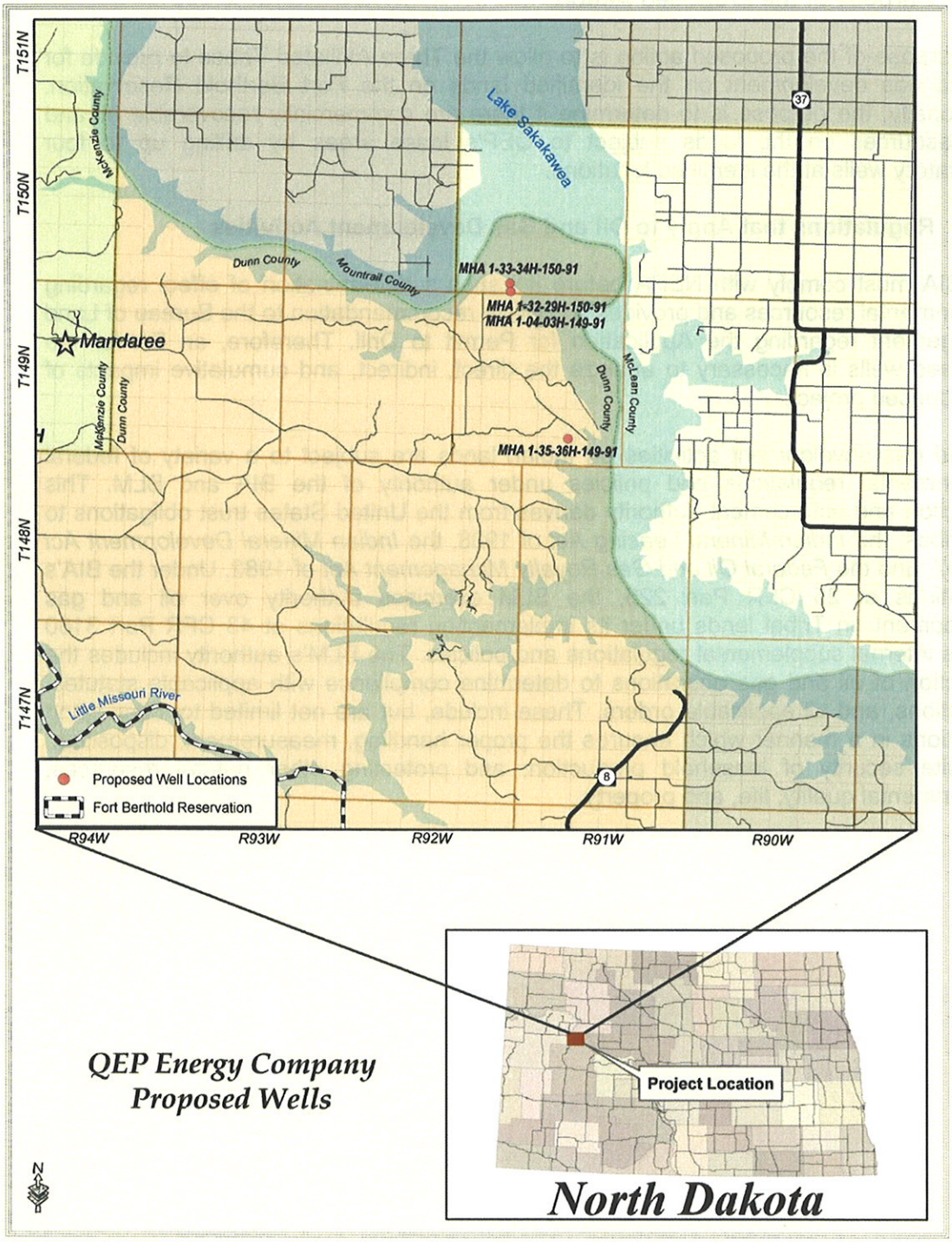

Figure 1-1, Project Location Map

1.4 Purpose of the Proposed Action

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

1.5 Regulations that Apply to Oil and Gas Development Activities

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

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

Chapter 2 Alternatives

2.1 Introduction

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

2.2 Alternative A: No Action

Under the no action alternative (Alternative A), the BIA and BLM would not authorize the development of one or more of the four proposed exploratory 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, and the potential for commercially recoverable deposits of oil and gas would not be evaluated.

2.3 Alternative B: Proposed Action

The proposed action (Alternative B) includes authorization by the BIA and BLM to drill up to a total of four exploratory wells atop three well pads and complete the associated right-of-way acquisitions, roadway improvements, and infrastructure for the wells.

Each exploratory well would consist of a well pad, access road, associated infrastructure, and a spacing unit. The well pad is where the actual surface disturbance caused by drilling activities would occur. QEP proposes to drill one well on each of two well pads and two wells atop one well pad (4 wells atop 3 pads). The pad with two wells would have the wells located approximately 42 feet away from one another. The spacing unit is the location of the minerals that are to be developed. The location of the proposed well sites, access roads, and proposed horizontal drilling techniques were chosen to minimize surface disturbance.

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

An on-site assessment and survey of the well pads and access roads was conducted on April 28, 2010. Representatives from Kadrmas, Lee & Jackson, QEP, BIA Environmental Protection Office, and Three Affiliated Tribes Tribal Historic Preservation Office were present during this visit. Information was gathered pertaining to construction suitability with respect to topography, stockpiling, drainage, erosion control, and other surface issues. Well pad locations were adjusted, as appropriate; to avoid conflicts with identified environmental areas of concern. Those present at the on-site assessment agreed the chosen locations, along with the minimization measures QEP plans to implement are positioned in areas which would minimize impacts to sensitive wildlife and botanical

resources. Furthermore, comments received from the USFWS (United States Fish and Wildlife Service) have been considered in the development of this project. In addition to the onsite assessment, intensive cultural resources and biological surveys were conducted for each well pad and access road by KL&J staff. Site-specific data and photos with regards to biological, botanical, soil, and water resources were collected. A study area of 10 acres centered on the well pad center point and a 200-foot wide access road along wooded draws within ¼ mile of the study area were evaluated during these visits.

2.3.1 MHA# 1-33-34H-150-91

The MHA# 1-33-34H-150-91 well would be located in the NE¼SE¼ of Section 32, Township 150 North, Range 91 West to access potential oil and gas resources within the 640 acre spacing unit consisting of the southern half of Sections 33 and 34, Township 150 North, Range 91 West. ***Please refer to Figure 2-1,*** **MHA# 1-33-34H-150-91** ***Well Overview.***

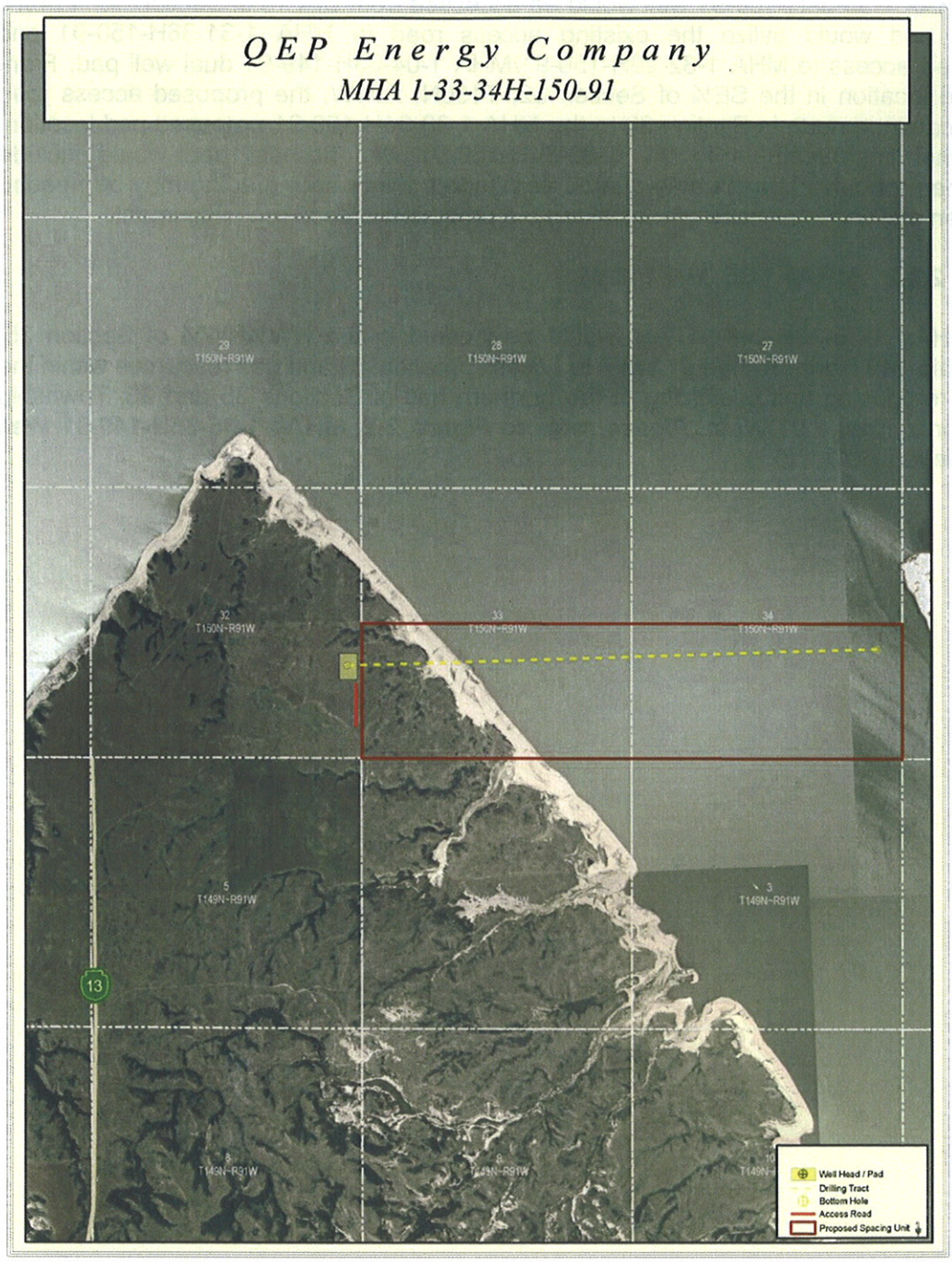

Figure 2-1,* MHA# 1-33-34H-150-91 *Well Overview

The MHA# 1-33-34H-150-91 well would be accessed from BIA 13 in Section 18, T149N, R91W. and would utilize the existing access road to MHA 1-31-36H-150-91 and proposed access to MHA 1-32-29H-150-91/MHA 1-04-03H-149-91 dual well pad. From the pad location in the SE¼ of Section 32, T150N, R91W, the proposed access road would continue north in Section 32 to the MHA 1-33-34H-150-91 proposed pad location. Additional improvements to the 1-33-34H-150-91 well access road would include placement of culverts and cattle guards as needed. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignment.

2.3.2 MHA# 1-35-36H-149-91

The MHA# 1-35-36H-149-91 well would be located in the NW¼NW¼ of Section 35, Township 149 North, Range 91 West to access potential oil and gas resources within the 640 acre spacing unit consisting of the northern half of Sections 35 and 36, Township 149 North, Range 91 West. ***Please refer to Figure 2-2,* MHA# 1-35-36H-149-91 *Well Overview.***

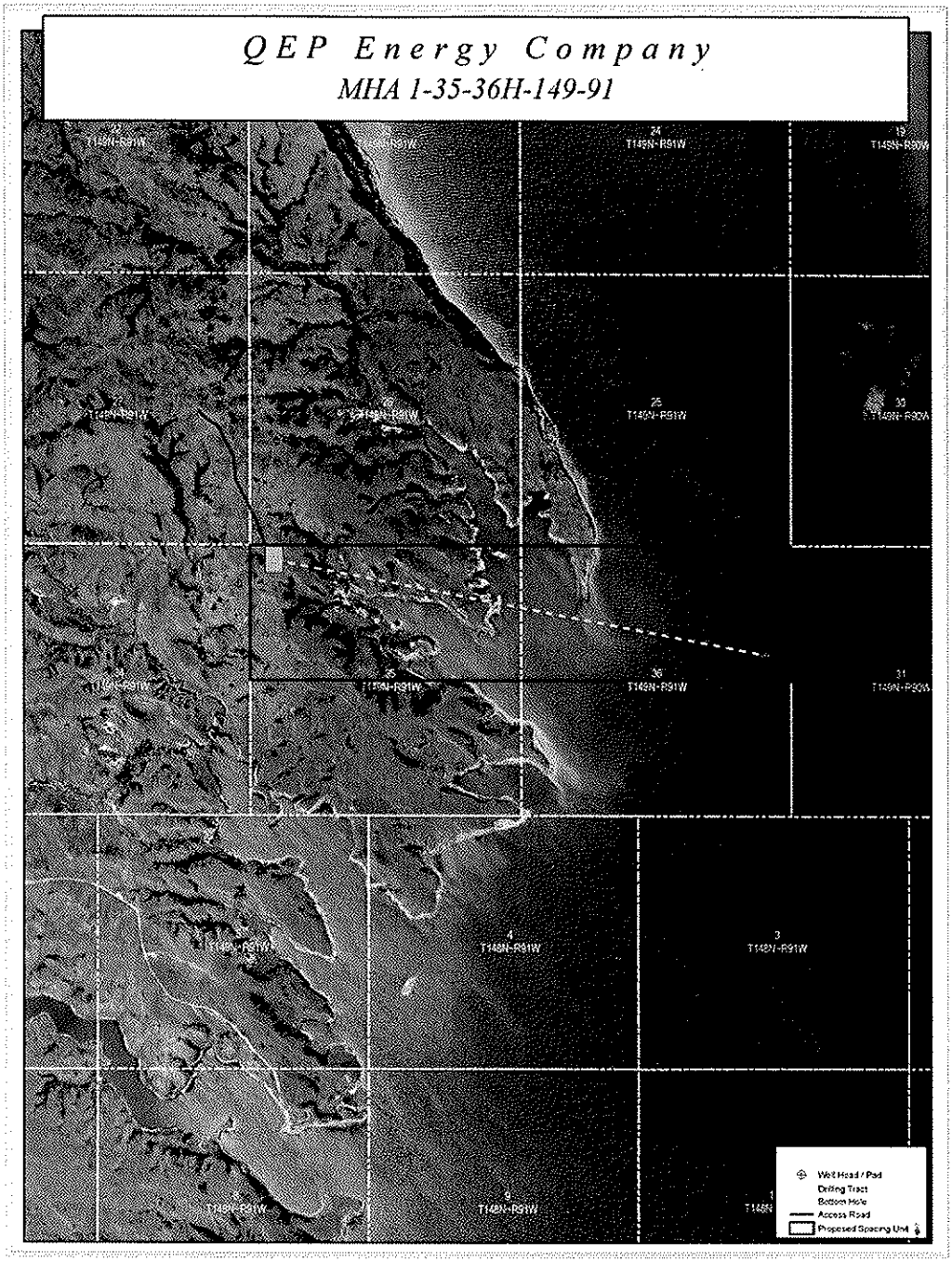

Figure 2-2, MHA# 1-35-36H-149-91 Well Overview

The MHA# 1-35-36H-149-91 well would be accessed by using the MHA 26-27H-149-91 access road which starts in Section 16, T149N, R91W connecting to BIA 13. The access road branches in the SW¼ of Section 27, T149N, R91W and continues southeast to the MHA 35-36H-149-91 proposed well pad. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignment. Culverts and cattle guards would be installed as needed along this new access road.

2.3.3 MHA# 1-04-03H-149-91 and MHA# 1-32-29H-150-91

The MHA# 1-04-03H-149-91 and MHA# 1-32-29H-150-91 wells would be located in the SE¼SE¼ of Section 32, Township 150 North, Range 91 West to access potential oil and gas resources within two 640 acre spacing units consisting of the eastern half of Sections 29 and 32, Township 150 North, Range 91 West, and the northern half of sections 3 and 4, Township 149 North, Range 91 West. ***Please refer to Figure 2-3, MHA# 1-04-03H-149-91 and MHA# 1-32-29H-150-91 Well Overview.***

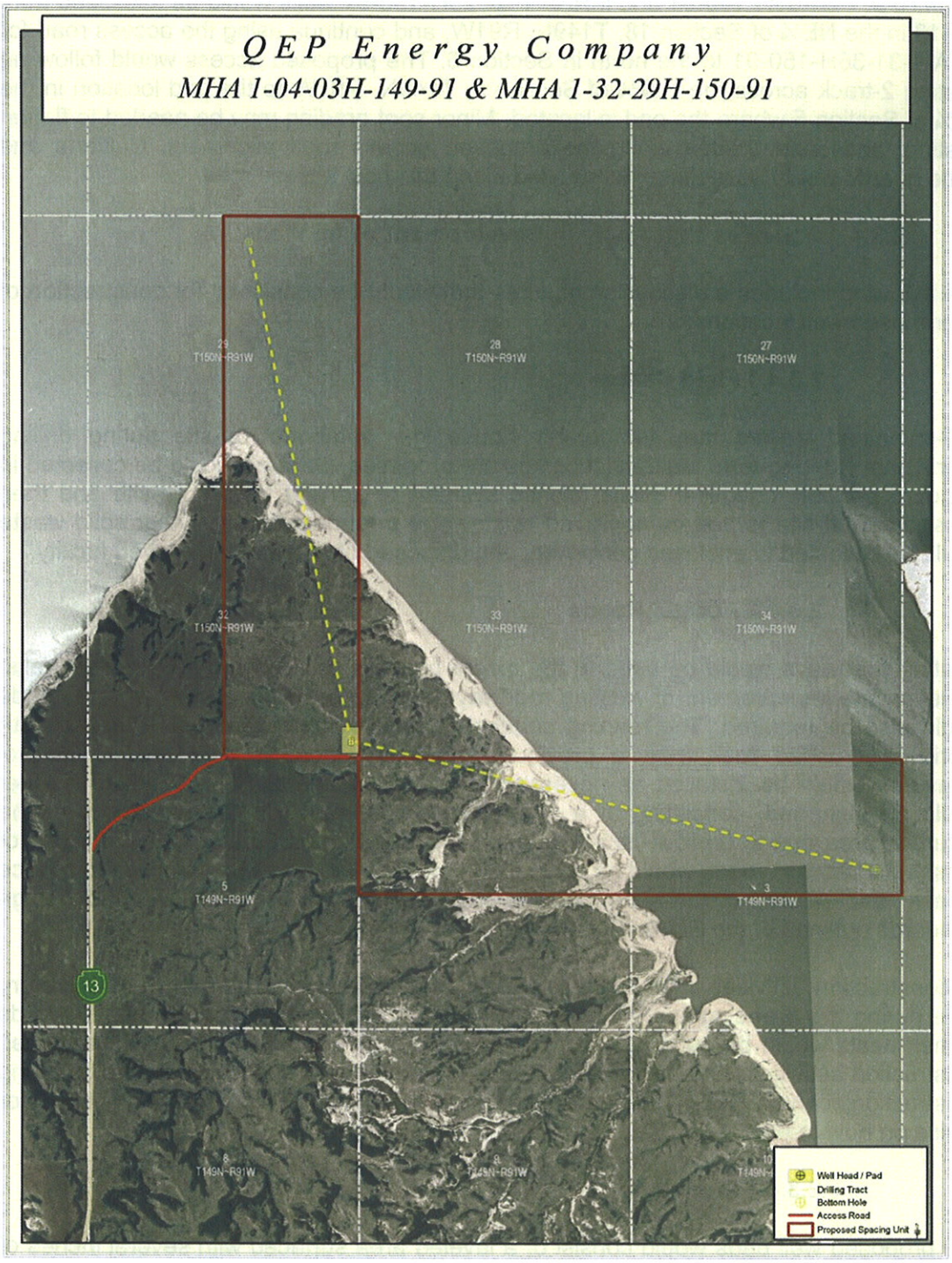

***Figure 2-3,* MHA# 1-04-03H-149-91 and MHA# 1-32-29H-150-91 Well Overview**

The MHA# 1-04-03H-149-91 and MHA# 1-32-29H-150-91 wells would be accessed from BIA 13 in the NE¼ of Section 18, T149N, R91W, and continue using the access road for MHA 1-31-36H-150-91 to the north in Section 6. The proposed access would follow an existing 2-track across the NW¼ of Section 5, T149N, R91W to the pad location in the SE¼ of Section 5 where the pad is located. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignment. Culverts and cattle guards would be installed as needed along this new access road.

2.3.4 Activities that Apply to Development of All Wells

The following includes a discussion of items that would be consistent for construction of all proposed well locations:

2.3.4.1 Field Camps

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

2.3.4.2 Access Roads

Existing roadways would be used to the extent possible to access the proposed wells; however, the improvement of existing roadways and construction of new access roads would also be required. The running surface of access roads would be surfaced with scoria or crushed rock from a previously approved location, and erosion control measures would be installed as necessary. A maximum right-of-way width of 66 feet would be disturbed, consisting of a 14-foot wide roadway with the remainder of the disturbed area due to borrow ditches and construction slopes. The outslope portions of constructed access roads would be re-seeded upon completion of construction to reduce access road related disturbance. Access road construction shall follow road design standards outlined in the BLM's Gold Book.

All construction activities shall begin after July 15 in order to avoid impacts to migratory birds during the breeding/nesting season. Pre-construction surveys for migratory birds or their nests would be conducted within five days prior to the initiation of access road construction activities. In addition, if any deceased migratory bird is found on-site during construction, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.

2.3.4.3 Well Pads

The proposed well pads would consist of a leveled area surfaced with several inches of gravel or crushed scoria. A two-foot high berm would be constructed around the pad exterior for use as a containment measure to ensure materials are not leaked off the pad site. A four-foot high berm would be constructed around the tank battery to contain potential spills. The pads would be used for the drilling rig and related equipment, as well as an excavated, triple lined pit to store drilling fluids, drilled cuttings, and fluids

processed during drilling. A semi-closed loop system will be used during drilling. All liquids from drilling will be transported off site. The level well pad areas required for drilling and completing operations (including reserve pits for dried cuttings) would each be approximately 345 X 510 feet (approximately 4.04 acres). Cut and fill slopes on the edge of the well pad would be determined on a well-by-well basis. The well pad will be fenced, and the reserve pit covered with netting to protect wildlife from hazardous areas.

Well pad areas would be cleared of vegetation, stripped of topsoil, and graded to specifications in the APD submitted to the BLM. Topsoil would be stockpiled and stabilized until disturbed areas are reclaimed and re-vegetated. Excavated subsoil would be used in pad construction, with each finished well pad graded to ensure water drains away from the drill site. Erosion control at the site would be maintained through the use of BMPs (best management practices), which may include, but are not limited to, water bars, bar ditches, bio-logs, silt fences, and re-vegetation of disturbed areas. 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 spill.

All construction activities shall begin after July 15 in order to avoid impacts to migratory birds during the breeding/nesting season. Pre-construction surveys for migratory birds or their nests would be conducted within five days prior to the initiation of well pad construction activities. In addition, if any deceased migratory bird is found on-site during construction, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.

2.3.4.4 Drilling

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

Initial drilling would be vertical to a depth of approximately 9,088 feet, at which depth it would angle to become horizontal at 10,229 feet. Drilling would then be followed by lateral reaches into the Middle Bakken Dolomite Member target. This horizontal drilling technique would minimize surface disturbance.

For the first 2,500 feet drilled at each well, 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 near-surface casing, an oil-based mud system or brine based drilling solution will be used to drill the remainder of the hole.

Drilling fluids would be separated from cuttings and contained in steel tanks placed on liners until they were ready for re-use. Any free fluids remaining in reserve pits would be removed and disposed of in accordance with NDIC (North Dakota Industrial Commission) rules and regulations. Cuttings generated from drilling would be deposited in reserve pits on well pads. The pits would be lined to prevent seepage and

contamination of underlying soil. Prior to their use, the pits would be fenced on the three non-working sides. The access side would be fenced immediately following removal of the drilling rig in order to prevent wildlife and livestock from accessing the pit. Reserve pit cuttings will be solidified into an inert, solid mass by chemical means. The treated material will be buried in reserve pits in accordance with NDIC rules and regulations.

2.3.4.5 Casing and Cementing

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

2.3.4.6 Completion and Evaluation

Once each well is drilled and cased, approximately 30 additional days will 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 hole, and running production tubing for potential future commercial production. Fluids utilized in the completion process would be captured in either reserve pits or tanks and would be disposed of in accordance with NDIC and BLM 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 and/or oil gathering lines) would transport the product to market.

2.3.4.7 Commercial Production

If commercially recoverable oil and gas resources are found at any of the proposed sites, the site(s) would become established as a production site(s). Each site would be reduced to less than two acres in size and refitted as an oil and gas production facility. Additional production equipment, including a well head pumping unit, vertical heater/treater, storage tanks (typically four to eight 400 barrel steel tanks), and a flare/production pit would be installed. The tanks are connected by a pipe and valve at the top of the each tank which will allow for overflow into the next tank. The storage tanks and heater/treater would be surrounded by a 4-foot berm that would guard against possible spills. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. Sorbent booms will be placed in select locations down-gradient of the well pad in order to prevent materials from entering surface drainageways in the event of an accidental spill. 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 an oil gathering pipeline does not exist, oil would be collected in the storage tanks and periodically trucked to an existing oil terminal to be sold. Produced water would also be captured in storage tanks and periodically trucked to an approved disposal site. The frequency of trucking activities for both oil resources and produced water would be dependent upon volumes and rates of production.

Large volumes of gas are not expected to be generated from these well sites. Small volumes of gas would be flared on-site in accordance with BIA's Notice to Lessees 4A

and NDIC regulations, which prohibit gas flaring for more than the initial year of operation. The installation of gas-gathering or transport equipment is not included as part of the proposed project. Installation of systems to gather and market gas produced from these wells would require additional analysis under NEPA and BIA approval.

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

QEP would mitigate the effects of these four exploratory wells by incorporating applicable conditions, mitigation measures, and BMPs from the BLM's regulations, BLM's Gold Book (4th Edition, 2006), and applicable BLM Onshore Oil and Gas Orders, including Numbers 1, 2, and 7.

2.3.4.8 Reclamation

The reserve pit and dried cuttings would be treated, solidified, backfilled, and buried upon well completion. Other interim reclamation measures to be implemented upon well completion include reduction of cut and fill slopes, redistribution of stockpiled topsoil, and reseeding of disturbed areas. If commercial production equipment is installed, the well pads would be reduced in size to approximately 200 x 300 feet (1.4 acres), with the remainder of the original well pad reclaimed. Reclamation activities would include leveling, re-contouring, treating, backfill, and re-seeding. Erosion control measures would be installed as appropriate. Stockpiled topsoil would be redistributed and reseeded as recommended by the BIA.

If no commercial production developed from one or any of the proposed wells, or upon final abandonment of commercial operations, all disturbed areas would be reclaimed within one year of the well closure. 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. Both access roads and well pad areas would be re-contoured to match topography of the original landscape, and reseeded with a native grass seed mixture consistent with surrounding native species to ensure a healthy and diverse mix that is free of noxious weeds. Erosion control measures would be installed as appropriate. Maintenance of the grass seeding would continue until such time that the productivity of the stand is consistent with surrounding undisturbed vegetation and is free of noxious weeds. An exception to these reclamation measures may occur if the BIA approves assignment of an access road either to the BIA roads inventory or to concurring surface allottees.

2.3.4.9 Potential for Future Development

Development beyond the four wells discussed 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, as would be subject to review under NEPA, as appropriate.

Chapter 3 Description of the Affected Environment and Impacts

3.1 Introduction

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

3.2 Geologic Setting and Land Use

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

According to Great Plains Regional Climate Center data collected at the Dunn Center weather station from 1971-2000, temperatures in excess of 80 degrees Fahrenheit are common in summer months. The area receives approximately 16.5 inches of rain annually, predominantly during spring and summer. Winters in this region are cold, with temperatures often falling near zero degrees Fahrenheit. Snow generally remains on the ground from November to March, and approximately 38.5 inches of snow are received annually.

The topography within the project areas is primarily identified as part of the River Breaks Ecoregion, which consist of broken terraces and upland that descend to the Missouri River and its major tributaries. The western and southern portions of the Fort Berthold Reservation consist of prairie grasslands and buttes. The northern and eastern areas of the reservation provide fertile farmland. The proposed project areas are located within a predominately rural area. Land within the proposed project areas is predominantly grasslands (83%) and transportation/developed land (17%). ***Please refer to Figure 3-1, Land Use.*** Additional surrounding land uses include forested upland and water.

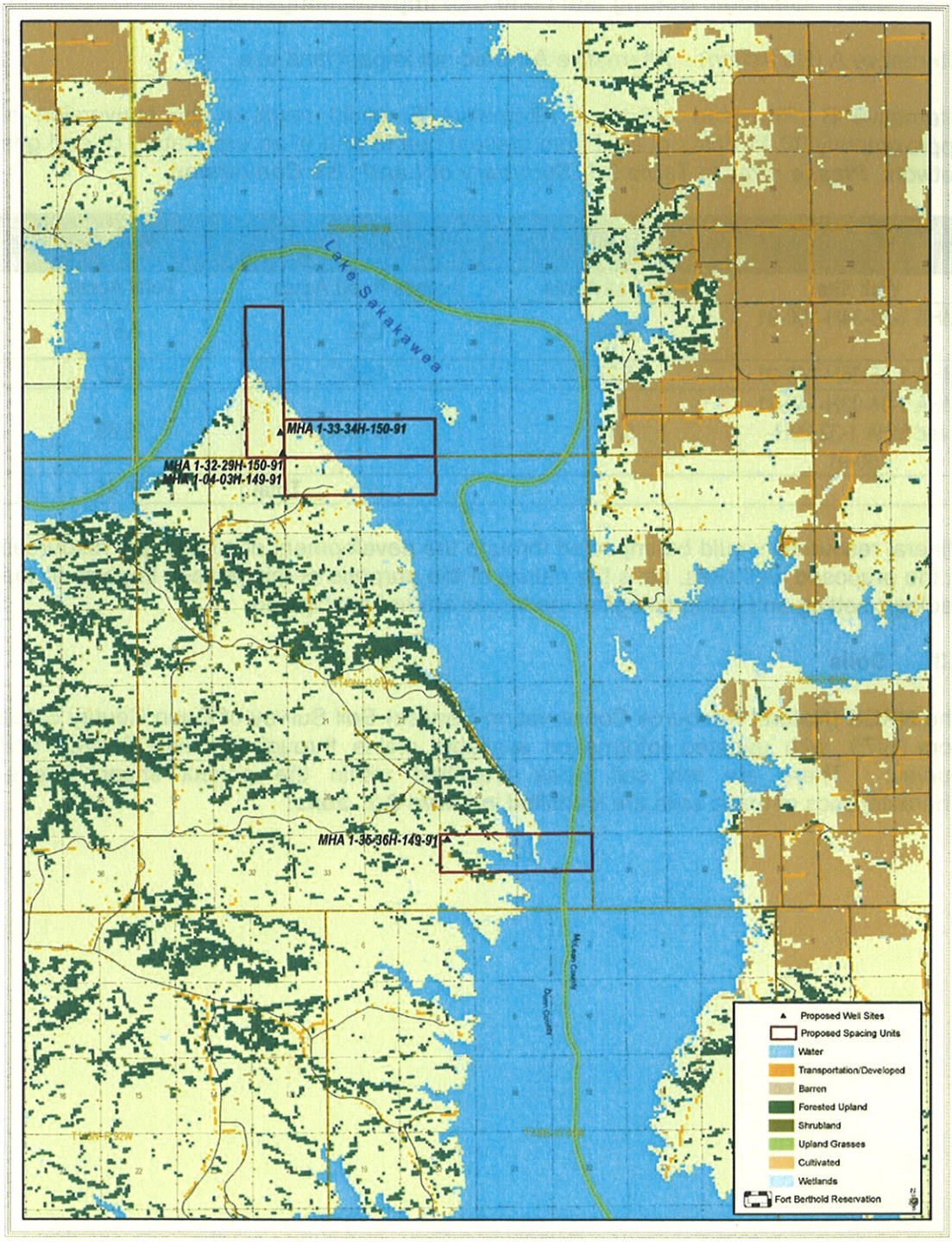

Figure 3-1, Land Use

3.2.1 Geologic Setting and Land Use Impacts/Mitigation

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

Alternative B (Proposed Action) – Alternative B would result in the conversion of approximately 30.41 acres of land from present use to part of an exploratory oil and gas network. ***Please refer to Table 3.1, Summary of Land Use Conversion.***

Table 3.1
Summary of Land Use Conversion

Well Site	Well Pad Acres	Access Road Acres	Total Acres
MHA 1-33-34H-150-91	5.29	1.32	6.61
MHA 1-35-36H-149-91	5.27	4.64	9.91
MHA 1-04-03H-149-91 and MHA 1-32-29H-150-91	5.17	8.72	13.89
		Total	**30.41**

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

3.3 Soils

The NRCS (Natural Resource Conservation Service) Soil Survey of Dunn County dates from 1979, with updated information available online through the NRCS Web Soil Survey. There are ten soil types identified within the project impact areas. Characteristics of these soils are identified in ***Table 3.2, Soils.***

Table 3.2 Soils								
Map Unit Symbol	Soil Name	Percent Slope	Composition (in upper 60 inches)			Erosion Factor[1]		Hydrologic Soil Group[2]
			% sand	% silt	% clay	T	Kf	
4	Arnegard loam	0 to 2	40.3	36.9	22.8	5	.24	B
4B	Arnegard loam	2 to 6	40.3	36.9	22.8	5	.24	B
30E	Cohagen-Vebar fine sandy loams	9 to 25	78.5	14	7.5	2	.20	B
33	Grail silt loam	0 to 2	11.8	53.5	34.7	5	.28	C
48B	Temvik silt loam	3 to 6	19.1	53	27.9	5	.32	B
88B	Williams loam	3 to 6	34.8	35.2	30	5	.28	B
88C	Williams loam	6 to 9	34.8	35.2	30	5	.28	B
93C	Williams-Zahl loams	6 to 9	34.8	35.2	30	5	.28	B
93D	Zahl-Williams loams	9 to 15	35	35.2	30.6	5	.28	B
93E	Zahl-Williams loams	15 to 25	35	34.3	30.6	5	.28	B

All listed soils have moderate susceptibility to sheet and rill erosion and the majority can tolerate high levels of erosion without loss of productivity, with the exception of Map Unit Symbol 30E. These soils have medium to rapid runoff potential, Map Unit Symbol 30E having the highest potential. Depth to the water table is recorded at greater than six feet for each of these soil types. None of the soils listed within the project impact areas are susceptible to flooding or ponding.

3.3.1 Soil Impacts/Mitigation

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

Alternative B (Proposed Action) – Construction activities associated with the proposed well sites and associated access roads would result in soil disturbances, though impacts to soils associated with the proposed action are not anticipated to be significant. Stockpile quantities for each location were calculated using an assumed 6-inches of existing topsoil. The following identifies topsoil requirements for each site:

- MHA 1-33-34H-150-91– A minimum of 3,420 cubic yards of topsoil and 15,725 cubic yards of material for future site reclamation would be stockpiled on site.
- MHA 1-35-36H-149-91– A minimum of 3,505 cubic yards of topsoil and 21,230 cubic yards of material for future site reclamation would be stockpiled on site.

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

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

- MHA 1-04-03H-149-91 and MHA 1-32-29H-150-91– A minimum of 3,420 cubic yards of topsoil and 25,160 cubic yards of material for future site reclamation would be stockpiled on site.

Based on NRCS soil profiles, topsoil probably exists in excess of between 3-12 inches at each of the well sites, yielding sufficient quantity of topsoil for construction and reclamation activities. Topsoil and embankment stockpiles are proposed to be located on the north and west sides of the MHA 1-33-34H-150-91 pad, on the south and east sides of the MHA 1-32-29H-150-91/MHA 1-04-03H-149-91, and on the north and south sides of the MHA 1-35-36H-149-91 pad. The stockpiles have been 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.

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 to reduce these impacts would include the use of erosion and sediment control measures during and after construction, segregating topsoil from subsurface material for future reclamation, reseeding of disturbed areas, 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 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 until clean-up and remediation can be completed.

3.3.2 Water Resources

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

Lake Sakakawea are both considered navigable waters and are therefore subject to Section 10 of the Rivers and Harbors Act of 1899.

3.3.3 Surface Water

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

All of the proposed well sites are located in the Lake Sakakawea basin, meaning surface waters within this basin drain to Lake Sakakawea. The MHA 1-33-34H-150-91 well is located in the Saddle Butte Watershed and the Lucky Mound Creek Bay Sub-Watershed; the MHA 1-35-36H-149-91 well is located in the Saddle Butte Watershed and the Saddle Butte Bay Sub-Watershed; the MHA 1-04-03H-149-91 and MHA 1-32-29H-150-91 wells are all located in the Saddle Butte Watershed and the Lucky Mound Creek Bay 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. Surface runoff for each well site would typically travel to Lake Sakakawea via drainage patterns as follows:

- MHA 1-33-34H-150-91 – Runoff from the well pad drains generally in a northerly direction into a draw that travels 0.32 miles to Lake Sakakawea.
- MHA 1-35-36H-149-91 – This well pad is approximately divided into two areas. The western portion drains westerly into an unnamed coulee which travels 0.27 miles into an unnamed ravine traveling 0.46 miles to Lake Sakakawea. The eastern portion drains easterly to an unnamed ravine that travels 0.34 miles to Lake Sakakawea.
- MHA 1-04-03H-149-91 and MHA 1-32-29H-150-91 – Runoff from the well pad drains westerly into a shallow draw that drains southerly 0.13 miles to an unnamed channel, which drains easterly 0.82 miles to Lake Sakakawea.

3.3.4 Surface Water Impacts/Mitigation

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

Alternative B (Proposed Action) – No significant impacts to surface water are expected to result from Alternative B. The proposed projects have been sited to avoid direct impacts to surface waters and to minimize the disruption of drainage patterns across the landscape. Construction site plans should contain measures to divert surface runoff around the well pad. Roadway engineering and the implementation of BMPs to control erosion would minimize runoff of sediment downhill or downstream. 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 spill. Alternative B is not anticipated to result in measurable increases in runoff or impacts to surface waters.

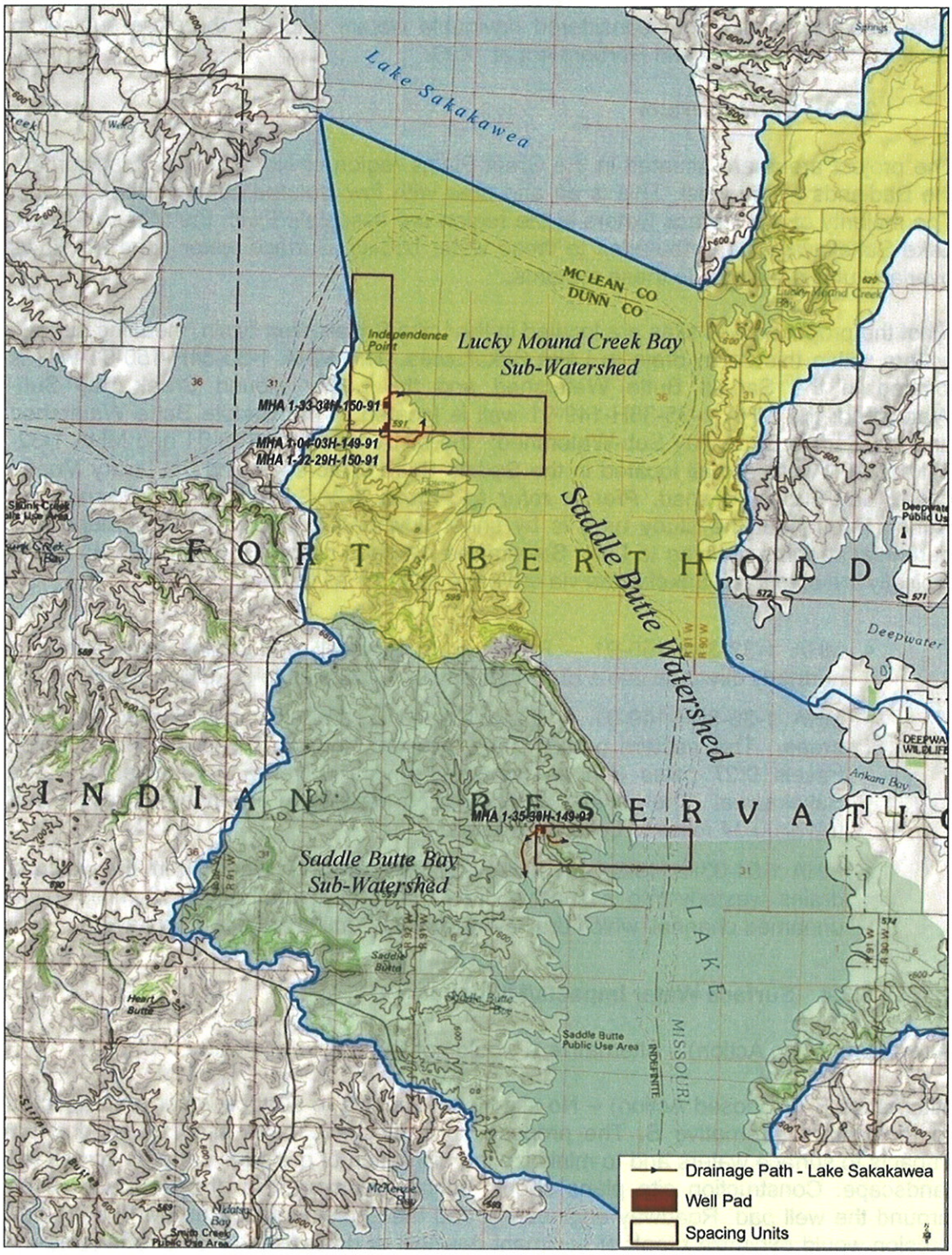

Figure 3-2, Surface Water Resources

3.3.5 Ground Water

The North Dakota State Water Commission's electronic records reveal that there are no permitted wells within one-mile of the MHA 1-33-34H-150-91, MHA 1-35-36H-149-91/ MHA 1-04-03H-149-91, and MHA 1-32-29H-150-91 well pads. There are no additional active or permitted water wells or groundwater-fed surface water impoundments immediately within the proposed well pad or access road areas. The New Town aquifer is located northeast of the proposed well pad sites; however, no sole source aquifers have been identified within the state of North Dakota. ***Please refer to Figure 3-3, Aquifers and Groundwater Wells.***

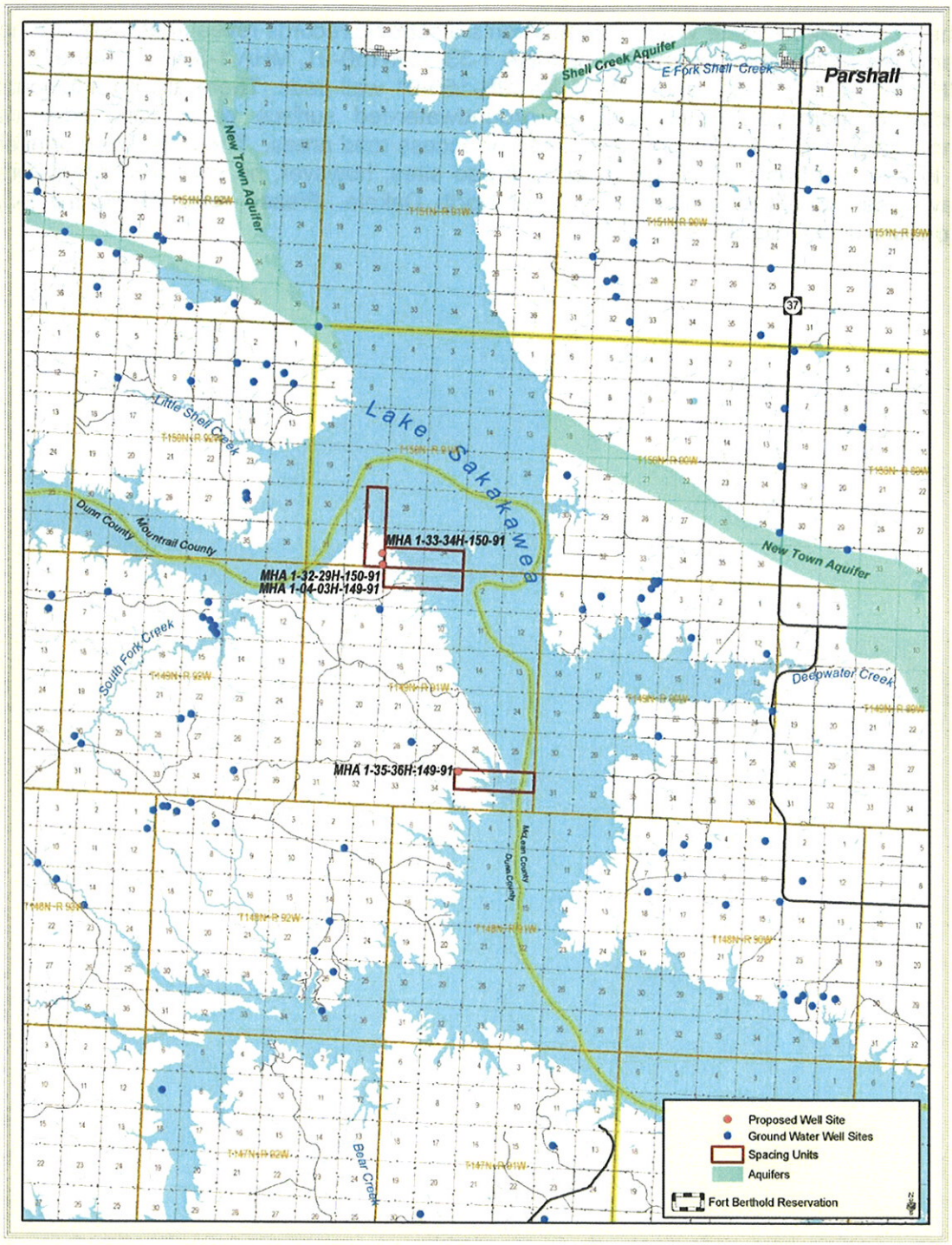

Figure 3-3, Aquifers and Groundwater Wells

3.3.5.1 Ground Water Impacts/Mitigation

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

Alternative B (Proposed Action) – 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.

3.3.6 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 AAQM station in Dunn Center, North Dakota is approximately 31 miles southwest of the MHA 1-33-34H-150-91 proposed site; 27.3 miles southwest of the MHA 1-35-36H-149-91 proposed site; and 31.8 miles southwest of the MHA 1-04-03H-149-91 and MHA 1-32-29H-150-91 proposed site (dual pad). Criteria pollutants tracked under EPA's National Ambient Air Quality Standards in the Clean Air Act include SO_2 (sulfur dioxide), PM (particulate matter), NO_2 (nitrogen dioxide), O_3 (ozone), Pb (lead), and CO (carbon monoxide). In addition, the NDDH has established state air quality standards. State standards must be as stringent as (but may be more stringent than) federal standards. The federal and state air quality standards for these pollutants are summarized in ***Table 3.3, Federal and State Air Quality Standards (EPA 2006, NDDH 2009).***

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

Table 3.3 Federal Air Quality Standards and NDDH Data					
Pollutant	Averaging Period	EPA Air Quality Standard		NDDH Air Quality Standard	
		µg/m³	parts per million	µg/m³	parts per million
SO_2	24-Hour	365	0.14	260	0.099
	Annual Mean	80	0.030	60	0.023
PM_{10}	24-Hour	150	--	150	--
	Annual Mean	50	--	50	--
$PM_{2.5}$	24-Hour	35	--	35	--
	Weighted Annual Mean	15	--	15	--
NO_2	Annual Mean	100	0.053	100	0.053
CO	1-Hour	40,000	35	40,000	35
	8-Hour	10,000	9	10,000	9
Pb	3-Month	1.5	--	1.5	--
O3	1-Hour	240	0.12	235	0.12
	8-Hour	--	0.08	--	0.08

In addition, the Fort Berthold Reservation complies with the North Dakota National Ambient Air Quality Standards and visibility protection. The Clean Air Act affords additional air quality protection near Class I areas. Class I areas include national parks greater than 6,000 acres in size, national monuments, national seashores, and federally designated wilderness areas larger than 5,000 acres designated prior to 1977. There are no Federal Class I areas[3] within the project area. The Theodore Roosevelt National Park is the nearest Class I area, located approximately 43.4 miles west-southwest of the MHA 1-33-34H-150-91 proposed site; 43.3 miles west-southwest of the MHA 1-04-03H-149-91 and MHA 1-32-29H-150-91 proposed site (dual pad); and 44.6 miles west-southwest of the MHA 1-35-36H-149-91 proposed site.

3.3.7 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. Alternative B would not include any major sources of air pollutants. Construction activities would temporarily generate minor amounts of dust and gaseous emissions of PM, SO_2, NO_2, CO, and volatile organic compounds. Emissions would be limited to the immediate project areas and are not anticipated to cause or contribute to a violation of National Ambient Air Quality Standards. No detectable or long-term impacts to air quality or visibility are expected within the airsheds of the Fort Berthold Reservation, State, or Theodore Roosevelt National Park. No mitigation or monitoring measures are recommended.

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

3.3.8 Threatened and Endangered Species

In accordance with Section 7 of the 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 one which may warrant listing as an endangered or threatened species, but the data are inconclusive. While candidate species are not legally protected under the Endangered Species Act, it is within the spirit of the Endangered Species Act to consider these species as having significant value and worth protecting.

An on-site assessment and survey for wildlife and botany species was conducted for the well pads and access roads on April 28, 2010. Representatives from Kadrmas, Lee & Jackson, QEP, BIA Environmental Protection Office, and Three Affiliated Tribes Tribal Historic Preservation Office were present during this visit. Well pad and access road locations were adjusted, as appropriate, to best avoid impacts to environmental areas of concern including threatened and endangered species, avian nests, wetlands and any additional identified sensitive wildlife or botanical concerns identified on site. Those present at the on-site assessment agreed the chosen locations, along with the implementation of minimization, may minimize impacts to wildlife and botanical resources. Site-specific data and photos with regards to biological, botanical, soil, and water resources were collected. A study area of 10 acres centered on the well pad center point and a 200-foot wide access road corridor along with all hardwood draws within ½ mile of the proposed project.

Surveys for raptors and raptor nests within 0.5 miles of project disturbance areas were conducted by Kadrmas, Lee & Jackson on April 9, 2010 and May 18, 2010. Both surveys consisted of pedestrian transects focusing specifically on potential nesting sites within 0.5 miles of project disturbance areas, including cliffs and wooded draws. Wooded draws were observed both from the upland areas overlooking the draws and from bottomlands within the actual draws.

The proposed action area was evaluated to determine the potential for occurrences of federally-listed threatened, endangered, and candidate species. The USFWS (United States Fish and Wildlife Service) has identified the gray wolf, interior least tern, pallid sturgeon, black-footed ferret, and whooping crane as endangered species that may be found within Dunn County. Dunn County also includes the potential for occurrence of the threatened piping plover and candidate Dakota skipper. In addition, Dunn County contains designated critical habitat for the piping plover adjacent to Lake Sakakawea and the Missouri River. None of these species were observed in the field. Habitat requirements, the potential for suitable habitat within the project areas, and other information regarding listed species for Dunn County are discussed for each species.

Black-footed Ferret (Mustela nigripes)

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

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

Gray Wolf (*Canis lupus*)

The gray wolf is the largest wild canine species in North America. It is found throughout northern Canada, Alaska, and the forested areas of Northern Michigan, Minnesota, and Wisconsin. They have 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. Given poor habitat, unreliable food supplies, nearby human inhabitation and the distance to known populations in Canada, Montana, Minnesota, and Wyoming, colonization of this species would be unlikely in North Dakota. 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 proposed project areas are located far from other known wolf populations.

Interior Least Tern (*Sterna antillarum*)

The interior least tern nests along inland rivers rather than along the coast. 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 areas. Potential habitat in the form of Lake Sakakawea shoreline exists approximately 975 feet away at the closest point. The location of the well pads and access roads are located on an upland bluff composed of previously-grazed rangeland with the shoreline located below the bluffs.

Pallid Sturgeon (*Scaphirhynchus albus*)

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

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

There is no existing or potential habitat within the project areas. Habitat where the pallid sturgeon may occur, such as Lake Sakakawea, is located approximately 975 feet away at the closest point to the project areas.

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 365. Of these flocks, only one is self-sustaining.

The proposed project is located in the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred. The proposed project site and access road do not contain wetlands or cropland which may be used for feeding. However, the site is in close proximity to Lake Sakakawea that could potentially be used by whooping cranes as stopover habitat during their migration.

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 areas. Potential habitat in the form of Lake Sakakawea shoreline exists approximately 975 feet away at the closest point. The well pads and access roads are located on an upland bluff composed of previously-grazed native rangeland, with shoreline located below the bluffs.

Dakota Skipper (*Hesperia dacotae*)

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

The proposed project areas consist of previously-grazed upland prairie. No Dakota skippers were observed during the field visit; however, a timely survey when the Dakota skipper would be most visible was not completed.

3.3.9 Threatened and Endangered Species Impacts/Mitigation

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

Alternative B (Proposed Action) – Potential habitat associated with Lake Sakakawea and its shoreline is located approximately 975 feet away from the proposed QEP project sites at the closest point. As such, the proposed project may affect, but is not likely to adversely affect the interior least tern, pallid sturgeon, or piping plover. In addition, the proposed QEP sites are located on upland bluffs that are at a considerably higher elevation than the Lake Sakakawea shoreline. The topographic features of the area should assist in providing sight and sound buffers that should avoid disturbing shoreline-nesting birds. Therefore, the proposed project may affect, but is not likely to adversely affect the interior least tern, pallid sturgeon, or piping plover. The proposed project is not likely to destroy or adversely modify critical habitat.

The proposed project is located within the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred and suitable cropland food sources can be found nearby. Per the USFWS recommendations, if a whooping crane is sighted within one-mile of a well site or associated facilities while under construction, that all work cease within one-mile of that part of the project and the USFWS be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area. Therefore, the proposed project may affect, but is not likely to adversely affect the whooping crane. The proposed project is not likely to jeopardize the continued existence of this species and is not likely to destroy or adversely modify critical habitat. Due to a lack of preferred habitat characteristics and/or known populations, the proposed project is anticipated to have no effect to the gray wolf, black-footed ferret, or Dakota skipper.

On account of the potential effect of this project, QEP has developed avoidance and minimization measures for the proposed project. ***Please refer to section 3.17 Environmental Commitments/Mitigation.*** In addition, pedestrian surveys of the project site took place prior to site staking to identify potential habitat in an effort to minimize impacts to these species.

Per USFWS recommendations, projects located within 0.5 mile of designated piping plover habitat should be designed so that neither construction nor ongoing operations of the wells and pipelines, including potential spills, will impact critical habitat. Design of the pad will include constructing a two-foot high berm around the pad exterior and a four-foot

high berm around the tank batteries as a precautionary measure against spills, implementing BMPs to minimize wind and water erosion of soil resources, as well as implementing a semi closed loop system during drilling and a double reinforced lined pit to contain cuttings.

3.4 Wetlands, Raptors, Other Wildlife and Vegetation

An on-site assessment and survey for wildlife and botany species was conducted for the well pads and access roads on April 28, 2010. Representatives from Kadrmas, Lee & Jackson, QEP, BIA Environmental Protection Office, and Three Affiliated Tribes Tribal Historic Preservation Office were present during this visit. Well pad and access road locations were adjusted, as appropriate to best avoid impacts to environmental areas of concern including threatened and endangered species, avian nests, wetlands and any additional identified sensitive wildlife or botanical concerns identified on-site. Those present at the on-site assessment agreed the chosen locations along with the minimization measures QEP was planning to implement would minimize impacts to sensitive wildlife and botany resources. Site-specific data and photos with regards to biological, botanical, soil, and water resources were collected using pedestrian transects. A study area of 10 acres centered on the well pad center point and a 200-foot wide access was surveyed. In addition, hardwood draws within ½ mile of the project area were surveyed for the presence of raptor nests.

Surveys for raptors and raptor nests within 0.5 miles of project disturbance areas were conducted by Kadrmas, Lee & Jackson on April 9, 2010 and May 18, 2010. These surveys consisted of pedestrian transects focusing specifically on potential nesting sites within 0.5 miles of project disturbance areas, including cliffs and wooded draws. Wooded draws were observed both from the upland areas overlooking the draws and from bottomlands within the actual draws.

3.4.1 Wetlands

Wetlands are defined in both the 1997 Executive Order 11990, Protection of Wetlands, and in Section 404 of the Clean Water Act of 1986, as those areas that are inundated by surface or groundwater with a frequency to support and under normal circumstances do or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Three parameters that define a wetland, as outlined in the Federal Manual for Delineating Jurisdictional Wetlands (US Army Corps of Engineers, 1987) are hydric soils, hydrophytic vegetation, and hydrology. Wetlands are an important natural resource serving many functions, such as providing habitat for wildlife, storing floodwaters, recharging groundwater, and improving water quality through purification.

No wetlands or riparian areas were identified within any of the proposed well pads or access road areas during the field surveys.

3.4.1.1 Wetland Impacts/Mitigation

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

Alternative B (Proposed Action) – Due to the absence of wetlands within the proposed project areas, Alternative B would not impact wetlands. A Section 10 Permit from the USACE would be required for horizontal drilling activities under Lake Sakakawea.

3.4.2 Raptors

Protection is provided for the bald and golden eagle, as well as other migratory birds, through the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act (MBTA). 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. In addition, the MBTA (916 U.S.C. 703–711) 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 BGEPA affords additional protection to all bald and golden eagles. Under BGEPA, 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 not common in North Dakota, but is sighted 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. There are approximately 15 breeding pairs of bald eagles in North Dakota, most of which nest along the Missouri River. In addition, ND Game and Fish Department in 2009 estimated that 66 nests were occupied by bald eagles, though not all eagle nests were visited and verified[4]. Its preferred habitat 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.

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.

The USGS (United States Geological Survey) Northern Prairie Wildlife Research Center maintains GAP analysis data on bald eagle and golden eagle habitat within the state of North Dakota. According to USGS data, the proposed 0.5 mile buffered survey area does contain recorded habitat for both the bald eagle and 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 that was classified as a

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

reliable find is located approximately 6.4 miles south-southwest of the MHA 1-35-36H-149-91 site. ***Please refer to Figure 3-4, Bald and Golden Eagle Habitat and Nest Sightings.***

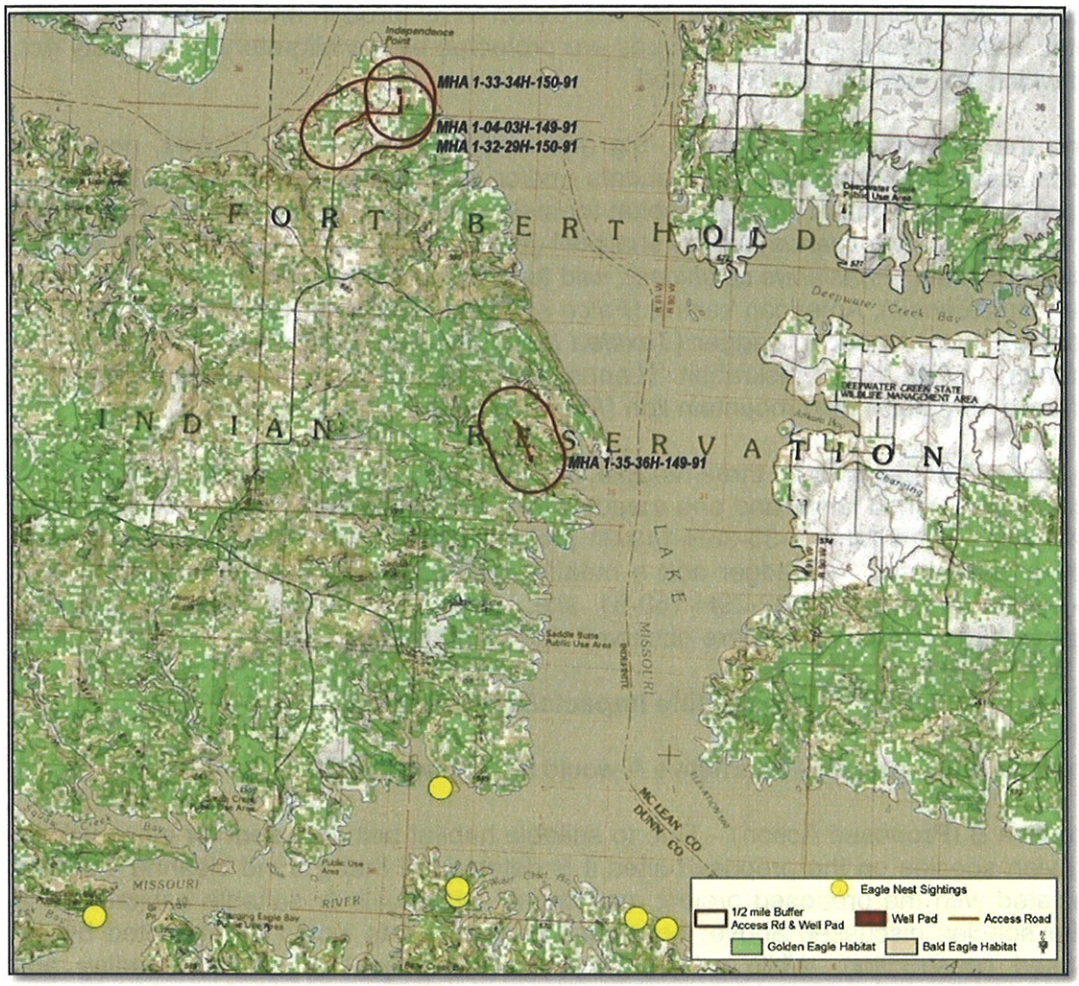

Figure 3-4, Bald and Golden Eagle Habitat and Nest Sightings

3.4.2.1 Raptor Impacts/Mitigation

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

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

3.4.3 Other Wildlife

The study area lies in the prairie pothole region of North Dakota and the Central Flyway of North America. As such, this area is used as resting grounds for many birds on their spring and fall migrations, as well as nesting and breeding grounds for many waterfowl species. Other non-game bird species are known to fly through and inhabit this region. In total, 1,007 species of migratory birds are protected by the Migratory Bird Treaty Act, 58 of which are currently legally hunted.

During the pedestrian field surveys, big and small game species, raptors, non-game species, as well as their potential habitats and/or their nests were identified if present. The project areas contain suitable habitat for mule deer (*Odocoileus hemionus*), whitetail deer (*Odocoileus virginianus*), plains sharptail grouse (*Tympanuchus phasianellus)*, ring-necked pheasant (*Phasianus colchicas*), wild turkey (*Meleagris gallopavo*), red tail hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), coyote (*Canis latrans*), red fox (*Vulpes vulpes*), American badger (*Taxidea taxus*), Eastern cottontail rabbit (*Sylvilagus floridanus*), white-tailed jackrabbit (*Lepus townsendii*), North American porcupine (*Erethizon dorsatum*), and mountain lion (*Puma concolor*), and song birds.

Nine plains sharptail grouse, three magpie, two thirteen-line ground squirrels, three white pelicans, two horned larks, and one meadow lark were observed at the MHA 1-33-34H-150-91 site. At the MHA 1-35-36H-149-91 proposed site, eight Franklin's gulls and one bobolink were noted. A badger and a meadow lark were observed at the MHA 1-04-03H-149-91 and MHA 1-32-29H-150-91 site. No other wildlife species, including migratory birds or their nests were observed during the field surveys.

3.4.3.1 Other Wildlife Impacts/Mitigation

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

Alternative B (Proposed Action) – Due to suitable habitat being present for many wildlife and avian species on the proposed sites it is determined that ground clearing activities associated with the proposed project may impact individuals or suitable habitat for the wildlife species discussed above; however, no avian nests would be impacted by the proposed construction. While wildlife may use the project areas for breeding and feeding, wildlife are generally expected to adapt to changing conditions and continue to thrive. In addition, avian species that may frequent the project areas are transitory in nature and are also generally expected to adapt to changing conditions and continue to thrive. The proposed project may affect individuals of these wildlife species, but is not likely to adversely affect any populations, or to result in a trend towards listing of any of the species identified. As no grouse leks were observed in project areas, timing restrictions for construction are not required.

The proposed QEP sites are located on upland bluffs that are at a considerably higher elevation than the Lake Sakakawea shoreline. The topographic features of the area should assist in providing sight and sound buffers that should avoid disturbing shoreline-nesting birds.

During drilling activities, the noise, motion and lights associated with having a drilling rig on site should be sufficient to deter any wildlife from entering the area. In addition, the reserve pits would only be used primarily for solid material storage, and it is expected that very minimal free fluid will be present in the pits. The absence of exposed liquids in the pits would minimize their attractiveness to wildlife. Immediately after the drilling rig leaves the location, reserve pits would be netted with State and Federal approved nets. These would remain in place until the closure of the reserve pits.

In addition, design considerations will be implemented to further protect against potential habitat degradation. Design considerations would include constructing a two-foot high berm around the pad exterior, and a four-foot high berm around the tank batteries as a precautionary measure against spills. BMPs to minimize wind and water erosion of soil resources, as well as using a semi-closed loop system during drilling would also be put into practice.

All construction activities shall begin after July 15 in order to avoid impacts to migratory birds during the breeding/nesting season. Pre-construction surveys for migratory birds or their nests would be would be conducted within five days prior to the initiation of all construction activities. In addition, if any deceased 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; maintaining open pits and ponds that are free from oil, and netting cutting pits with netting material that has a maximum mesh size of 1.5 inches.

3.4.4 Vegetation

Botanical resources were evaluated using visual inspection, GPS data collection, and mapping of dominant plant communities. The project areas were also investigated for the presence of invasive plant species.

The proposed MHA 1-33-34H-150-91 well pad is located on an upland area that is dominated by mixed-grass prairie and has been previously grazed. The mixed grass prairie consists of green needlegrass (*Stipa viridula*), kentucky bluegrass (*Poa pratensis*), little bluestem (*Schizachyrium scoparium*), and crested wheatgrass (*Agropyron cristatum*). Patches of western snowberry (*Symphoricarpos occidentalis*) were also found. The proposed access road would connect to the MHA 1-32-29H-150-91/MHA 1-04-03H-140-91 dual well pad south of the proposed location. ***Please refer to Figures 3-5, MHA 1-33-34H-150-91 Well Site Vegetation and 3-6, MHA 1-33-34H-150-91 Access Road Vegetation.***

***Figure 3*-5, MHA 1-33-34H-150-91 Well Site Vegetation**

***Figure 3-6*, MHA 1-33-34H-150-91 Access Road Vegetation**

The proposed MHA 1-35-36H-149-91 well pad is located on an upland area that is dominated by mixed-grass prairie and has been previously grazed. The mixed grass prairie consists of little bluestem (*Schizachyrium scoparium*) and kentucky bluegrass (*Poa pratensis*). Patches of western snowberry (*Symphoricarpos occidentalis*) and silver buffaloberry (*Shepherdia argentea*) were also found. The proposed access road would connect to a proposed well pad access road to the MHA 1-26-27H-149-91well pad. ***Please refer to Figure 3-7, MHA 1-35-36H-149-91 Well Pad Vegetation and Figure 3-8, MHA 1-35-36H-149-91 Access Road Vegetation.***

***Figure 3-7*, MHA 1-35-36H-149-91 Well Pad Vegetation**

***Figure 3-8*, MHA 1-35-36H-149-91 Access Road Vegetation**

The proposed MHA 1-32-29H-150-91/ MHA 1-04-03H-149-91 dual well pad is located on an upland area that is dominated by mixed-grass prairie and has been previously grazed. The mixed grass prairie consists of green needlegrass (*Stipa viridula*), kentucky bluegrass (*Poa pratensis*) and little bluestem (*Schizachyrium scoparium*). Patches of western snowberry (*Symphoricarpos occidentalis*) were also found. The proposed access road would connect to the existing well access to MHA 1-31-36H-150-91. ***Please refer to Figure 3-9, MHA 1-32-29H-150-91/ MHA 1-04-03H-149-91 Snowberry Community, Figure 3-10, MHA 1-32-29H-150-91/ MHA 1-04-03H-149-91 Access Road Vegetation, and Figure 3-11, MHA 1-32-29H-150-91/ MHA 1-04-03H-149-91 Well Pad Vegetation.***

***Figure 3*-9, MHA 1-32-29H-150-91/ MHA 1-04-03H-149-91 Snowberry Community**

***Figure 3*-10, MHA 1-32-29H-150-91/ MHA 1-04-03H-149-91 Access Road Vegetation**

***Figure 3*-11, MHA 1-32-29H-150-91/ MHA 1-04-03H-149-91 Well Pad Vegetation**

In addition, the project areas were surveyed for the presence of noxious weeds. Of the 11 species declared noxious under the North Dakota Century Code (Chapter 63-01.0), three are known to occur in Dunn County. ***Please refer to Table 3.4, Noxious Weed Species.*** In addition, counties and cities have the option to add species to the list to be enforced only in their jurisdiction. Canada thistle (*Cirsium arvense*) was observed during the field survey at the MHA 1-33-34H-150-91, MHA 1-32-29H-150-91/MHA 1-04-03H-149-91 sites as individual plants or small quantities of plants grouped together. Absinth wormwood (*Artemesia abinthium*) was also observed at the MHA 1-32-29H-150-91/ MHA 1-04-03H-149-91 site.

Table 3.4
Noxious Weed Species

Common Name	Scientific Name	Dunn County Acres	Observed in the Field
Absinth wormwood	*Artemesia abinthium* L.	39,300	Yes
Canada thistle	*Cirsium arvense* (L.) Scop	28,500	Yes
Dalmation toadflax	*Linaria genistifolia*	0	No
Diffuse Knapweed	*Centaurea diffusa*	0	No
Leafy spurge	*Euphorbia esula* L.	18,300	No
Musk thistle	*Carduus nutans* L.	0	No
Purple Loosestrife	*Lythrum salicaria*	0	No
Russian knapweed	*Acroptilon repens* (L.) DC.	0	No
Saltcedar (tamarisk)	*Tamarix ramosissima*	0	No
Spotted knapweed	*Centaurea maculosa* Lam.	0	No
Yellow starthistle	*Centaurea solstitalis* L.	0	No

3.4.4.1 Vegetation Impacts/Mitigation

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

Alternative B (Proposed Action) – Ground clearing activities associated with construction of the proposed wells and access roads would result in vegetation disturbance; however, the areas of proposed surface disturbances are minimal in the context of the setting, and these impacts would be further minimized in accordance 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 reseeding of disturbed areas and stockpiles with a native grass seed mixture consistent with surrounding vegetation. If commercial production equipment is installed, the well pads would be reduced in size to approximately 200x300 feet (1.4 acres), with the remainder of the original 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 reseeded as recommended by the BIA.

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

3.5 Cultural Resources

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

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

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

In accordance with 16 U.S.C. 470hh(a), information concerning the nature and location of archaeological resources and traditional cultural properties, and detailed information regarding archaeological and cultural resources, is confidential. Such information is exempt from the Freedom of Information Act and is not included in this EA.

A Class I Literature Review was conducted by Kadrmas, Lee & Jackson for the four QEP wells on May 8, 2010. A Class III Cultural Resource Inventory was conducted by

Kadrmas, Lee & Jackson on May 13, 2010 for the sites. A Traditional Cultural Property Survey was also conducted at this time by the Three Affiliated Tribes THPO (Tribal Historic Preservation Office). The APE (Area of Potential Effect), or area surveyed, consisted of a 10-acre site around each well site, as well as the associated access road corridors. No cultural resources were identified within the project APEs.

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.

Cultural resource inventories of these well pads and access roads were conducted by personnel of Kadrmas, Lee & Jackson, Inc., using an intensive pedestrian methodology. For the MHA 1-33-34H-150-91 project approximately 11.2 acres were inventoried on May 13, 2010 (Ó Donnchadha and Leuchtmann 2010a), for the MHA 1-32-29H-150-91/MHA 1-04-03H-149-91 project approximately 30 acres were inventoried on May 13, 2010 (Ó Donnchadha and Leuchtmann 2010b) and for the MHA 1-35-36H-149-91 project approximately 21 acres were inventoried on July 13, 2010 (Leuchtmann 2010).

No historic properties were located that appear to 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 determinations of **no historic properties affected** for these undertakings. This determination for the MHA 1-33-34H-150-91 and for the MHA 1-32-29H-150-91/MHA 1-04-03H-149-91 projects was communicated to the THPO on July 16, 2010 and the THPO concurred on July 22, 2010. The same determination for the MHA 1-35-36H-149-91 project was communicated to the THPO on July 30, 2010 and the THPO concurred on August 20, 2010.

Leuchtmann, Amy
(2010) MHA 1-35-36H-149-91 Well Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for QEP, Denver.

Ó Donnchadha, Brian, and Amy Leuchtmann
(2010a) MHA 1-33-34H-150-91 Well Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for Questar Exploration and Production Company, Denver.

Ó Donnchadha, Brian, and Amy Leuchtmann
(2010b) MHA 1-32-29H-150-91 & MHA 1-04-03H-149-91 Well Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for Questar Exploration and Production Company, Denver.

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

Three Affiliated Tribes
MANDAN * HIDATSA * ARIKARA

July 22, 2010

Dr. Carson N. Murdy
Great Plains Regional Office
115 Fourth Avenue S.E.
Aberdeen, South Dakota

COPY

RE: Recommendation and Concurrence:

As Director of the Tribal Historic Preservation Office and the Tribal Historical Preservation Officer representing the Mandan Hidatsa Arikara Nation I Concur with the Sites the standard of compliance should be adhered to. BIA Case Number AAO-1765/FB/10

Leuchtmann, Amy
MHA 2-29-30H-150-90 Well Pad and Access Road
MHA 2-01-02H-149-91 Well Pad and Access Road
MHA 1-01-02H-149-91 and 2-07-18H-149-90 Well Pad and Access Road

ODonnchadha, Brian, and Amy Leuchtmann
MHA 1-33-34H-150-91 Well Pad and Access Road
MHA 1-32-29H-150-91 & MHA 1-04-03H-149-91 Well Pad and Access Road

If you have any questions or need additional information, you can contact me at (701) 862-2474 or 862-2475 or Cell number (701) 421-0547

Sincerely:

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

Cc.File

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

Three Affiliated Tribes
MANDAN * HIDATSA * ARIKARA

August 20, 2010

Dr. Carson Murdy
BIA
Great Plains Regional Office
115 Fourth Ave. S.E.
Aberdeen, South Dakota 52401

RE: Recommendation and Concurrence:

As Director of the Tribal Historic Preservation Office and the Tribal Historical Preservation Office representing the Mandan Hidatsa Arikara Nation. I Concur with
BIA CASE Number AAO-1764/FB/10

Leuchtmann, Amy
(2010) MH 1-35-36H-149-91 Well Pad and Access RoadL A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for QEP, Denver.

If your office has any questions or need additional information, you can contact me at (701) 862-2474 or Cell number (701) 421-0547

Sincerely,

Perry "No Tears" Brady
Director of the THPO

Cc. file

United States Department of the Interior

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

TAKE PRIDE IN AMERICA

JUL 16 2010

IN REPLY REFER TO:
DESCRM
MC-208

Perry 'No Tears' Brady, THPO
Mandan, Hidatsa and Arikara Nation
404 Frontage Road
New Town, North Dakota 58763

Dear Mr. Brady:

We have considered the potential effects on cultural resources of five oil well pads and access roads in Dunn and McLean Counties, North Dakota. Approximately 81.2 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the areas depicted in the enclosed reports. No historic properties were located that appear to possess the quality of integrity and meet at least one of the criteria (36 CFR 60.4) for inclusion on the National Register of Historic Places. No properties were located that appear to qualify for protection under the American Indian Religious Freedom Act (42 USC 1996).

As the surface management agency, and as provided for in 36 CFR 800.5, we have therefore reached a determination of **no historic properties affected** for these undertakings. Catalogued as **BIA Case Number AAO-1764/FB/10,** the proposed undertakings, locations, and project dimensions are described in the following reports:

Leuchtmann, Amy
(2010) MHA 2-29-30H-150-90 Well Pad and Access Road: A Class III Cultural Resource Inventory, McLean County, North Dakota. KLJ Cultural Resources for Questar Exploration and Production Company, Denver.

(2010) MHA 2-01-02H-149-91 Well Pad and Access Road: A Class III Cultural Resource Inventory, McLean County, North Dakota. KLJ Cultural Resources for Questar Exploration and Production Company, Denver.

(2010) MHA 1-01-02H-149-91 and 2-07-18H-149-90 Well Pad and Access Road: A Class III Cultural Resource Inventory, McLean County, North Dakota. KLJ Cultural Resources for Questar Exploration and Production Company, Denver.

Ó Donnchadha, Brian, and Amy Leuchtmann
(2010) MHA 1-33-34H-150-91 Well Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for Questar Exploration and Production Company, Denver.

(2010) MHA 1-32-29H-150-91 & MHA 1-04-03H-149-91 Well Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for Questar Exploration and Production Company, 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,

Regional Director

Enclosures

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

United States Department of the Interior

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

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
DESCRM
MC-208

JUL 30 2010

Perry 'No Tears' Brady, THPO
Mandan, Hidatsa and Arikara Nation
404 Frontage Road
New Town, North Dakota 58763

Dear Mr. Brady:

We have considered the potential effects on cultural resources of an oil well pad and access road in Dunn County, North Dakota. Approximately 20.7 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the area depicted in the enclosed report. No historic properties were located that appear to 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. Catalogued as **BIA Case Number AAO-1764/FB/10,** the proposed undertaking, location, and project dimensions are described in the following report:

Leuchtmann, Amy
(2010) MHA 1-35-36H-149-91 Well Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for QEP, Denver.

If your office concurs with this determination, consultation will be completed under the National Historic Preservation Act and its implementing regulations. 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

3.5.1 Cultural Resources Impacts/Mitigation

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

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

3.6 Socioeconomic Conditions

Socioeconomic conditions depend on the character, habits, and economic conditions of people living within the proposed project area. The proposed action's effects on businesses, 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 and Dunn County have lower than statewide averages of per capita income and median household income. In addition, they have higher rates of unemployment and individuals living below poverty level than the state average. ***Please refer to Table 3.5, Employment and Income.***

Table 3.5
Employment and Income[5]

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

Population decline in rural areas of North Dakota has been a growing trend as individuals move toward metropolitan areas of the state, such as Bismarck and Fargo. While Dunn County population has been slowly declining, the Fort Berthold Reservation has experienced a steady increase in population. American Indians are the majority population on the Fort Berthold Reservation but are the minority population in Dunn County and the state of North Dakota. ***Please refer to Table 3.6, Demographic Trends.***

[5] Source: *US Bureau of the Census, Census 2000.*

Table 3.6 Demographic Trends[6]					
Location	**Population in 2000**	**% of State Population**	**% Change 1990-2000**	**Predominant Race**	**Predominant Minority**
Dunn County	3,600	0.56%	+0.5%	White	American Indian (12.4%)
Fort Berthold Reservation	5,915	0.92%	+9.8%	American Indian[7]	White (26.9%)
Statewide	**642,200**	**--**	**+0.5%**	**White**	**American Indian (5%)**

3.6.1 Socioeconomic Impacts/Mitigation

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

Alternative B (Proposed Action) — Alternative B is not anticipated to substantially impact the socioeconomic conditions in the project areas, but it does have the potential to yield beneficial impacts on Tribal employment and income. 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. Moreover, qualified individual tribal members may find employment through oil and gas development and increase their individual incomes. Employment opportunities related to oil and gas development may lessen the unemployment rate and increase income levels on the Fort Berthold Reservation. Additionally, the proposed action may result in indirect economic benefits to tribal business owners resulting from construction workers expending money on food, lodging, and other necessities.

3.7 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.

With 28% of its population living below the poverty line and the majority of its population of American Indian ancestry, the Fort Berthold Reservation contains both minority and low-income communities.

3.7.1 Environmental Justice Impacts/Mitigation

[6] Source: *US Bureau of the Census, Census 2000.*

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

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

Alternative B (Proposed Action) – Alternative B is not anticipated to result in disproportionately adverse impacts to members of the Three Affiliated Tribes. The proposed action would not require the relocation of homes or businesses, and no community disruptions are expected. Oil and gas leasing and exploration provide income to Tribal members who hold mineral interests, some of whom may benefit further from royalties on commercial production.

3.8 Infrastructure and Utilities

The Fort Berthold Reservation's infrastructure consists of roads, bridges and access points, utilities, and facilities for water, wastewater, and solid waste.

Known utilities and infrastructure within the vicinity of the proposed projects include both paved and gravel roadways as well as existing and proposed rural water distribution pipelines.

3.8.1 Infrastructure and Utility Impacts/Mitigation

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

Alternative B (Proposed Action) – Alternative B would require improvements to existing roadways, as well as construction of new roadway segments. QEP will follow Dunn County 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 loads through these entities. QEP's contractors will be required to adhere to all local, county, and state regulations and ordinances regarding rig moves, oversize/overweight loads, and frost restrictions.

Each well site may also require the installation of supporting electrical lines. In addition, if commercially recoverable oil and gas are discovered at any of the well sites, a natural gas and/or oil gathering system may need to be installed. Other utility modifications would be identified during design and coordinated with the appropriate utility company.

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

3.9 Public Health and Safety

Health and safety concerns include hydrogen sulfide (H_2S) gas[8], hazardous materials used or generated during well installation or production, and traffic hazards associated with heavy drill rigs and tankers.

3.9.1 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_2S gases, hazardous materials, and traffic, as described below.

H_2S Gases. It is unlikely that the proposed action would result in release of H_2S at dangerous concentrations; however, QEP will submit H_2S Contingency Plans to the BLM as part of the APD. These plans establish safety measures to be implemented throughout the drilling process to prevent accidental release of H_2S into the atmosphere. The Contingency Plans are designed to protect persons living and/or working within 3,000 feet of each well location and include emergency response procedures and safety precautions to minimize the potential for an H_2S gas leak during drilling activities. Satellite imagery revealed buildings/residences 0.13 miles southeast of the MHA 1-04-03H-149-91 and MHA 1-32-29H-150-91 proposed well site, and 0.40 miles south-southeast of the MHA 1-33-34H-150-91 proposed well site.

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

The Spill Prevention, Control, and Countermeasure (SPCC) rule includes 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. If the location is determined to be productive, an SPCC Plan would need to be submitted to the EPA.
Design considerations being implemented to contain potential spills on site include constructing a two-foot high berm around the pad exterior, and a four-foot high berm around the tank batteries as a precautionary measure against spills, implementing BMPs to minimize wind and water erosion of soil resources, as well as using a semi-closed loop system and double reinforced pit during drilling.

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

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

established 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[9]. Produced water would also be hauled from the site using a tanker, which would typically haul 110 barrels of water per load. The number of visits would be dependent upon daily water production[10]. Established load restrictions for state and BIA roadways would be followed and haul permits would be acquired as appropriate.

3.10 Cumulative Impacts

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.

3.11 Past, Present, and Reasonably Foreseeable Actions

At the time this EA was written, there were approximately 288 active and/or proposed oil and gas wells within the Fort Berthold Reservation. ***Please refer to Figure 3-12, Existing and Proposed Oil and Gas Wells.***

[9] 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.

[10] 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 rated of 200 BWPD (barrels of water per day) could be expected, dropping to 30 to 70 BWPD after several months.

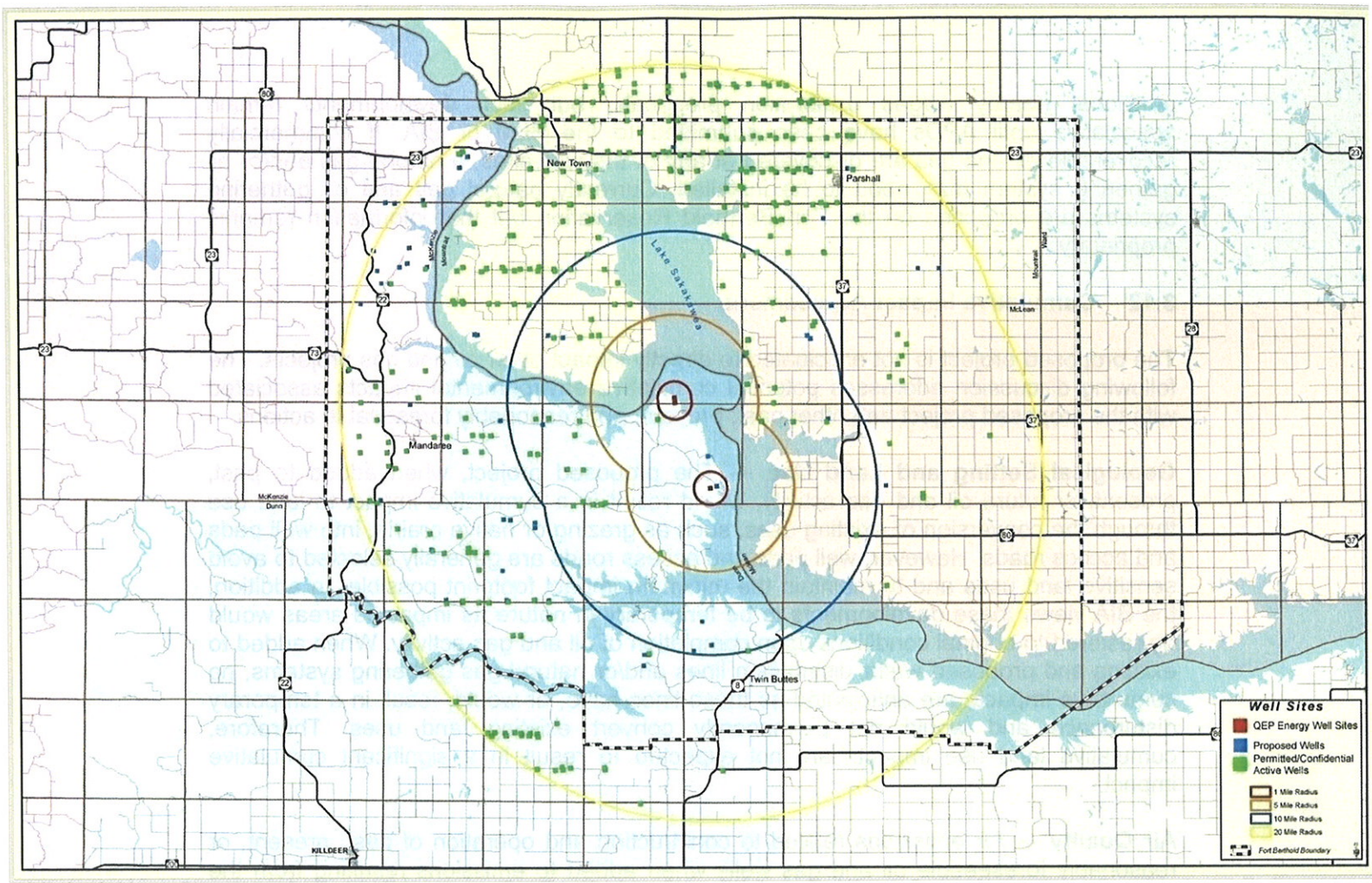

Figure 3-12, Existing and Proposed Oil and Gas Wells

There are zero active or proposed oil and gas wells within one mile of the MHA 1-33-34H-150-91, MHA 1-32-29H-150-91/ MHA 1-04-03H-149-91 and MHA 1-35-36H-149-91, proposed well pads. ***Please refer to Table 3.8, Summary of Active and Proposed Wells.***

Table 3.8
Summary of Active and Proposed Wells

Distance from Sites	Number of Active or Proposed Wells
1 mile radius	0
5 mile radius	4
10 mile radius	46
20 mile radius	333

Current impacts from oil and gas development are still fairly dispersed, and BMPs would be implemented to minimize impacts of the proposed projects. The proposed well sites would share access roads. Additional wells may be placed in locations where these roads could be used for access. Commercial success at any new well might result in

additional nearby oil/gas exploration proposals, but such developments remain speculative until APDs have been submitted to the BLM or BIA. If commercially recoverable oil and gas are discovered at any of the well sites, a natural gas and/or oil gathering system may need to be installed. Currently natural gas and oil gathering systems are proposed on the Fort Berthold Reservation but that information remains proprietary.

3.12 Cumulative Impact Assessment

The proposed project is not anticipated to directly impact other oil and gas projects. The following discussion addresses potential cumulative environmental impacts associated with the proposed project and other past, present, and reasonably foreseeable actions.

Geological Setting and Land Use — The proposed project, when added to past, present, or future oil and gas activity, would result in a cumulative impact to land use through the conversion of existing uses, such as grazing or native prairie, into well pads and access roads. However, well pads and access roads are generally selected to avoid sensitive land uses and to maintain the minimum impact footprint possible. In addition, the BIA views these developments to be temporary in nature as impacted areas would be restored to original conditions upon completion of oil and gas activity. When added to existing and proposed water distribution lines and/or natural gas gathering systems, no cumulative impacts are anticipated as these lines have, or would, result in a temporary disturbance and would not permanently convert existing land uses. Therefore, cumulative land use impacts are not expected to result in a significant cumulative impact.

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

Wetlands, Wildlife, and Vegetation — The proposed project, when added to previously constructed and reasonably foreseeable oil and gas wells, may result in a cumulative impact associated with habitat fragmentation due to access road construction. However, the practice of utilizing existing roadways to the greatest extent practicable, as well as sharing access roads with future developments would minimize the potential impacts. The proposed exploratory wells have also been sited to avoid sensitive areas such as surface water, wetlands, or riparian areas. In addition, the use of BMPs and continued reclamation are anticipated to minimize and mitigate disturbed habitat. Therefore, it is not anticipated that the proposed project, when added to past, present, and reasonably foreseeable oil and gas activity, would result in a significant cumulative impact.

Infrastructure and Utilities — 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.

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. No significant cumulative impacts are reasonably foreseen from existing or proposed activities.

3.13 Irreversible and Irretrievable Commitment of Resources

Removal and consumption of oil or gas from the Bakken Pool 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. None of these impacts are expected to be significant.

3.14 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 Pool, which is the purpose of this project.

3.15 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* – NDIC (North Dakota Industrial Commission)
- *Section 10 Permit* – United States Army Corps of Engineers

3.16 Environmental Commitments/Mitigation

The following commitments have been made by QEP Energy Company:

- Topsoil would be segregated and stored on-site to be used in the reclamation process. All disturbed areas would be re-contoured to original elevations as part of the reclamation process.
- BMPS will be implemented to minimize wind and water erosion of soil resources. Soil stockpiles will be positioned to help divert runoff around the well pad, and seeded with a native grass mixture.

- Well sites and access roads will avoid surface waters. The proposed project will not alter stream channels or change drainage patterns.
- The reserve pit would be located away from areas of shallow ground water and have a synthetic liner to prevent potential leaks. All spills or leaks of chemicals and other pollutants will be reported to the BLM and EPA. The procedures of the surface management agency shall be followed to contain leaks or spills.
- All proposed wells will be cemented and cased to isolate aquifers from potentially productive hydrocarbon and disposal/injection zones.
- Wetlands and riparian areas would be avoided.
- Disturbed vegetation will be re-seeded in kind upon completion of the project, and a noxious weed management plan would be implemented. The re-seeded site would be maintained until such time that the vegetation is consistent with surrounding undisturbed areas and the site is free of noxious weeds. Seed will be obtained from a BIA/BLM-approved source.
- Well sites and access roads would avoid impacts to cultural resources. If cultural resources are discovered during construction or operation, work shall immediately be stopped, the affected site secured, and BIA and THPO notified. In the event of a discovery, work shall not resume until written authorization to proceed has been received from the BIA.
- Access roads would be located at least fifty feet away from identified cultural resources. The boundaries of these fifty-foot "exclusion zones" would be pin-flagged or fenced 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 require all contractors working for the company will adhere to all local, county, and State regulations and ordinances regarding rig moves, oversize/overweight loads, and frost law restrictions.
- Prior to construction, QEP will coordinate with the Fort Berthold Water Authority Director to ensure minimization of impacts to existing water distribution pipelines.
- Utility modifications would be identified during design and coordinated with the appropriate utility company.
- Disposal areas would be properly fenced to prevent human or animal access.
- H_2S Contingency Plans for each well site will be submitted to the BLM as part of the APD.
- Established load restrictions for state and BIA roadways would be followed and haul permits would be acquired as appropriate.
- Suitable mufflers would be put on all internal combustion engines and certain compressor components to mitigate noise levels.
- Well sites and associated facilities would be painted in colors to allow them to better blend in with the natural background color of the surrounding landscape.

- A two-foot high berm will be constructed around the pad exterior and a four-foot berm will be constructed around the tank batteries as a precautionary measure against spills. Additional BMP's will be used during construction to ensure contaminants do not move off site.
- Well pad corners will be rounded where applicable to lessen disturbance impacts.
- The pits would be fenced while not actively being used.
- A semi closed loop system will be used during drilling. Liquids from drilling will be transported off site and dry cuttings will be solidified in place.
- If a whooping crane is sighted within one-mile of a well site or associated facilities while it is under construction, that all work cease within one-mile of that part of the project and the USFWS be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area.
- All construction activities shall begin after July 15 in order to avoid impacts to migratory birds during the breeding/nesting season. Pre-construction surveys for migratory birds or their nests would be would be conducted within five days prior to the initiation of all construction activities. In addition, if any deceased migratory bird is found on-site during construction, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.
- Pre-construction surveys for migratory birds or their nests would be conducted within five days prior to the initiation of all construction activities. In addition, if any deceased migratory bird is found on-site during construction, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.
- 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.
- Open pits and ponds will be immediately cleaned if oil is present.
- Wire mesh or grate covers will be placed over barrels placed under valves and spigots to collect dripped oil.
- Netting, with a maximum mesh size of 1.5 inches will be used to keep birds and other small animals out of open pits after the drilling has been completed.
- If the location is determined to be productive, an SPCC Plan would need to be submitted to the EPA.
- Well pads will be fenced with cattle guards placed at necessary locations.
- Culverts will be placed along access roads to promote the natural flow through drainageways.
- Signage for possible hazardous intersections will be placed along access roads in appropriate locations.
- Cut and fill slopes will be reseeded with a native grass mix to assist will preventing erosion and soil movement in drainageways.

Chapter 4 Preparers and Agency Coordination

4.1 Introduction

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

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

4.2 Preparers

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

Table 4.1
Preparers

Affiliation	Name	Title	Project Role
Bureau of Indian Affairs	Marilyn Bercier	Regional Environmental Scientist	Review of Draft EA and recommendation to Regional Director regarding FONSI or EIS
	Mark Herman	Environmental Engineer	
QEP Energy Company	Debbie Stanberry	Supervisor Regulatory Affairs	Project development, document review
	Tracy Opp	Permit Agent-Contract	
Kadrmas, Lee & Jackson	Charlotte Brett	Environmental Planner	Quality Control/Quality Assurance
	Rick Leach	Surveyor	Site plats
	Brian O'Donnchadha	Principal Investigator	Cultural resources surveys
	Jerry Reinisch	Environmental Planner/Biologist	Project coordination, field resources surveys, impact assessment, principal author
	Skip Skattum	GIS Analyst	Impact assessment, exhibit creation
	John Cannon	Environmental Planner	Impact assessment, reporting

4.3 Agency Coordination

To initiate early communication and coordination, an early notification package to tribal, federal, state, and local agencies and other interested parties was distributed on May 4, 2010. This scoping package included a brief description of the proposed project, as well as a location map. Pursuant to Section 102(2) (D) (IV) of the National Environmental Policy Act of 1969, a solicitation of views was requested to ensure that social, economic, and environmental effects were considered in the development of this project. ***Appendix A contains Agency Scoping Materials.***

At the conclusion of the 30-day comment period, which ended June 3, 2010, seven responses were received. These comments provide valuable insight into the evaluation of potential environmental impacts. The comments were referenced and incorporated where appropriate within the environmental impact categories addressed in this document. ***Appendix B contains Agency Scoping Responses.***

4.4 Public Involvement

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

Chapter 5 References and Acronyms

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ACRONYMS

AAQM Ambient Air Quality Monitoring
APD Application for Permit to Drill
APE Area of Potential Effect

BIA Bureau of Indian Affairs
BLM Bureau of Land Management
BMP Best Management Practice

CEQ Council of Environmental Quality
CFR Congressional Federal Register
CO Carbon Monoxide

EA Environmental Assessment
ESA Endangered
EIS Environmental Impact Statement
EPA Environmental Protection Agency

FBRW Fort Berthold Rural Water
FONSI Finding of No Significant Impact
H2S Hydrogen sulfide
KL&J Kadrmas, Lee and Jackson

NAAQS National Ambient Air Quality Standards
NAGPRA Native American Graves Protection Repatriation Act
NDDH North Dakota Department of Health
NDIC North Dakota Industrial Commission
NEPA National Environmental Policy Act
NO_2 Nitrogen Dioxide
NRCS Natural Resource Conservation Service
NRHP National Register of Historic Places

O_3 Ozone

Pb Lead
PM_{10} Particulate Matter

ppm	parts per million
ROW	Right-of-way
SO_2	Sulfur Dioxide
TERO	Tribal Employee Rights Office
THPO	Tribal Historic Preservation Officer
$\mu g/m^3$	micrograms per cubic meter
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service

Appendix A

Scoping Materials

May 4, 2010

Dear Interested Party:

On behalf of Questar Exploration and Production Company, Kadrmas, Lee & Jackson, Inc. are preparing an EA (Environmental Assessment) under NEPA (the National Environmental Policy Act) for the BIA (Bureau of Indian Affairs) and BLM (Bureau of Land Management). The proposed action includes approval by the BIA and BLM of the development of three well pads and access roads in Dunn County on the Fort Berthold Reservation. Second wells would be appropriately spaced on two of the well pads at a later date.

The proposed action would advance the exploration and production of oil from the Bakken Pool. ***Please refer to the enclosed project location map.*** The proposed wells are: MHA-1-33-34H-150-91, MHA 1-32-29H-150-91/ MHA 1-04-03H-149-91 (Dual Pad) and MHA-1-35-36H-149-91. Construction of the proposed well pads and access roads is proposed to begin as early as summer 2010.

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

Please provide your comments by **June 3, 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.

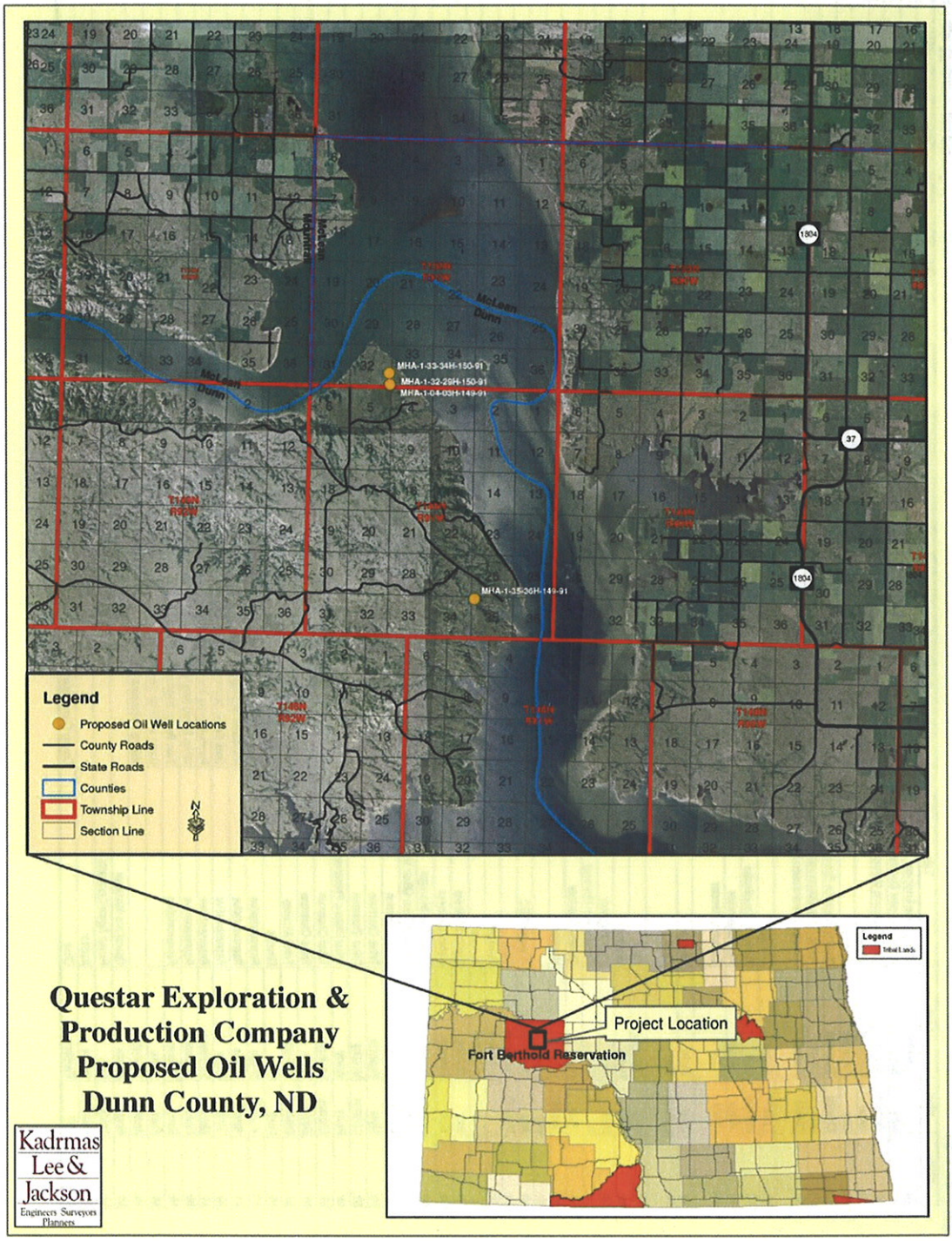
If you would like further information regarding this project, please contact Tracy Opp, Questar Exploration and Production Company, at (303) 916-8042 or me at (701) 355-8705. Thank you for your cooperation.

Sincerely,

Kadrmas, Lee & Jackson, Inc.

Jerry D. Reinisch
Environmental Planner

Enclosure (Map)


MHA-1-33-34H-150-91
MHA-1-32-29H-150-91
MHA-1-04-03H-149-91
MHA-1-35-36H-149-91
1804
37
Legend
Proposed Oil Well Locations
County Roads
State Roads
Counties
Township Line
Section Line
Questar Exploration & Production Company
Proposed Oil Wells
Dunn County, ND
Kadrmas Lee & Jackson
Engineers Surveyors Planners
Legend
Tribal Lands
Project Location
Fort Berthold Reservation

SOV MASTER LIST

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

CTitle	First	Last	Title	Department	Agency	Address	City	State	Zip
Sir		or Madam	Chief Missile Engineer	5 CES/CEOE	Minot Air Force Base	320 Peacekeeper Place	Minot AFB	ND	58705
Mr.	Mike	Black	Acting Regional Director		Bureau of Indian Affairs	115 4th Ave. SE	Aberdeen	SD	57401
Mr.	Richard	Nelson	Chief, Resource Management	Dakotas Area Office	Bureau of Reclamation	PO Box 1017	Bismarck	ND	58502-1017
Mr.	Steve	Obenauer	Manager	Bismarck Airports District Office	Federal Aviation Administration	2301 University Drive, Bldg 23B	Bismarck	ND	58504
Mr.	Dan	Cimarosti	Manager	ND Regulatory Office	US Army Corps of Engineers	1513 S. 12th St.	Bismarck	ND	58504
Mr.	Charles	Sorensen	Natural Resource Specialist	Riverdale Field Office	US Army Corps of Engineers	PO Box 527	Riverdale	ND	58565
Mr.	John	Glover	Acting State Conservationist		US Department of Agriculture	PO Box 1458	Bismarck	ND	58502-1458
Mr.	Gerald	Paulson	Director, Transmission Lines/ Substations	ND Maintenance Office	US Department of Energy Western Area Power Admin.	PO Box 1173	Bismarck	ND	58502-1173
Mr.	Larry	Svoboda	Director	NEPA Program, Region 8	US Environmental Protection Agency	1595 Wynkoop Street	Denver	CO	80202-1129
Mr.	Richard	Clark	Wetlands Coordinator	Region 8, EPR-EP	US Environmental Protection Agency	1595 Wynkoop Street	Denver	CO	80202-1129
Mr.	Jeffrey	Towner	Field Supervisor	ND Field Office	US Fish & Wildlife Service	3425 Miriam Ave.	Bismarck	ND	58501
Ms.	Cheryl	Kulas	Executive Director		Indian Affairs Commission	600 E. Blvd. Ave. 1st Floor, Judicial Wing, Rm 117	Bismarck	ND	58505-0300
Mr.	Greg	Wiche	Director	Water Resources Division	US Geological Survey	821 E. Interstate Ave.	Bismarck	ND	58501
Mr.	L. David	Glatt	Chief	Environmental Health Section Gold Seal Center	ND Department of Health	918 E. Divide Ave., 4th floor	Bismarck	ND	58501-1947
Mr.	Mike	McKenna	Chief	Conservation & Communication Division	ND Game & Fish Department	100 Bismarck Expressway	Bismarck	ND	58501-5095
Mr	Doug	Prchal	Director		ND Parks & Recreation Dept.	1600 E. Century Ave., Suite 3	Bismarck	ND	58503-0649
Mr.	Dale	Frink	State Engineer		ND State Water Commission	900 E. Blvd. Ave.	Bismarck	ND	58505-0850
Mr	Bill	Royl	Construction Manager		Midcontinent Cable Company	719 Memorial Hwy	Bismarck	ND	58501
Mr	Doug	Dixon	General Manager	Badlands Region	Montana Dakota Utilities	PO Box 1406	Williston	ND	58802-1405
Mr.	George	Berg	Manager		NoDak Electric Coop., Inc.	Box 13000	Grand Forks	ND	58208-3000
Mr	Ken	Miller		Land Department	Northern Border Pipeline Company	13710 FNB Parkway	Omaha	NE	68154-5200
Mr	Ray	Christensen	Manager/CEO		Southwest Water Authority	4665 2nd St. W.	Dickinson	ND	58601
Mr	David C.	Schulkoph	CEO		West Plains Electric Coop., Inc.	PO Box 1038	Dickinson	ND	58602-1038
Sir		or Madam	Manager		Xcel Energy	PO Box 2747	Fargo	ND	58108-2747
Sir		or Madam	Manager		Mountrail-Williams Electric Cooperative	355 Main St	New Town	ND	58763
Mr.	Jim	Redding	District Engineer	Minot District	ND Department of Transportation	1305 Highway 2 Bypass East	Minot	ND	58701-7922
Mr	Walt	Peterson	District Engineer	Williston District	ND Department of Transportation	605 Dakota Parkway West		ND	58802-0698
Mr	Lonny	Bagley	Field Office Manager	North Dakota Field Office	Bureau of Land Management	99 23rd Ave W, Suite A	Dickinson	ND	58601
Mr.	Mike	Nash	Assistant Field Office Manager	Division on Mineral Resources	Bureau of Land Management	99 23rd Ave W, Suite A	Dickinson	ND	58601
Mr	Michael	Selvage	Tribal Chairman		Sisseton-Wahpeton Sioux Tribe	PO Box 509	Sisseton	SD	57262-0267
Ms.	Myra	Pearson	Tribal Chairman	Ft. Totten Tribal Business Office	Spirit Lake Sioux Tribe	PO Box 359	Ft. Totten	ND	58335
Mr	Charles	Murphy	Tribal Chairman		Standing Rock Sioux Tribe	PO Box D	Fort Yates	ND	58538
Mr	Perry	Brady	Tribal Historic Preservation Officer		Three Affiliated Tribes	HC3 Box 2	New Town	ND	58763
Mr	Marcus	Levings	Tribal Chairman		Three Affiliated Tribes	HC3 Box 2	New Town	ND	58763
Mr	David	Brien	Tribal Chairman		Turtle Mountain Chippewa	PO Box 900	Belcourt	ND	58316-0900
Mr	Damon	Williams	Tribal Attorney		Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr	Fred	Fox	Director	Energy Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Ms	V. Judy	Brugh	Representative	Four Bears Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr	Arnold	Strahs	Representative	Mandaree Segment	Three Affiliated Tribes	PO Box 666	Mandaree	ND	58757
Mr	Scott	Eagle	Representative	Shell Creek Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr	Mervin	Packineau	Representative	Parshall/Lucky Mound Segment	Three Affiliated Tribes	PO Box 488	Parshall	ND	58770
Mr	Frank	Whitecalf	Representative	White Shield Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr	Barry	Benson	Representative	Twin Buttes Segment	Three Affiliated Tribes	20879 E Ave NW	Halliday	ND	58636
Mr	Fred	Poitra		Game and Fish Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Ms.	Annette	Youngbird		Natural Resources Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Roger	Hovda	Operations Manager		Reservation Telephone Cooperative	PO Box 68	Parshall	ND	58770-0068
Mr	Tracy	Opp	Permit Agent-Contracts		Questar Exploration and Production Company	1050 17th Street, Suite500	Denver	CO	80265
Mr	Reinhard	Hauck	Auditor		Dunn County	PO Box 105 205 Owens Street	Manning	ND	58642-0105
Mr.	Cliff	Ferebee	Chair	County Commission	Dunn County	9449 2nd Street Southwest	Halliday	ND	58636-9783

Appendix B

Agency Scoping Responses

QEP Energy Company
MHA#1-33-34H-150-91, MHA#1-35-36H-149-91, MHA#1-04-03H-149-91 and MHA#1-32-29H-150-91
Fort Berthold Reservation
List of Agency Scoping Responses

Federal
US Department of Agriculture-Natural Resources Conservation Service
US Department of Defense-Army Corps of Engineers, North Dakota Regulatory Office
US Department of Defense-Army Corps of Engineers, Riverdale, North Dakota
US Department of the Interior-Bureau of Reclamation

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

United States Department of Agriculture

NRCS

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

RECEIVED

MAY 13 2010

May 11, 2010

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

RE: The proposed action includes approval by the BIA and BLM of the development of three well pads and access roads in Dunn County on the Fort Berthold Reservation. Second wells would be appropriately spaced on two of the well pads at a later date. Locations are on the Fort Berthold Reservation located in Dunn County, ND

Dear Mr. Reinsch:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated May 4, 2010, concerning the development of three well pads and access roads on the Fort Berthold Reservation located in Dunn County, North Dakota.

NRCS has a major responsibility with the Farmland 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, FPPA does not apply and no further action is needed.

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. The NRCS has developed the following guidelines for the installation of permanent structures where wetlands occur. 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

NRCS would recommend that impacts to wetlands be avoided. If the alignment of the power line requires passage through 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, Liaison Soil Scientist, NRCS, Bismarck, ND at 701-530-2019.

Sincerely,

ACTING PAUL J. SWEENEY
State Conservationist

cc:
Susan Tuhy, DC, NRCS, Killdeer, ND
Terrance Gisvold, ASTC (FO), NRCS, Dickinson, ND

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
NORTH DAKOTA REGULATORY OFFICE
1513 SOUTH 12TH STREET
BISMARCK ND 58504-6640
May 6, 2010

RECEIVED
MAY - 7 2010

North Dakota Regulatory Office

[NWO-2010-0958-BIS]

Kadrmas Lee & Jackson, Inc.
Attn: Jerry Reinisch
128 Soo Line Drive
PO Box 1157
Bismarck, North Dakota 58502-1157

Dear Mr. Reinisch:

This is in response to your request for comments on behalf of the Bureau of Indian Affairs who will be preparing an Environmental Assessment for proposed construction of three separate exploratory oil and gas wells on the Fort Berthold Reservation by Questar Exploration and Production Company. These wells are located in Dunn County, North Dakota and are identified as follows:

MHA-1-33-34H-150-91
MHA 1-32-29H-150-91/MHA-1-04-03H-149-91 (Dual Pad)
MHA-1-35-36H-149-91

Construction of the proposed well pads and access roads is proposed to begin in the summer of 2010.

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 (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. Utility lines 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. 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

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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 (highlighted in yellow). **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 will beyond 120 days.

This correspondence letter **does not approve** the proposed construction work or **does not verify** 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 12th 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 of phone at (701) 255-0015.

Sincerely,

Patsy Crooke

Patsy Crooke
Project Manager
North Dakota

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

CF w/o encl
EPA Denver (Brent Truskowski)

Instructions for Preparing a
Department of the Army Permit Application

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DRAWINGS AND ILLUSTRATIONS

General Information.

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

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

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

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT *(33 CFR 325)*	OMB APPROVAL NO. 0710-0003 EXPIRES: 31 August 2012

Public reporting burden for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME First - Middle - Last - Company - E-mail Address -	8. AUTHORIZED AGENT'S NAME AND TITLE (an agent is not required) First - Middle - Last - Company - E-mail Address -
6. APPLICANT'S ADDRESS Address - City - State - Zip - Country -	9. AGENT'S ADDRESS Address - City - State - Zip - Country -
7. APPLICANT'S PHONE NOs. W/AREA CODE a. Residence b. Business c. Fax	10. AGENT'S PHONE NOs. W/AREA CODE a. Residence b. Business c. Fax

STATEMENT OF AUTHORIZATION

11. I hereby authorize, ______________________ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

APPLICANT'S SIGNATURE DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)

13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable) Address
15. LOCATION OF PROJECT Latitude: °N Longitude: °W	City - State - Zip -

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)
State Tax Parcel ID Municipality
Section - Township - Range -

17. DIRECTIONS TO THE SITE

ENG FORM 4345, SEPT 2009 EDITION OF DCT 2004 IS OBSOLETE Proponent: CECW-CO

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

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

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

20. Reason(s) for Discharge

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

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

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

Acres

Or

Liner Feet

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

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

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list)

Address –

City – State – Zip –

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

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

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

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

SIGNATURE OF APPLICANT _____ DATE _____ SIGNATURE OF AGENT _____ DATE _____

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

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

ENG FORM 4345, SEPT 2009

Jerry Reinisch

From: Sorensen, Charles G NWO [Charles.G.Sorensen@usace.army.mil]
Sent: Thursday, May 06, 2010 3:09 PM
To: jerryreinisch@kljeng.com
Cc: Wiehl, Christopher D NWO; Ames, Joel O NWO; charles.g.sorensen@usace.army.mil
Subject: Comments on Questar Exploration and Production Companies MHA 1-33-34H, MHA 1-32-29H,MHA 1-04-03H and, MHA 1-35-36H Wells

Jerry
Thank you for the opportunity for the COE to provide comments and concerns in regards to the subject wells. At this time the COE would respectively request that the following conditions and comments be considered by Questar in the exploration of the subject wells.

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 and Production 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 who's material has been certified as being free of all noxious weeds.

That prior to the drilling rig and associated equipment be placed that said 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 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
Riverdale, North Dakota Office
(701) 654 7411 ext 232

1

United States Department of the Interior

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

TAKE PRIDE IN AMERICA

RECEIVED
MAY 21 2010

DK-5000
ENV-6.00

MAY 20 2010

Mr. Jerry D. Reinisch
Environmental Planner
Kadrmas, Lee, & Jackson, Inc.
128 Soo Line Drive
P.O. Box 1157
Bismarck, ND 58502-1157

Subject: Solicitation for an Environmental Assessment for the Proposed Construction, Drilling, Completion, and Production of Exploratory Oil and Gas Wells on the Fort Berthold Reservation in Dunn 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 May 4, 2010, and the information and map have been reviewed by Bureau of Reclamation staff.

Although it appears that there are no Reclamation facilities in the immediate vicinity of your three proposed oil well development sites located in Dunn County, this development activity could potentially affect Reclamation facilities in the form of the rural water pipelines of the Fort Berthold Rural Water System. Development of the following oil well sites could potentially impact proposed or existing water pipelines:

Fort Berthold 150-91-MHA -1-33-34H-150-91, SE¼ sec. 32, T. 150 N., R. 91 W.
Fort Berthold 150-91-MHA -1-32-29H-150-91, SE¼ sec. 32, T. 50 N., R. 91 W.
Fort Berthold 149-91-MHA -1-04-03H-149-91
Fort Berthold 149-91-MHA -1-35-36H-149-91, NW¼ sec. 35, T. 149 N., R. 91 W.

No rural water pipelines were detected within a mile of the proposed development sites. However, access roads and specific detail are not provided in your letter. 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.

Subject: Solicitation for an Environmental Assessment for the Proposed Construction, Drilling, Completion, and Production of Five Exploratory Oil and Gas Wells by Petro-Hunt, LLC on the Fort Berthold Reservation in Dunn County, North Dakota

Thank you for providing the information and opportunity to comment. If you have any further questions, please contact me at 701-221-1287 or Ronald Melhouse at 701-221-1288.

Sincerely,

Kelly McPhillips
Environmental Specialist

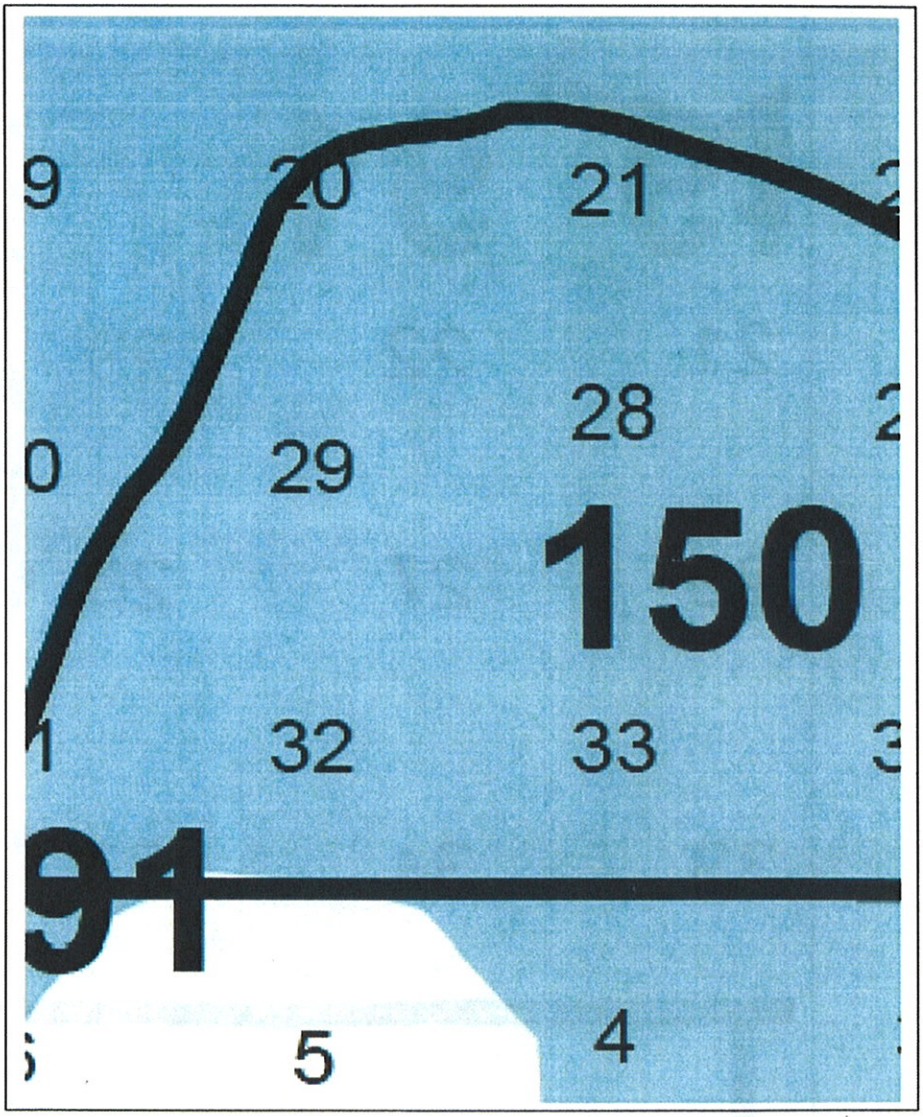
Enclosure

cc: Bureau of Indian Affairs
Great Plains Regional Office
Attention: Ms. Marilyn Bercier
Regional Environmental Scientist
115 Fourth Avenue SE
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)

Pipeline Overview Key – **Blue and Orange Lines** Represent Fort Berthold **Rural Water System Waterlines.**

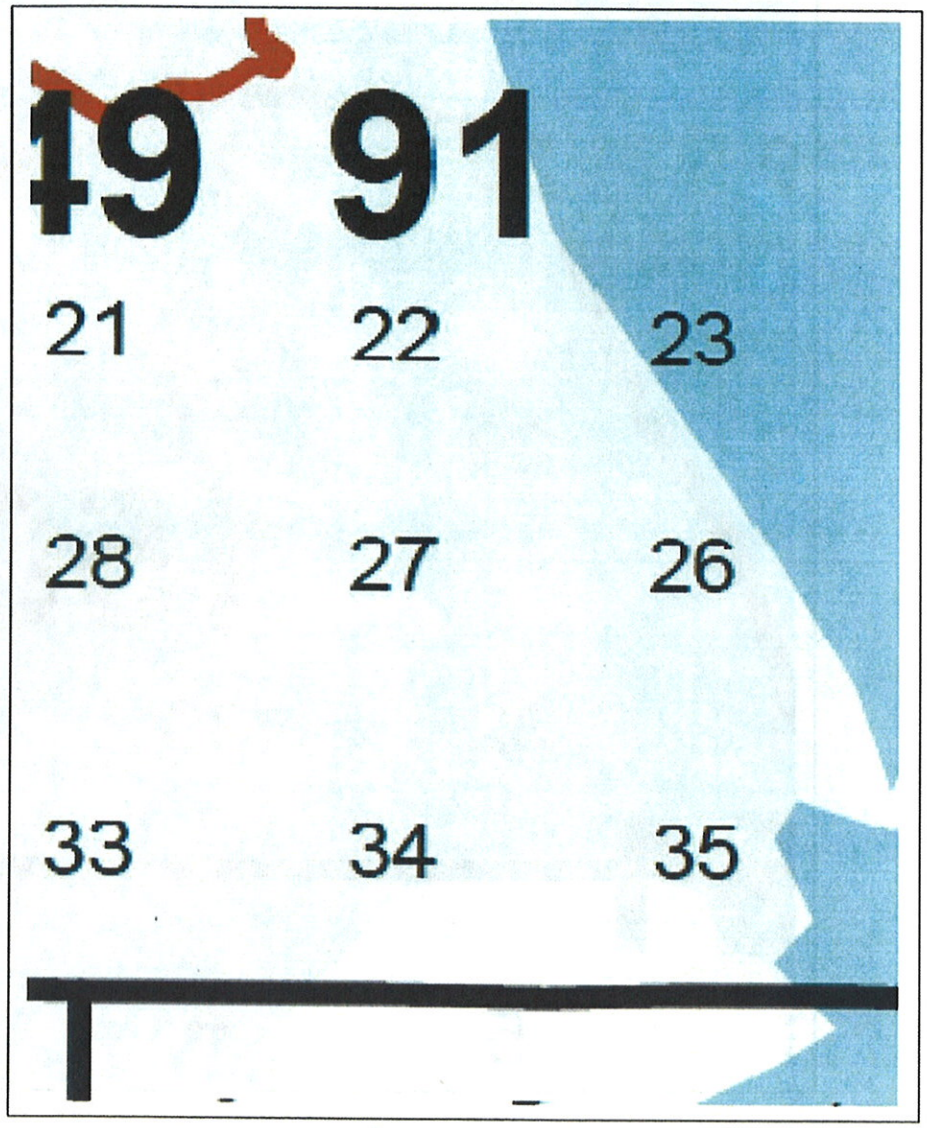
150-91 Dunn County, ND



149-91 Dunn County, ND

Pipeline Overview Key – **Blue and Orange Lines** Represent Fort Berthold **Rural Water System Waterlines.**

149-91 Dunn County, ND



149-91 Dunn County, ND

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

May 11, 2010

RECEIVED
MAY 18 2010

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

Re: Three Proposed Oil Well Pads and Access Roads by Questar Exploration & Production Company on the Fort Berthold Reservation in Dunn County

Dear Mr. Reinisch:

This department has reviewed the information concerning the above-referenced project submitted under date of May 5, 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 disturbing five or more acres and located within tribal boundaries in North Dakota may be required toobtain a permit to discharge storm water runoff from the U.S. Environmental Protection Agency. Further information may be obtained from the U.S. EPA's website or by calling the U.S. EPA – Region 8 at (303) 312-6312. Also, cities may impose additional requirements and/or specific best management

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

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.

NORTH DAKOTA
DEPARTMENT of HEALTH

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

Construction and Environmental Disturbance Requirements

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

Soils

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

Surface Waters

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

Fill Material

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

Environmental Health Section Chief's Office	Division of Air Quality	Division of Municipal Facilities	Division of Waste Management	Division of Water Quality
701.328.5150	701.328.5188	701.328.5211	701.328.5166	701.328.5210

"VARIETY IN HUNTING AND FISHING"
NORTH DAKOTA GAME AND FISH DEPARTMENT
100 NORTH BISMARCK EXPRESSWAY BISMARCK, NORTH DAKOTA 58501-5095 PHONE 701-328-6300 FAX 701-328-6352

RECEIVED
MAY 24 2010

May 20, 2010

RECEIVED
MAY 24 2010

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

Dear Mr. Reinisch:

RE: MHA 1-33-34H-150-91, MHA 1-32-29H-150-91/MHA 1-04-03H-149-91, & MHA 1-35-36H-149-91

Questar Exploration and Production Company is proposing four oil and gas wells on three pads and access roads on the Fort Berthold Reservation in Dunn County, North Dakota.

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

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

Sincerely,

Steve Dyke

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

js

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
JUN - 1 2010

May 28, 2010

Jerry Reinisch
Kadrmas, 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 three well pads and access roads in Dunn 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.

- 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