



United States Department of the Interior

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




IN REPLY REFER TO:
DESCRM
MC-208

MAR 02 2011

MEMORANDUM

TO: Superintendent, Fort Berthold Agency

FROM: Regional Director, Great Plains Region 

SUBJECT: Environmental Assessment and Finding of No Significant Impact

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

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

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

Attachment

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

Finding of No Significant Impact

Questar Exploration and Production Company (QEP)

*Environmental Assessment for
Drilling of MHA 1-06-07H-147-92 and MHA 3-06-07H-147-92
Oil & Gas Wells*

*Fort Berthold Indian Reservation
Dunn County, North Dakota*

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

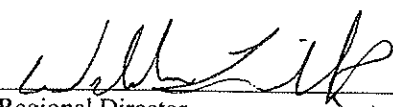
- MHA 1-06-07H-147-92 and MHA 3-06-07H-147-92 located in T148N, R93W, 5th P.M., Section 36 (Dunn County)

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

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

This determination is based on the following factors:

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


Regional Director

3/2/11
Date

ENVIRONMENTAL ASSESSMENT

United States Bureau of Indian Affairs

Great Plains Regional Office
Aberdeen, South Dakota



Questar Exploration and Production Company

Drilling of MHA 1-06-07H-147-92 and MHA 3-06-07H-147-92 Oil & Gas Wells

Fort Berthold Indian Reservation

February 2011

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CHAPTER 1 PURPOSE AND NEED FOR ACTION

1.1 Introduction

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

1.2 Description of the Proposed Action

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

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

The proposed action includes approval by the Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM) for Questar Exploration and Production Company (QEP) to drill and complete two wells from a single well pad targeting the Bakken and Three Forks Formations. The proposed action is located on the Fort Berthold Reservation and is proposed to be positioned in T148N, R93W, Section 36 (Dunn County). Please refer to *Figure 1.1, Project Location Map*.

The well pad would support two wells: MHA 1-06-07H-147-92 and MHA 3-06-07H-147-92. Both wells are part of the same spacing unit in which the minerals are to be efficiently developed. Proposed completion activities include acquisition of rights-of-way, infrastructure for the proposed wells, and roadway improvements.

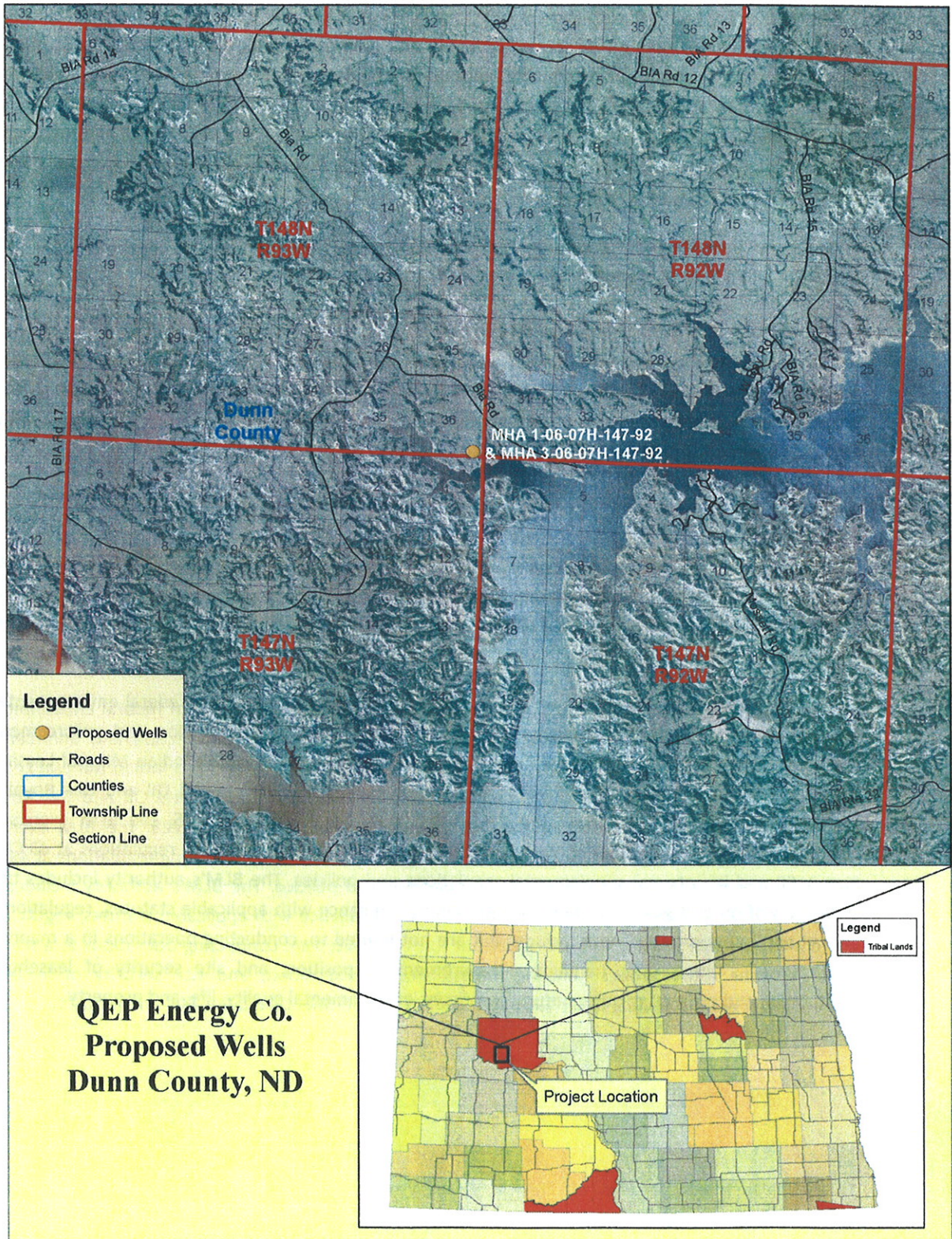


Figure 1.1, Project Location Map

1.3 Need for the Proposed Action

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

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

1.4 Purpose of the Proposed Action

The purpose of the proposed action is to allow the Three Affiliated Tribes to provide for oil and gas development on the identified lands on the Fort Berthold Reservation. Additionally, the purpose is to access commercially recoverable oil and gas resources on the lands subject to QEP's lease areas by drilling two 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 recommendation to the BLM regarding the Application for Permit to Drill. Therefore, an EA for the proposed wells is necessary to analyze the direct, indirect, and cumulative impacts of the proposed project.

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

CHAPTER 2 ALTERNATIVES

2.1 Introduction

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

2.2 Alternative A: No Action

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

2.3 Alternative B: Proposed Action

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

The project would consist of a 1,280 acre spacing unit developed by two individual wells, located atop a single well pad with an access road and associated infrastructure. The well pad is where the actual surface disturbance caused by drilling activities would occur. The spacing unit is the location of the minerals that are to be developed. The location of the proposed well site, access road, and proposed horizontal drilling techniques were chosen to minimize surface disturbance.

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

An intensive, pedestrian resource survey of the proposed well pad and access road was conducted on September 30, 2010 by KL&J. The purpose of this survey was to gather site-specific data and photos with regards to botanical, biological, threatened and endangered species, eagle, and water resources. The study area consisted of 10 acres centered on the proposed well pad center point and a 200-foot wide corridor along the proposed access road. Resources were evaluated using visual inspection and pedestrian transects across the site. In addition, a survey for eagles and eagle nests within 0.5 miles of the project disturbance area was conducted. This survey consisted of pedestrian transects focusing specifically on potential nesting sites within 0.5 miles of the project disturbance area, including cliffs

and wooded draws. Wooded draws were observed both from the upland areas overlooking the draws and from bottomlands within the actual draws.

The BIA EA on-site assessment of the well pad and access road was also conducted on September 30, 2010. The BIA Environmental Protection Specialist, as well as representatives from QEP and KL&J were present. The site was evaluated for cultural resources clearance on September 30, 2010 with representatives from the Tribal Historic Preservation Office and KL&J. Construction suitability with respect to topography, stockpiling, drainage, erosion control, and other surface issues were considered. The well pad and access road locations were finalized, and the BIA gathered information needed to develop site-specific mitigation measures and BMPs to be incorporated into the final APDs. Those present at the on-site assessments agreed that the selected locations, along with the minimization measures QEP plans to implement, are positioned to minimize impacts to sensitive wildlife and botanical resources. In addition, comments received from the USFWS (United States Fish and Wildlife Service) have been considered in the development of this project.

The MHA 1-06-07H-147-92 and MHA 3-06-07H-147-92 dual well would be located in the SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 36, Township 148 North, Range 93 West, 5th P.M. to access potential oil and gas resources within the spacing unit consisting of Sections 6 and 7, Township 147 North, Range 92 West, 5th P.M. Please refer to *Figure 2.1, MHA 1-06-07H-147-92 and MHA 3-06-07H-147-92 Well Overview*.

The MHA 1-06-07H-147-92 and MHA 3-06-07H-147-92 dual well would be accessed from the northeast. A new access road approximately 2,789 feet long would be constructed beginning near the east section line of Section 36, Township 148 North, Range 93 West. The proposed access road connects with the QEP MHA 1-05-08H-147-92 and MHA 2-05-08H-147-92 access road. The proposed access road would be used to access both wells on the dual well pad. The access road has been situated to avoid drainages and wooded draws to the extent possible. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignment. Culverts and cattle guards would be installed as needed along this new access road.

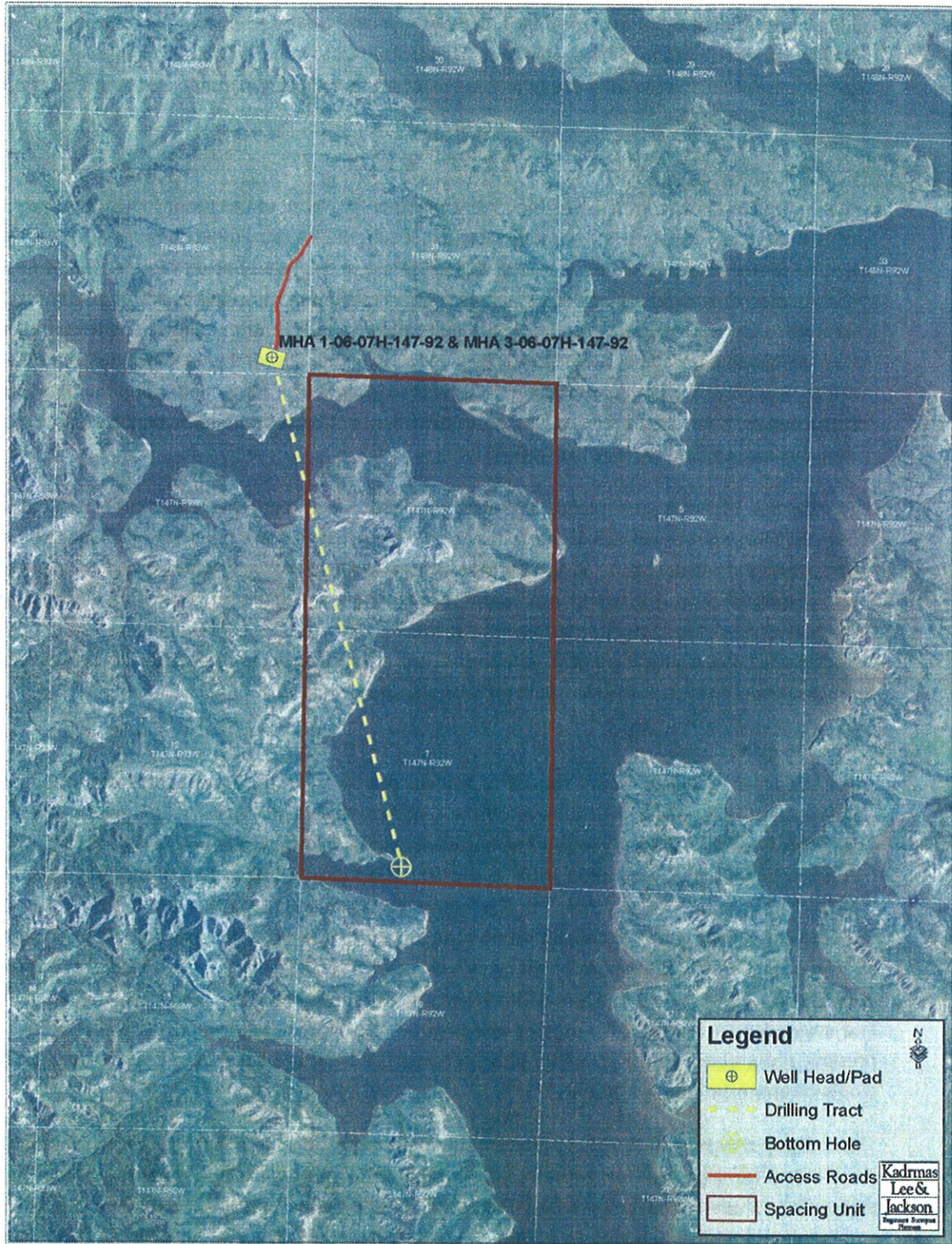


Figure 2.1, MHA 1-06-07H-147-92 and MHA 3-06-07H-147-92 Well Overview

2.4 Field Camps

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

2.5 Access Roads

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

All efforts will be made to complete construction outside the migratory bird breeding and nesting season (February 1 through July 15). In the event that construction will need to take place during the migratory bird nesting season, an acceptable alternative to mowing would be to have a qualified biologist conduct pre-construction surveys for migratory birds or their nests within five days prior to the initiation of all construction activities. The findings of these surveys would be reported to USFWS. In addition, if any migratory bird is found onsite during construction, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.

2.6 Well Pads

The proposed well pad would consist of a leveled area surfaced with several inches of gravel or crushed scoria. The pad would be used for the drilling rig and related equipment, as well as an excavated, reinforced lined (with a minimum thickness of 20 mil) pit to store drill cuttings. The drill cuttings pit would be reclaimed to BLM and North Dakota Industrial Commission (NDIC) standards immediately upon finishing completion operations. The level well pad, plus cut and fill slope areas, required for drilling and completing operations (including reserve pit for drill cuttings) would be approximately 345x510 feet (approximately 4.0 acres). Cut and fill slopes on the edge of the well pad would be 2:1 where less than 8 feet and 3:1 where 8 feet or greater. The reserve pit would be fenced and covered with netting to protect wildlife from hazardous areas. In areas where livestock are present, the entire well pad would also be fenced. The total disturbed area within the pad fence would be approximately 4.3 acres.

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

logs, silt fences, and re-vegetation of disturbed areas. The cut side of the pad would be bermed to prevent run-on and run-off. The alteration of drainages to the northeast and southwest of the proposed well pad would be avoided.

All efforts will be made to complete construction outside the migratory bird breeding and nesting season (February 1 through July 15) in order to avoid impacts to migratory birds during the breeding/nesting season. The site would be mowed in the fall prior to construction to deter migratory birds from nesting in the area. In the event that construction will need to take place during the migratory bird breeding or nesting season, an acceptable alternative to mowing would be to have a qualified biologist conduct pre-construction surveys for migratory birds or their nests within five days prior to the initiation of all construction activities. The findings of these surveys would be reported to USFWS.

2.7 Drilling

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

Initial drilling would be vertical to a depth of approximately 9,800 feet to reach the Bakken Formation and 10,200 feet to reach the Three Forks Formation, at which it would angle to become horizontal. The laterals along the horizontal plane would extend approximately 11,200 feet. This horizontal drilling technique would minimize surface disturbance.

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

A semi-closed loop drilling system would be utilized. As part of this, QEP would implement a closed circulation drilling mud system, whereby drilling fluid is circulated from the well into steel mud tanks and the drill cuttings are separated from the drilling fluid. The cuttings would then be stabilized and placed in a cuttings pit on-site. Any minimal free fluid left in the cuttings pit would be removed and disposed of in accordance with BLM and NDIC regulations. The cuttings pit would be lined to prevent seepage and contamination of the adjacent and underlying soil. Prior to their use, the pits would be fenced on the non-working sides. The access side would be fenced and netted immediately following drilling and completion operations in order to prevent wildlife and livestock from accessing the pit. In accordance with NDIC and BLM regulations and guidelines, drill cuttings would be stabilized into an inert, solid mass. The pit will then be reclaimed and covered with at least four feet of backfill and surface sloped, when practicable, to promote surface drainage away from the reclaimed area.

2.8 Casing and Cementing

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

2.9 Completion and Evaluation

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

2.10 Commercial Production

If commercially recoverable oil and gas resources are found at the proposed site, the site would become established as a production facility. Production equipment, including well pumping units, vertical heater treaters, storage tanks (eight 400 barrel steel oil tanks and two 400 barrel fiberglass saltwater tanks) and flare systems with associated piping would be installed. The storage tanks and heater/treater would be surrounded by an impermeable berm that would act as secondary containment to guard against possible spills. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. The cut side of the pad would be bermed to prevent run-on and run-off from the pad location. All permanent above ground production facilities would be painted to blend into the surrounding landscape, as determined by the BIA, based on standard colors recommended by the BLM.

Oil would be collected in the storage tanks and periodically trucked to an existing oil terminal to be sold. Produced water would also be captured in storage tanks and periodically trucked to an approved disposal site. The frequency of trucking activities for both oil resources and produced water would be dependent upon volumes and rates of production. It is expected that oil would be trucked via existing oil field, BIA and/or county roads to Highway 22 near Mandaree and then west on Highway 23 approximately 20 miles (off of the Fort Berthold Reservation) to a regional oil terminal. All haul routes used would be either private roads or roads that are approved for this type of transportation use by the local governing tribal, township, county, and/or state entities. All associated applicable permits would be obtained and restrictions complied with. Should regional oil, gas, and/or saltwater pipelines be installed, every attempt to tie production facilities at these sites to these pipelines would be made, thereby minimizing truck traffic. Any future oil, gas, or saltwater transportation pipelines would be constructed within the existing rights-of-way or additional NEPA analysis and approval from the BIA would be undertaken.

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

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

2.11 Reclamation

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

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

2.12 Potential for Future Development

Development beyond the MHA 1-06-07H-147-92 and MHA 3-06-07H-147-92 wells discussed in this document is not included with this proposal. Further development would be subject to applicable regulations, including 43 CFR Part 3160, and the BLM's Onshore Oil and Gas Order No. 1 – Approval of Operations on Onshore Federal and Indian Oil and Gas Leases, and would be subject to review under NEPA, as appropriate.

CHAPTER 3 DESCRIPTION OF THE AFFECTED ENVIRONMENT AND IMPACTS

3.1 Introduction

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

3.2 Climate, Geologic Setting, and Land Use

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

According to Great Plains Regional Climate Center data collected at the Dunn Center weather station from 1971–2000, temperatures in excess of 80 degrees Fahrenheit are common in summer months. The area receives approximately 14.0 inches of rain annually, predominantly during spring and summer. Winters in this region are cold, with temperatures often falling near zero degrees Fahrenheit. Snow generally remains on the ground from November to March, and about 38 inches of snow are received annually.

The topography within the project area is primarily identified as part of the Northwestern Great Plains, River Breaks Ecoregion, which consists of broken terraces and upland areas that descend to the Missouri River and its major tributaries. They have formed particularly in soft, easily erodible strata of the Bullion Creek, Sentinel Butte, and Golden Valley formations.

The western and southern portions of the Fort Berthold Reservation consist of prairie grasslands and buttes. The northern and eastern areas of the Reservation provide fertile farmland. The proposed project area is located within a predominately rural area. According to National Agricultural Statistics Services (NASS) data, land within the proposed project area is a mixture of predominately grassland and some deciduous forest land along the lake. Please refer to *Figure 3.1, Land Use*.

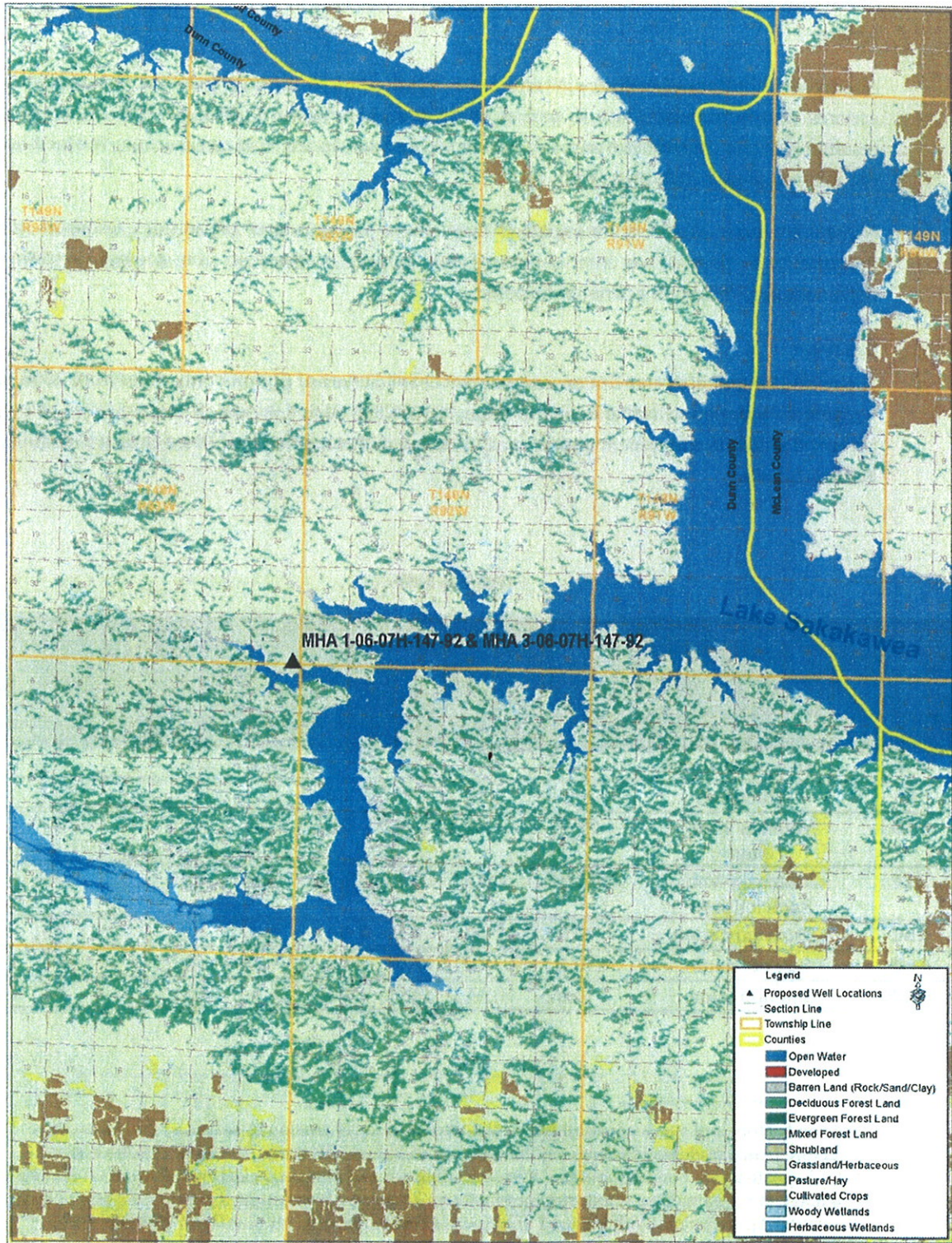


Figure 3.1, Land Use

3.2.1 Climate, Geologic Setting and Land Use Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact land use, climatic conditions, or geological setting.

Alternative B (Proposed Action) – Alternative B would result in the conversion of approximately 8.5 acres of land from present use to part of an oil and gas network. Of this, 4.3 acres would be as a result of well pad construction and 4.2 acres would be from access road construction. The land-use of the affected area is 100% grassland.

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

3.3 Soils

The NRCS (Natural Resource Conservation Service) Soil Survey of Dunn County dates from 2006, with updated information available online through the NRCS Web Soil Survey. There are seven soil types identified within the project impact area. Location and characteristics of these soils are identified in *Table 3.1, Soils*.

Table 3.1, Soils

MAP UNIT SYMBOL	SOIL NAME	PERCENT SLOPE	COMPOSITION (IN UPPER 60 INCHES)			EROSION FACTOR		HYDROLOGIC SOIL GROUP
			% sand	% silt	% clay	T	Kf	
9D	Amor-Cabba loams	9 to 15	42.1	37.9	20.0	3	.24	B
9E	Cabba Loam	15 to 45	42.1	37.9	20.0	2	.32	D
13D	Wabek gravely loam	2 to 15	42.1	37.9	20.0	2	.28	A
31F	Cohagen-Vebar-Rock outcrop	15 to 40	69.6	16.4	14.0	2	.24	D
45C	Ruso sandy loam	6 to 9	69.6	16.4	14.0	4	.20	B
46B	Bowdle loam	6 to 6	43.0	37.0	20.0	4	.28	B
102B	Shambo loam	2 to 6	39.1	36.9	24.0	5	.28	B

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

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

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

3.3.1 Soil Impacts/Mitigation

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

Alternative B (Proposed Action) – Construction activities associated with the proposed well site and access road would result in soil disturbances, though impacts to soils are not anticipated to be significant. Stockpile quantities for the location were calculated using an assumed 8 inches of existing topsoil. A minimum of 3,435 cubic yards of topsoil and 18,945 cubic yards of material would be stockpiled on site.

Based on NRCS soil data, topsoil exists in excess of 4 inches at the well site, yielding sufficient quantity of topsoil for construction and reclamation activities. Topsoil depths taken during the onsite survey indicated a soil depth of greater than 8 inches at the well site. The stockpiles would be positioned to assist in diverting runoff away from the disturbed area, thus minimizing erosion, and to allow for interim reclamation soon after the well is put into production. Two topsoil stockpiles would be located on the north side of the well pad.

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

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

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

3.4 Water Resources

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

3.4.1 Surface Water

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

The proposed well site is located in the Lake Sakakawea basin, meaning surface waters within this basin drain to Lake Sakakawea. In addition, the proposed well site is located in the Waterchief Bay Watershed and the Lower Moccasin Creek Sub-Watershed. Please refer to **Figure 3.2, Surface Water Resources**. Runoff throughout the study area is by sheet flow until collected by ephemeral and perennial streams draining to Lake Sakakawea. Runoff from the proposed well pad would flow in a southwesterly direction through a depressed area to a coulee that travels south to a small inlet of Lake Sakakawea, for a total traveled distance of 0.62 miles. Another drainage flows to the northeast from the pad, through a coulee and to Lake Sakakawea a distance of 0.63 miles.

3.4.1.1 Surface Water Impacts/Mitigation

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

Alternative B (Proposed Action) – No significant impacts to surface water are expected to result from Alternative B. The proposed project has been sited to avoid direct impacts to surface waters and to minimize the disruption of drainage patterns across the landscape. Construction site plans should contain measures to divert surface runoff around the well pad. Culverts would be implemented as needed. Roadway engineering and the implementation of BMPs to control erosion would minimize runoff of sediment downhill or downstream. The cut side of the pad would be bermed to prevent run-off. The alteration of drainages to the northeast and southeast of the proposed well pad would be avoided. Specific measures to mitigate the impacts to surface waters and to minimize the disruption of drainage patterns may include but are not limited to the implementation of sorbent booms, silt fences and catch trenches. In addition, impermeable berms would be constructed around the production tanks and heater/treater units. The cuttings pit would be bermed and fenced. The pad was re-located to the north to avoid/minimize impacts to adjacent drainages. The southeast and southwest portions of the pad would be reclaimed once production is achieved to further avoid/minimize impacts to drainages. Based on the measures proposed to be implemented at the pad location, it is unlikely that the transfer of an accidental release would reach Lake Sakakawea. Alternative B is not anticipated to result in measurable increases in runoff or impacts to surface waters.

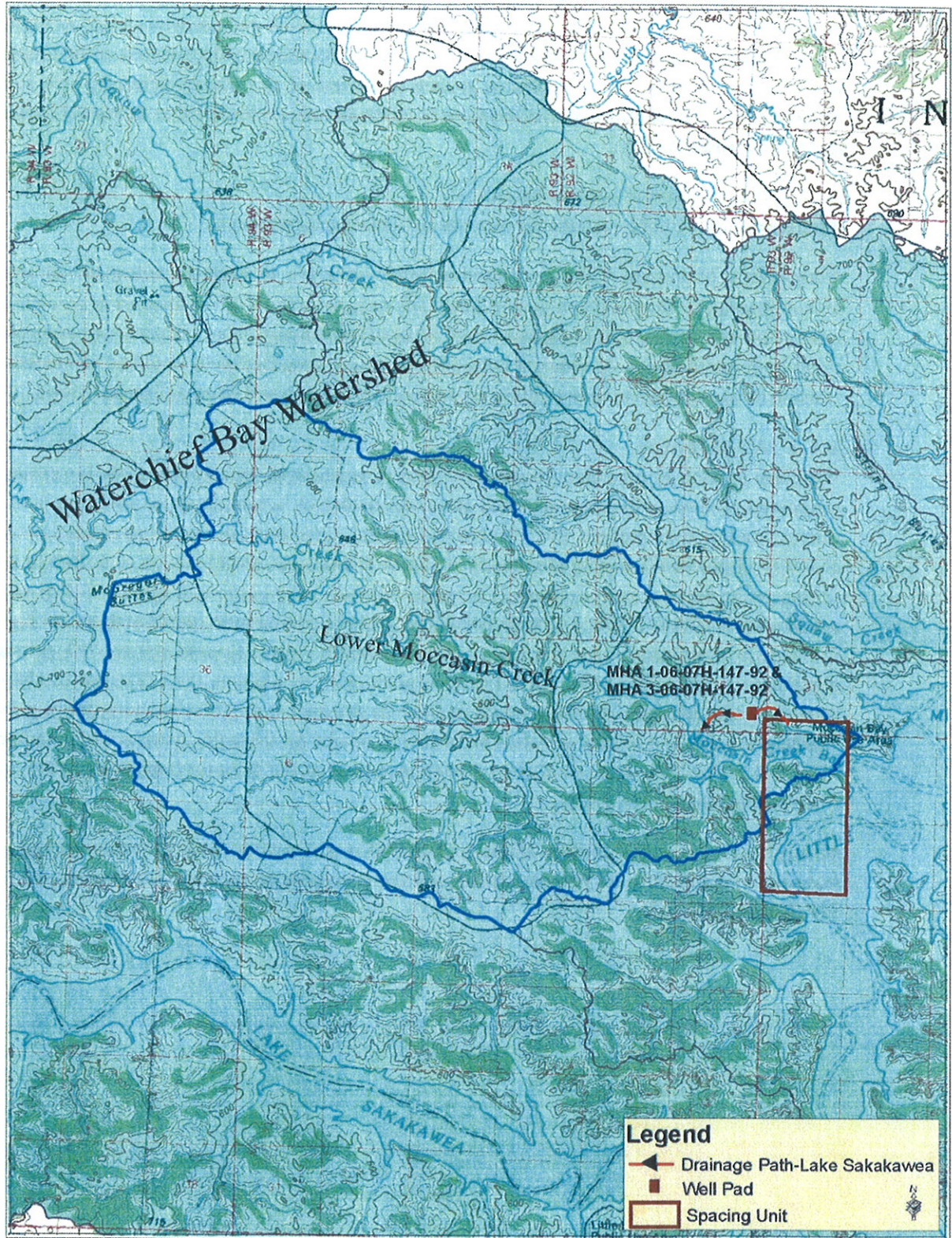


Figure 3.2, Surface Water Resources

3.4.2 Ground Water

The North Dakota State Water Commission's electronic records reveal that there are no active or permitted groundwater wells within one-mile of the proposed oil and gas well pad or access road areas. The Sentinel Butte – Tongue River Aquifer is located southeast and southwest of the proposed well site, and the Fort Union Aquifer is located northwest of the site; however, no sole source aquifers have been identified within the state of North Dakota. Please refer to *Figure 3.3, Aquifers and Groundwater Wells*.

3.4.2.1 Ground Water Impacts/Mitigation

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

Alternative B (Proposed Action) – Limited scientific data are available regarding the effects of hydrofracturing (or “fracking”) on ground water³. As such, since there are no aquifers or groundwater wells within the spacing unit being developed, no significant impacts to groundwater are expected to result from Alternative B. As required by applicable law, all proposed wells would be cemented and cased to isolate aquifers from potentially productive hydrocarbon and disposal/injection zones.

3.4.3 Air Quality

The Clean Air Act, as amended, requires the EPA to establish air quality standards for pollutants considered harmful to public health and the environment by setting limits on emission levels of various types of air pollutants. The NDDH (North Dakota Department of Health) operates a network of AAQM (Ambient Air Quality Monitoring) stations. The nearest AAQM station is located in Dunn Center, North Dakota, approximately 22.8 miles southwest of the proposed MHA 1-06-07H-147-92 and MHA 3-06-07H-147-92 site. Criteria pollutants tracked under EPA's National Ambient Air Quality Standards in the Clean Air Act include SO₂ (sulfur dioxide), PM (particulate matter), NO₂ (nitrogen dioxide), O₃ (ozone), Pb (lead), and CO (carbon monoxide). In addition, the NDDH has established state air quality standards. State standards must be as stringent as (but may be more stringent than) federal standards. The federal and state air quality standards for these pollutants are summarized in *Table 3.2, Federal and State Air Quality Standards and Reported Data for Dunn Center* (EPA 2006, NDDH 2009, Dunn Center 2009).

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

³ The EPA is currently conducting a study on fracking, which will address potential impacts to ground water. The study is anticipated to be completed in 2012.

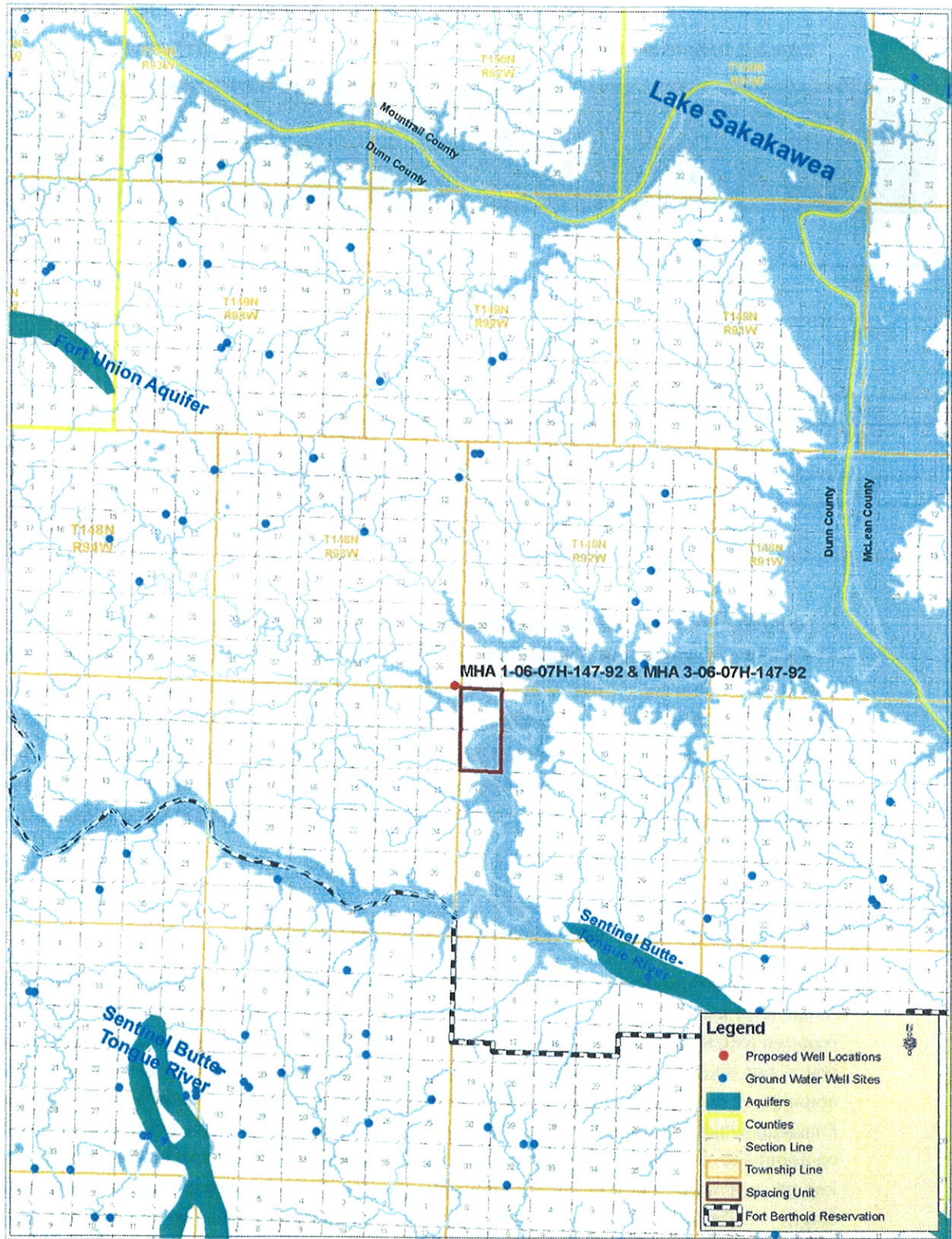


Figure 3.3, Aquifers and Groundwater Wells

Table 3.2, Federal and State Air Quality Standards and Reported Data for Dunn Center

POLLUTANT	AVERAGING PERIOD	EPA AIR QUALITY STANDARD		NDDH AIR QUALITY STANDARD		DUNN CENTER 2009 REPORTED DATA	
		MG/M ³	PARTS PER MILLION	MG/M ³	PARTS PER MILLION	MG/M ³	PARTS PER MILLION
SO ₂	24-Hour	365	0.14	260	0.099	—	.0055
	Annual Mean	80	0.030	60	0.023	—	.0005
PM ₁₀	24-Hour	150	—	150	—	44.5	—
	Annual Mean	50	—	50	—	11.3	—
PM _{2.5}	24-Hour	35	—	35	—	14.2	—
	Weighted Annual Mean	15	—	15	—	3.4	—
NO ₂	Annual Mean	100	0.053	100	0.053	—	.0015
CO	1-Hour	40,000	35	40,000	35	—	—
	8-Hour	10,000	9	10,000	9	—	—
Pb	3-Month	1.5	—	1.5	—	—	—
O ₃	1-Hour	240	0.12	235	0.12	—	.064
	8-Hour	—	0.08	—	0.08	—	.055

In addition, the Fort Berthold Reservation complies with the North Dakota National Ambient Air Quality Standards and visibility protection. The Clean Air Act affords additional air quality protection near Class I areas. Class I areas include national parks greater than 6,000 acres in size, national monuments, national seashores, and federally designated wilderness areas larger than 5,000 acres designated prior to 1977. There are no Federal Class I areas⁴ within the project area. The Theodore Roosevelt National Park is the nearest Class I area, located approximately 35.6 miles west of the proposed MHA 1-06-07H-147-92 and NHA 3-06-07H-147-92 site.

3.4.3.1 Air Quality Impacts/Mitigation

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

Alternative B (Proposed Action) – The Fort Berthold Reservation complies with North Dakota National Ambient Air Quality Standards and visibility protection. In addition, the Dunn Center AAQM Station reported air quality data well below the state and federal standards. Alternative B would not include any major sources of air pollutants. Construction activities would temporarily generate minor amounts of dust and gaseous emissions of PM, SO₂, NO₂, CO, and volatile organic compounds. Emissions would be limited to the immediate project areas and are not anticipated to cause or contribute to a violation of National Ambient Air Quality Standards. No detectable or long-term impacts to air quality or visibility are expected within the airsheds of the Fort Berthold Reservation, State, or Theodore Roosevelt National Park. No mitigation or monitoring measures are recommended.

⁴ Federal Class I areas are generally national parks and wilderness areas.

3.5 Threatened, Endangered, and Candidate Species

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

The proposed action area was evaluated to determine the potential for occurrences of federally-listed threatened, endangered, and candidate species. The USFWS (United States Fish and Wildlife Service) October 2010 Endangered, Threatened, and Candidate Species and Designated Critical Habitat in North Dakota county list identified the gray wolf, black-footed ferret, interior least tern, pallid sturgeon, and whooping crane as endangered species that may be found within Dunn County. The piping plover is listed as a threatened species and the Dakota Skipper and Sprague's pipit are listed as candidate species. In addition, Dunn County contains designated critical habitat for the piping plover adjacent to Lake Sakakawea. None of these species were observed in the field. Habitat requirements, the potential for suitable habitat within the project area, and other information regarding listed species for Dunn County are as follows:

3.5.1 Endangered Species

Gray Wolf (*Canis lupus*)

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

Black-footed ferret (*Mustela nigripes*)

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

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

Interior Least Tern (*Sterna antillarum*)

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

There is no existing or potential habitat within the project area. Potential habitat in the form of sandy/gravelly Lake Sakakawea shoreline may exist approximately 0.25 miles southwest of the proposed MHA 1-06-07H-147-92 and MHA 3-06-07H-147-92 site.

Pallid Sturgeon (*Scaphirhynchus albus*)

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

Potential habitat for pallid sturgeon can be found in Lake Sakakawea approximately 0.25 miles south of the project site at the closest point.

Whooping Crane (*Grus americana*)

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

The proposed project site and access road do not contain shallow, emergent wetlands or cropland food sources; however the proposed project is located in the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred. Lake Sakakawea, which provides potential stopover habitat for whooping crane migration, is approximately 0.25 miles away.

3.5.2 Threatened Species

Piping Plover (*Charadrius melodus*)

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

habitat includes reservoir reaches composed of sparsely vegetated shoreline beaches, peninsulas, islands composed of sand, gravel, or shale, and their interface with water bodies.

There is no existing or potential habitat within the project area. According to USFWS data, critical habitat occurs throughout the entire shoreline of Lake Sakakawea. However, due to increasing water levels in Lake Sakakawea, sparsely vegetated shoreline beaches composed of sand, gravel, or shale that once provided suitable for the piping plover, may now be inundated with water. Lake Sakakawea is located approximately 0.25 miles away from the proposed project site at the closest point.

3.5.3 Candidate Species

Dakota Skipper (*Hesperia dacotae*)

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

Upland prairie grasses were observed in the study area; however, the grasslands within the area have been heavily grazed by cattle. Due to the current cattle grazing activities, it is unlikely that the site contains the high quality prairie necessary to provide suitable Dakota skipper habitat. No Dakota skippers were observed during the field visits; however, the visit likely occurred after the Dakota Skipper butterfly stage.

Sprague's pipit (*Anthus spragueii*)

The Sprague's pipit is a small songbird found in prairie areas throughout the Northern Great Plains. Preferred habitat includes rolling, upland mixed-grass prairie habitat with high plant species diversity. The Sprague's pipit breeds in habitat with minimal human disturbance. The proposed project area does consist of upland prairie grasses; however, the majority of the land within the project area has been disturbed by cattle grazing. Due to the current grazing activities, it is unlikely that the site contains the undisturbed prairie habitat necessary for the Sprague's pipit. No Sprague's pipit were observed during the field survey.

3.5.3.2 Threatened, Endangered, and Candidate Species Impacts/Mitigation

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

Alternative B (Proposed Action) – Suitable habitat for the interior least tern, pallid sturgeon, and piping plover is largely associated with Lake Sakakawea and its shoreline. The well pad and access road are located on upland bluffs of rangeland, with Lake Sakakawea and its shoreline located approximately 360 feet below the bluffs and approximately 0.25 miles to the south. The topographic features of the area and distance from the shoreline should assist in providing sight and sound buffers for shoreline-nesting birds.

Storage tanks and the heater/treater would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from the site. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. The cut side of the pad would be bermed to prevent run-on. In addition, solidification of drill cuttings before placement in the pit and the reinforced lining of the cuttings pit would diminish the potential

for pit leaching. Due to the implementation of secondary containment measures and the cuttings pit parameters, the transfer of accidentally released fluids to Lake Sakakawea and its associated habitats is unlikely. Given the distance from the lake (0.25 miles), construction methodologies, and the level of containment measures, the proposed project may affect but is not likely to adversely affect the interior least tern, pallid sturgeon, and piping plover and is not likely to destroy or adversely modify critical habitat.

The proposed project is located within the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred. No shallow, emergent wetlands or cropland food sources were observed within or near the study area. Per USFWS recommendations, if a whooping crane is sighted within one-mile of a well site or associated facilities while under construction, then all work would cease within one-mile of that part of the project and the USFWS would be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area. It is determined that the proposed project may affect, but is not likely to adversely affect, the whooping crane and is not likely to destroy or adversely modify critical habitat.

The proposed project is located in an area that is largely disturbed by grazing activities. As a result, the project area does not contain the undisturbed prairie habitat suitable for the Sprague's pipit. Even though potential habitat for the Sprague's pipit is limited within the project area, the proposed action may impact individuals or habitat. An "effect determination" under Section 7 of the Endangered Species Act is not required due to the current unlisted status of the species.

Potential habitat for the Dakota skipper was observed at the project site in the form of upland prairie; however the grasslands within the area have been heavily grazed by cattle. No Dakota skippers were observed during the field survey. Even though potential habitat for the Dakota skipper was limited within the project area, the proposed action may impact individuals or habitat. An "effect determination" under Section 7 of the Endangered Species Act is not required due to the current unlisted status of the species.

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

3.5.3.3 Wetlands, Eagles, Other Wildlife, and Vegetation

An intensive, pedestrian resource survey of the proposed well pad and access road was conducted on September 30, 2010 by KL&J. The purpose of this survey was to gather site-specific data and photos with regards to botanical, biological, and water resources. The study area consisted of 10 acres centered on the proposed well pad center point and a 200-foot wide corridor along the proposed access road. Resources were evaluated using visual inspection and pedestrian transects across the site. In addition, a survey for eagles and eagle nests within 0.5 miles of the project disturbance area was conducted. This survey consisted of pedestrian transects focusing specifically on potential nesting sites within 0.5 miles of the project disturbance area, including cliffs and wooded draws. Wooded draws were observed both from the upland areas overlooking the draws and from bottomlands within the actual draws.

The BIA EA on-site assessment of the well pad and access road was also conducted on September 30, 2010. The BIA Environmental Protection Specialist, as well as representatives from QEP and KL&J were present. The site was evaluated for cultural resources clearance on September 30, 2010 with representatives from the Tribal Historic Preservation Office and KL&J. Construction suitability with

respect to topography, stockpiling, drainage, erosion control, and other surface issues were considered. The well pad and access road locations were finalized, and the BIA gathered information needed to develop site-specific mitigation measures and BMPs to be incorporated into the final APDs. Those present at the on-site assessments agreed that the selected locations, along with the minimization measures QEP plans to implement, are positioned to minimize impacts to sensitive wildlife and botanical resources. In addition, comments received from the USFWS (United States Fish and Wildlife Service) have been considered in the development of this project.

3.5.4 Wetlands

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

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

3.5.4.1 Wetland Impacts/Mitigation

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

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

3.5.5 Bald and Golden Eagles

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

The bald eagle (*Haliaeetus leucocephalus*) is sighted in North Dakota along the Missouri River during spring and fall migration periods and periodically in other places in the state such as the Devils Lake and Red River areas. The ND Game and Fish Department estimated in 2009 that 66 nests were occupied by bald eagles, though not all eagle nests were visited and verified⁵. Preferred habitat for the bald eagle includes open areas, forests, rivers, and large lakes. Bald eagles tend to use the same nest year after year, building atop the previous year’s nest. No bald eagles or nests were observed within 0.5 miles of proposed project disturbance areas during the field survey conducted on September 30, 2010.

⁵ Source: “Nesting in Numbers.” ND Outdoors February 2010 issue.

The golden eagle (*Aquila chrysaetos*) can be spotted in North Dakota throughout the badlands and along the upper reaches of the Missouri River in the western part of the state. Golden eagle pairs maintain territories that can be as large as 60 square miles and nest in high places including cliffs, trees, and human-made structures. They perch on ledges and rocky outcrops and use soaring to search for prey. Golden eagle preferred habitat includes open prairie, plains, and forested areas. No golden eagle nests were observed within 0.5 miles of proposed project disturbance areas during the field survey conducted on September 30, 2010.

The USGS (United States Geological Survey) Northern Prairie Wildlife Research Center maintains information on bald eagle and golden eagle habitat within the state of North Dakota. According to the USGS data, the 0.5 mile buffered survey area for the proposed well pad site does contain recorded habitat for both the bald eagle and the golden eagle. In addition, Dr. Anne Marguerite Coyle of Dickinson State University has completed focused research on golden eagles and maintains a database of golden eagle nest sightings. According to Dr. Coyle's information, the closest recorded golden eagle nest is located approximately 1.3 miles east of the proposed MHA 1-06-07H-147-92 and MHA 3-06-07H-147-92 site. Please refer to *Figure 3.4, Bald and Golden Eagle Habitat and Nest Sightings*.

3.5.5.1 Bald and Golden Eagle Impacts/Mitigation

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

Alternative B (Proposed Action) –No evidence of eagle nests was found within 0.5 miles of the project area. Therefore, no impacts to bald or golden eagles are anticipated to result from the proposed project. If a bald or golden eagle or eagle nest is sighted within 0.5 miles of the project construction area, construction activities shall cease and the USFWS shall be notified for advice on how to proceed. An eagle nest site was recorded approximately 1.3 miles east of the MHA 1-06-07H-147-92/3-06-07H-147-92 pad location. This site will be re-visited in the spring to check the status of this nest site in conjunction with the development of another pad location northwest of the eagle nest and the development of the proposed pad location.



Figure 3.4, Bald and Golden Eagle Habitat and Nest Sightings

3.5.6 Migratory Birds and Other Wildlife

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

The proposed project study area lies in the Central Flyway of North America. As such, this area is used as resting grounds for many birds on their spring and fall migrations, as well as nesting and breeding grounds for many waterfowl species. In addition, the project areas contain suitable habitat for mule deer (*Odocoileus hemionus*), whitetail deer (*Odocoileus virginianus*), sharp-tailed grouse (*Tympanuchus phasianellus*), ring-necked pheasant (*Phasianus colchicas*), red tail hawk (*Buteo jamaicensis*), golden eagle (*Aquila chrysaetos*), bald eagle (*Haliaeetus leucocephalus*), American kestrel (*Falco sparverius*) song birds, coyote (*Canis latrans*), red fox (*Vulpes vulpes*), Eastern cottontail rabbit (*Sylvilagus floridanus*), jackrabbit (*Lepus townsendii*), mountain lion (*Puma concolor*), and North American porcupine (*Erethizon dorsatum*).

During the pedestrian field surveys, migratory birds, raptors, big and small game species, non-game species, potential wildlife habitats, and and/or bird nests were identified if present. No wildlife was observed during the field survey.

3.5.6.1 Migratory Birds and Other Wildlife Impacts/Mitigation

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

Alternative B (Proposed Action) – Due to the presence of suitable habitat at the project site for many wildlife and avian species, ground clearing, drilling, and long-term production activities associated with the proposed project may impact individuals by displacing animals from suitable habitat. No migratory bird nests are expected to be impacted by construction of the proposed project, as construction of the wells is anticipated take place outside the breeding/nesting season (February 1 to July 15), and would therefore avoid the migratory bird nesting and breeding season. In the event that construction will need to take place during the migratory bird nesting season, an acceptable alternative to mowing would be to have a qualified biologist conduct pre-construction surveys for migratory birds or their nests within five days prior to the initiation of all construction activities. The findings of these surveys would be reported to USFWS. If any migratory bird is found on-site during construction, construction activities shall cease and the USFWS shall be notified for advice on how to proceed. While many species of wildlife may continue to use the project area for breeding and feeding and continue to thrive, the activities associated with oil and gas development may displace animals from otherwise suitable habitats. As a result, wildlife may be forced to utilize marginal habitats or relocate to unaffected habitats where population density and competition increase. Consequences of such displacement and competition may include lower survival, lower reproductive success, lower recruitment, and lower carrying capacity leading ultimately to population-level impacts. Therefore, the proposed project may affect individuals and populations within these wildlife species, but is not likely to result in a trend towards listing of any of the species identified. As no grouse leks were observed in the project area, additional timing restrictions for construction are not required.

The proposed MHA 1-06-07H-147-92/MHA 3-06-07H-147-92 site is located on an upland area that is at a considerably higher elevation (approximately 180 feet) than the Lake Sakakawea shoreline. The shoreline feature is at the base of a very sharp cliff which limits habitat for nesting birds. Additionally, the distance to Lake Sakakawea is approximately 0.25 miles. The topographic features of the area should assist in providing sight and sound buffers for shoreline-nesting birds.

During drilling activities, the noise, movements, and lights associated with the drilling are expected to deter wildlife from entering the area. In addition, the reserve pit would be used primarily for solid material storage, and it is expected that very minimal free fluid will be present in the pit semi-closed loop system. The absence of exposed liquids in the pit would minimize their attractiveness to wildlife. Immediately after the drilling rig leaves the location, the reserve pit would be netted with State and Federal approved nets. These would remain in place until the closure of the reserve pit.

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

All efforts will be made to complete construction outside the migratory bird breeding and nesting season (February 1 through July 15) in order to avoid impacts to migratory birds during the breeding/nesting season. In the event that construction will need to take place during the migratory bird nesting season, an acceptable alternative to mowing would be to have a qualified biologist conduct pre-construction surveys for migratory birds or their nests within five days prior to the initiation of all construction activities. The findings of these surveys would be reported to USFWS. If any migratory bird is found on-site during construction, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.

Additionally, all reasonable, prudent, and effective measures to avoid the taking of migratory bird species would be implemented during the construction and operation phases. These measures would include: the use of suitable mufflers on all internal combustion engines; certain compressor components to mitigate noise; only utilizing approved roadways; placing wire mesh or grate covers over barrels or buckets placed under valves and spigots to collect dripped oil; maintaining open pits and ponds that are free from oil, and netting cuttings pits with netting that has a maximum mesh size of 1.5 inches.

3.5.7 Vegetation

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

Vegetation at the MHA 1-06-07H-147-92/MHA 3-06-07H-147-92 site largely consisted of heavily grazed upland grasses and shrubs. The access road leading to the proposed well pad was dominated by western snowberry (*Symphoricarpos occidentalis*), Kentucky bluegrass (*Poa pratensis*), silver sage (*Artemisia cana*), and fringed sagewort (*Artemisia frigida*). Kentucky bluegrass (*Poa pratensis*), western snowberry (*Symphoricarpos occidentalis*), fringed sagewort (*Artemisia frigida*), green needlegrass (*Nasella viridula*), and prairie junegrass (*Koeleria pyramidata*) were all observed in large

quantities throughout the site. Green ash (*Fraxinus pennsylvanica*) and silver buffaloberry (*Shepherdia argentea*) were observed growing in the drainages to the south and east of the well pad site. No wetland plant species were observed. There are no threatened or endangered plant species listed for Dunn County. Please refer to Figure 3.5, Access Road Vegetation, *Figure 3.6, Dominant Well Pad Vegetation*, *Figure 3.7, Drainage East of Well Pad Dominated by Green Ash and Silver Buffaloberry*, and *Figure 3.8, Dominant Well Pad Vegetation* for examples of vegetation observed at the MHA 1-06-07H-147-92/MHA 3-06-07H-147-92 site.



Figure 3.5, Access Road Vegetation



Figure 3.6, Dominant Well Pad Vegetation



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



Figure 3.8, Dominant Well Pad Vegetation

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

Table 3.3, Noxious Weed Species

COMMON NAME	SCIENTIFIC NAME	2009 DUNN COUNTY REPORTED ACRES
Absinth wormwood	<i>Artemisia absinthium L.</i>	39,300
Canada thistle	<i>Cirsium arvense (L.) Scop</i>	28,500
Dalmation toadflax	<i>Linaria genistifolia ssp. Dalmatica</i>	—
Diffuse knapweed	<i>Centaurea diffusa Lam</i>	—
Leafy spurge	<i>Euphorbia esula L.</i>	18,300
Musk thistle	<i>Carduus nutans L.</i>	—
Purple loosestrife	<i>Lythrum salicaria</i>	—
Russian knapweed	<i>Acroptilon repens (L) DC.</i>	—
Salt cedar (tamarisk)	<i>Tamarix ramosissima</i>	—
Spotted knapweed	<i>Centaurea maculosa Lam.</i>	—
Yellow Toadflax	<i>Linaria vulgaris</i>	—

3.5.7.1 Vegetation Impacts/Mitigation

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

Alternative B (Proposed Action) – Ground clearing activities associated with construction of the proposed well and access road would result in vegetation disturbance; however, the areas of proposed surface disturbances are minimal in the context of the setting, and these impacts would be further minimized in accord with the BLM Gold Book standards for well reclamation. Following construction, interim reclamation measures to be implemented include reduction of cut and fill slopes, redistribution of stockpiled topsoil, and re-seeding of disturbed areas with a native grass seed mixture consistent with surrounding vegetation. If commercial production equipment is installed, the well site would be reduced in size to accommodate the production facilities, while leaving adequate room to conduct normal well maintenance and potential recompletion operations, with the remainder of the well pad reclaimed. Reclamation activities would include leveling, re-contouring, treating, backfill, and re-seeding with a native grass seed mixture from a BIA/BLM-approved source. Erosion control measures would be installed as appropriate. Stockpiled topsoil would be redistributed and re-seeded as recommended by the BIA.

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

3.5.8 Cultural Resources

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

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

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

A cultural resource inventory of this dual well pad and access road was conducted by personnel of Kadrmas, Lee & Jackson, Inc., using an intensive pedestrian methodology. Approximately 19 acres were inventoried on September 30 – October 1, 2010 (Ó Donnchadha 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 a determination of **no historic properties affected** for this undertaking. This determination was communicated to the THPO on January 25, 2010; however, the THPO did not respond within the allotted 30 day comment period.

Ó Donnchadha, Brian
(2010)MHA 1-06-07H-147-92 & MHA 3-06-07H-147-92 Well Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for QEP, Denver.

3.5.8.1 Cultural Resources Impacts/Mitigation

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

Alternative B (Proposed Action) – No cultural resources were identified within the APE. As such, cultural resources impacts are not anticipated. If cultural resources are discovered during construction or operation, work shall immediately be stopped, the affected site secured, and BIA and THPO notified. In the event of a discovery, work shall not resume until written authorization to proceed has been received from the BIA. All project workers are prohibited from collecting artifacts or disturbing cultural resources in any area under any circumstances.

3.5.9 Socioeconomic Conditions

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

The Fort Berthold Reservation is home to six major communities, consisting of New Town, White Shield, Mandaree, Four Bears, Twin Buttes, and Parshall. These communities provide small business amenities such as restaurants, grocery stores, and gas stations; however, they lack the larger shopping centers that are typically found in larger cities of the region such as Minot and Bismarck. According to 2000 US Census data, educational/health/social services is the largest industry on the

Reservation, followed by the entertainment/recreation/accommodation/food industry⁶. The Four Bears Casino, Convenience Store, and Recreation Park are also major employers with over 320 employees, 90% of whom are tribal members. In addition, several industries are located on the Reservation, including Northrop Manufacturing, Mandaree Electrical Cooperative, Three Affiliated Tribes Lumber Construction Manufacturing Corporation, and Uniband.

Several paved state highways provide access to the Reservation including ND Highways 22 and 23 and Highway 1804. These highways provide access to larger communities such as Bismarck, Minot and Williston. Paved and gravel BIA Route roadways serve as primary connector routes within the Reservation. In addition, networks of rural gravel roadways are located throughout Reservation boundaries providing access to residences, oil and gas developments, and agricultural land. Major commercial air service is provided out of Bismarck and Minot, with small-scale regional air service provided out of New Town and Williston.

3.5.9.1 Socioeconomic Impacts/Mitigation

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

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

3.5.10 Environmental Justice

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

The Three Affiliated Tribes qualify for environmental justice consideration as both a minority and low-income population. The population of North Dakota is predominantly Caucasian. Tribal members comprise 5.0% of North Dakota's population and 12.4% of the population of Dunn County.

As of 2000, the Fort Berthold Reservation and Dunn County have lower than statewide averages of per capita income and median household income. In addition, Dunn County has slightly lower rates of

⁶ It should be noted that the most recent US Census data dates from 2000. Since 2000, there has been an increasing focus on oil and gas development on the Fort Berthold Reservation. As such, it is anticipated that these trends have likely shifted; however, no new data is available until the 2010 US Census is completed and published.

unemployment than the state average, while Fort Berthold's rate of unemployment was substantially greater⁷. Please refer to *Table 3.4, Employment and Income*.

Table 3.4, Employment and Income

LOCATION	PER CAPITA INCOME	MEDIAN HOUSEHOLD INCOME	UNEMPLOYMENT RATE	INDIVIDUALS LIVING BELOW POVERTY LEVEL
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%

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

Population decline in rural areas of North Dakota has been a growing trend as individuals move toward metropolitan areas of the state, such as Bismarck and Fargo. While Dunn County's population has been slowly declining, the Fort Berthold Reservation has witnessed a steady increase in population. American Indians are the majority population on the Fort Berthold Reservation but are the minority population in Dunn County and the state of North Dakota. *Please refer to Table 3.5, Demographic Trends.*

Table 3.5, Demographic Trends

LOCATION	POPULATION IN 2000	% OF STATE POPULATION	% CHANGE 1990-2000	PREDOMINANT RACE	PREDOMINANT MINORITY
Dunn County	3,600	0.56%	-10.1%	White	American Indian (12.4%)
Fort Berthold Reservation	5,915	0.92%	+9.8%	American Indian ⁸	White (26.9%)
Statewide	642,200	—	+0.5%	White	American Indian (5.0%)

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

⁷ While more current data reflecting income, unemployment, and poverty levels within the Fort Berthold Reservation are not available, it is anticipated that 2010 numbers may show different trends. The exploration and production of oil and gas resources on the Reservation since 2006 have created employment opportunities and have likely affected these economic indicators. However, this assessment uses the best available data.

⁸ According to the North Dakota Tourism Division, there are 10,400 enrolled members of the Three Affiliated Tribes.

3.5.10.1 Environmental Justice Impacts/Mitigation

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

Alternative B (Proposed Action) – Alternative B would not require relocation of homes or businesses, cause community disruptions, or cause disproportionately adverse impacts to members of the Three Affiliated Tribes. The proposed project has not been found to pose significant impacts to any other critical element (public health and safety, water, wetlands, wildlife, soils, or vegetation) within the human environment. The proposed project is not anticipated to result in disproportionately adverse impacts to minority or low-income populations. Oil and gas development of the Bakken Formation is occurring both on and off the Fort Berthold Reservation. Employment opportunities related to oil and gas development may lower the unemployment rate and increase the income levels on the Fort Berthold Reservation. In addition, the Three Affiliated Tribes and allotted owners of mineral interests may receive income from oil and gas development on the Fort Berthold Reservation in the form of royalties, if drilling and production are successful, as well as from TERO (Tribal Employee Rights Office) taxes on construction of drilling facilities.

3.5.11 Infrastructure and Utilities

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

Known utilities and infrastructure within the vicinity of the proposed project includes paved and gravel roadways. There are no known water pipelines in the vicinity of the proposed project. The Bureau of Reclamation manages the Fort Berthold Rural Water System. Existing waterlines were noted 2.5 to 3.0 miles north and west of the proposed pad location. These areas would not be affected by the proposed project.

3.5.11.1 Infrastructure and Utility Impacts/Mitigation

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

Alternative B (Proposed Action) – Vehicular traffic associated with construction, operation, and maintenance of the proposed action would increase the overall traffic on the local roadway network. Alternative B would also require construction of a new gravel roadway approximately 0.53 miles long.

Safety hazards posed from increased traffic during the drilling phase are anticipated to be short-term and minimal for the proposed site. It is anticipated that approximately 30 to 40 trips, over the course of several days, would be required to transport the drilling rig and associated equipment to the proposed well site. If commercial operations are established at either of the proposed well sites following drilling activities, the pump would be checked daily and oil and water hauling activities would commence. Oil would be hauled using a semi tanker trailer, typically capable of hauling 140 barrels of oil per load. Traffic to and from the well site would depend upon the productivity of the well. A 1,000 barrel per day well would require approximately seven tanker visits per day, while a 300 barrel per day well would require approximately two visits per day⁹. 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

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.

dependent upon daily water production¹⁰. Established load restrictions for state and BIA roadways would be followed and haul permits would be acquired as appropriate.

To minimize potential impacts to the roadway conditions and traffic patterns in the area, all haul routes used would either be private roads or roads that have been approved for this type of transportation use by the local governing tribal, township, county, and/or state entities. QEP would follow Dunn County, BIA, and North Dakota Department of Transportation rules and regulations regarding rig moves and oversize/overweight loads on state and county roads used as haul roads. All contractors are required to permit their oversize/overweight roads through these entities. QEP's contractors would be required to adhere to all local, county, tribal, and state regulations regarding rig moves, oversize/overweight loads, and frost restrictions.

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

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

3.5.12 Public Health and Safety

Health and safety concerns associated with this type of development include hydrogen sulfide (H₂S) gas¹¹ and hazardous materials used or generated during well installation or production.

3.5.12.1 Public Health and Safety Impacts/Mitigation

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

Alternative B (Proposed Action) – Project design and operational precautions would minimize the likelihood of impacts from H₂S gases and hazardous materials as described below.

H₂S Gases. It is unlikely that the proposed action would result in release of H₂S in dangerous concentrations; however, QEP will submit H₂S Contingency Plans to the BLM as part of the site APDs. These plans establish safety measures to be implemented throughout the drilling process to prevent accidental release of H₂S into the atmosphere. The Contingency Plans are designed to protect persons living and/or working within 3,000 feet (0.57 miles) of each well location and include emergency response procedures and safety precautions to minimize the potential for an H₂S gas leak during

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 rates of 200 BWP (barrels of water per day) could be expected, dropping to 30 to 70 BWP after several months.

¹¹ H₂S is extremely toxic in concentrations above 500 parts per million. H₂S has not been found in measurable quantities in the Bakken Formation. However, before reaching the Bakken, drilling would penetrate the Mission Canyon Formation, which is known to contain varying concentrations of H₂S.

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

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

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

3.6 Cumulative Considerations

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

3.7 Past, Present, and Reasonably Foreseeable Actions

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

According to the NDIC, as of December 16, 2010, there were approximately 416 active and/or confidential oil and gas wells within the Fort Berthold Reservation and 411 within the 20-mile radius outside the boundaries of the Fort Berthold Reservation. Please refer to *Figure 3.9, Existing and Proposed Oil and Gas Wells*. There are no known oil and gas wells within one mile of the MHA 1-06-07h-147-92/MHA 3-06-07H-147-92 site. Please refer to *Table 3.6, Summary of Active and Proposed Wells*.

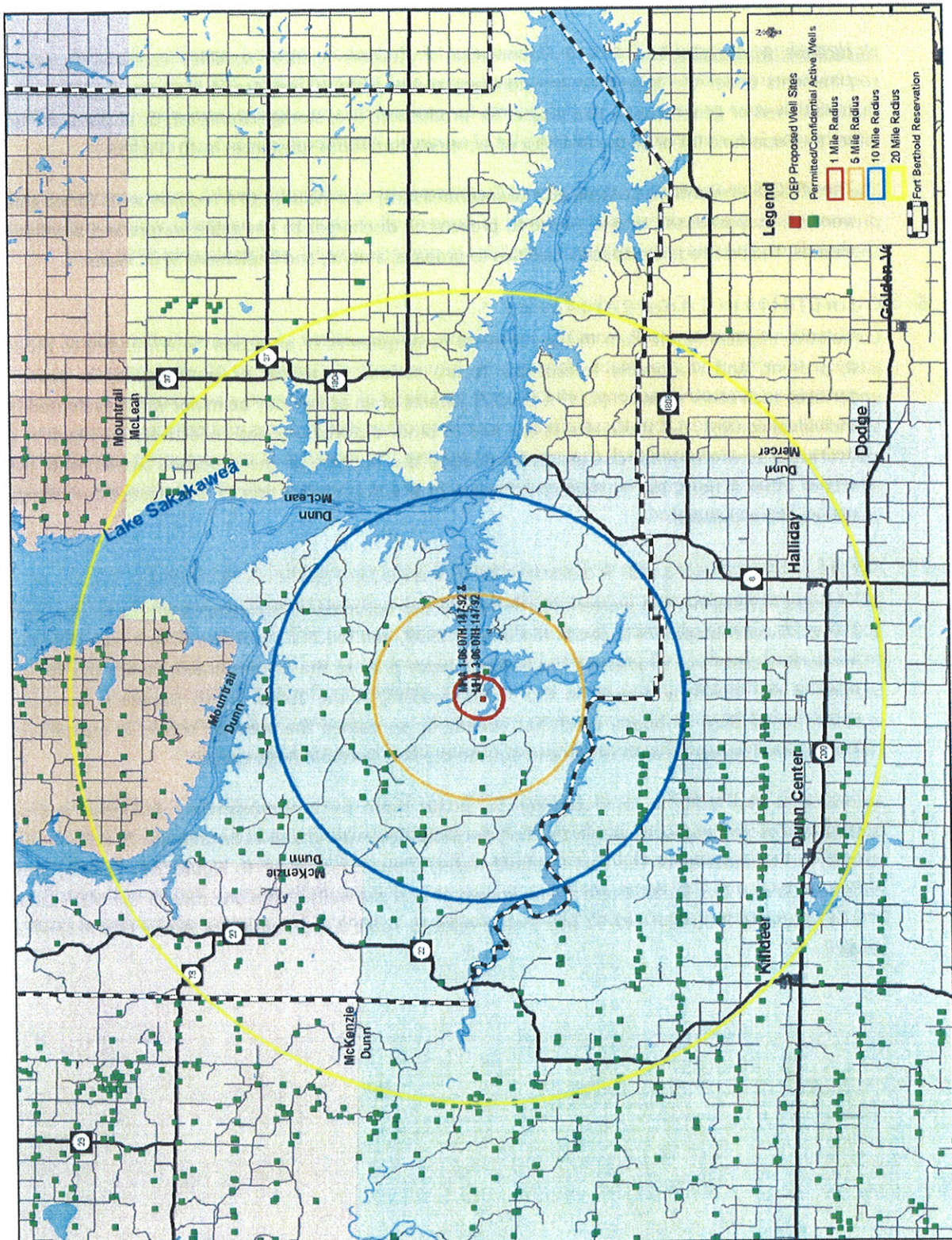


Figure 3.9, Existing and Proposed Oil and Gas Wells

Table 3.6, Summary of Active and Proposed Wells

DISTANCE FROM SITE	NUMBER OF ACTIVE OR PROPOSED WELLS
1 mile radius	0
5 mile radius	15
10 mile radius	95
20 mile radius	411

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

Commercial success at any new well can be reasonably expected to result in additional nearby oil/gas exploration proposals; however, it is speculative to anticipate the specific details of such proposals. While such developments remain speculative until APDs have been submitted to the BLM or BIA, it is reasonable to assume based on the estimated availability of the oil and gas resources that further development will continue in the area for the next 30-40 years. It is also reasonable to assume that natural gas and oil gathering and/or transportation systems will be proposed and likely built in the future to facilitate the movement of products to market. Currently, natural gas gathering systems are being considered and/or proposed on the Fort Berthold Reservation, and some small systems have been approved.

3.7.1 Cumulative Impact Assessment

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

Land Use — As oil and gas exploration and production of the Bakken and Three Forks Formations proceed, lands atop these formations are converted from existing uses (often agricultural or vacant) to industrial, energy-producing uses. The proposed project would convert grasslands to a well pad, access road, and associated uses. However, the well pad (two wells) and access road have been selected to avoid or minimize sensitive land uses and to maintain the minimum impact footprint possible. In addition, the BIA views these developments to be temporary in nature as impacted areas would be restored to original conditions upon completion of oil and gas activity.

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

Threatened and Endangered Species — The potential for cumulative impacts to threatened and endangered species comes to those listed species that may be affected by the proposed project or candidate species that may be impacted by the proposed project. The proposed project occurs within the central flyway through which whooping cranes migrate and whooping cranes may forage in adjacent cropland. The indirect impact through the disruption of the use of this cropland may cause a cumulative impact when added to past, present, and reasonable foreseeable actions. Continual development (e.g., agriculture, oil and gas, and wind) within the central flyway has compromised whooping crane habitat both through direct impacts via conversion of potential habitat to other uses and indirect impacts due to disrupting the use of potential stopover habitat, as whooping cranes prefer isolated areas and are known to avoid large-scale development. However, the proposed action, when added to other development directly and indirectly impacting whooping cranes and their habitat, is not anticipated to significantly contribute to cumulative impacts occurring to the whooping crane population.

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

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

Wetlands, Wildlife, and Vegetation — The proposed project, when added to previously constructed and reasonably foreseeable oil and gas wells, would contribute to habitat loss and fragmentation associated with construction of well pads, access roads, and associated development. By placing multiple wells at one location, habitat loss has been minimized. The North Dakota Parks and Recreation Department notes in its undated publication, "*North Dakota Prairie: Our Natural Heritage*" that approximately 80% of the state's native prairie has been lost to agriculture, with most of the remaining areas found in the arid west; ongoing oil and gas activity has the potential to threaten remaining native prairie resources. While many species of wildlife may continue to use the project area for breeding and feeding and continue to thrive, the activities associated with oil and gas

development may displace animals from otherwise suitable habitats. As a result, wildlife may be forced to utilize marginal habitats or relocate to unaffected habitats where population density and competition increase. Consequences of such displacement and competition may include lower survival, lower reproductive success, lower recruitment, and lower carrying capacity leading ultimately to population-level impacts.

However, the proposed action and other similar actions are carefully planned to avoid or minimize these impacts. Multiple components of the process used by the BIA to evaluate and approve such actions, including biological and botanical surveys, on-site assessments with representatives from multiple agencies and entities, public and agency comment periods on this EA, and the use of BMPs and site-specific environmental commitments are in place to ensure that environmental impacts associated with oil and gas development are minimized. The practice of utilizing existing roadways to the greatest extent practicable further minimizes impacts to wildlife habitats and prairie ecosystems. The proposed wells have been sited to avoid sensitive areas such as surface water, wetlands, and riparian areas. Reclamation activities are anticipated to minimize and mitigate disturbed habitat.

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

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

3.7.1.1 Irreversible and Irretrievable Commitment of Resources

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

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

Short-term activities would not significantly detract from long-term productivity of the project area. The area dedicated to the access road and well pad would be unavailable for livestock grazing,

wildlife habitat, or other uses. However, allottees with surface rights would be compensated for loss of productive acreage and project footprints would shrink considerably once the wells were drilled and non-working areas reclaimed and reseeded. Successful and ongoing reclamation of the landscape would reestablish the land's use for wildlife and livestock grazing, stabilize the soil, and reduce the potential for erosion and sedimentation. The primary long-term resource loss would be the extraction of oil and gas resources from the Bakken and three Forks Formations, which is the purpose of this project.

3.7.1.3 Permits

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

- *Application for Permit to Drill* – Bureau of Land Management
- *Application for Permit to Drill* – North Dakota Industrial Commission
- Section 10 Permit – United States Army Corps of Engineers

3.7.1.4 Environmental Commitments/Mitigation

The following commitments have been made by QEP Oil Company:

- Topsoil will be segregated and stored on-site to be used in the reclamation process. All disturbed areas would be re-contoured to original elevations as close as possible as part of the reclamation process.
- BMPs (may include, but are not limited to, hydro-seeding, erosion mats and biologs) will be implemented to minimize wind and water erosion of soil resources. Soil stockpiles will be positioned to help divert runoff around the well pads.
- The proposed well pad and access road will avoid surface waters. The proposed project will not alter stream channels or change drainage patterns.
- The drill cuttings pit will be located on the cut side of the locations and away from areas of shallow ground water and have a reinforced synthetic liner to prevent potential leaks. All spills or leaks of chemicals and other pollutants will be reported to the BLM and EPA. The procedures of the surface management agency shall be followed to contain leaks or spills.
- Both proposed wells will be cemented and cased to isolate aquifers from potentially productive hydrocarbon and disposal/injection zones.
- Wetlands and riparian areas will be avoided.
- Disturbed vegetation will be re-seeded in kind upon completion of the project, and a noxious weed management plan would be implemented. The re-seeded site would be maintained until such time that the vegetation is consistent with surrounding undisturbed areas and the site is free of noxious weeds. Seed will be obtained from a BIA/BLM approved source.
- The proposed well pad and access road will avoid impacts to cultural resources. If cultural resources are discovered during construction or operation, work shall immediately be stopped, the affected site secured, and BIA and THPO notified. In the event of a discovery, work shall not resume until written authorization to proceed has been received from the BIA.

- The access road will be located at least 75 feet away from identified cultural resources. The boundaries of these 75-foot "exclusion zones" would be pin-flagged as an extra measure to ensure that inadvertent impacts to cultural resources are avoided.
- All project workers are prohibited from collecting artifacts or disturbing cultural resources in any area under any circumstances.
- QEP will ensure all contractors working for the company will adhere to all local, county, tribal, and state regulations and ordinances regarding rig moves, oversize/overweight loads, and frost law restrictions.
- Utility modifications will be identified during design and coordinated with the appropriate utility company
- A H₂S Contingency Plan will be submitted to the BLM as part of the APD
- Established load restrictions for state and BIA roadways will be followed and haul permits would be acquired as appropriate.
- Suitable mufflers will be put on all internal combustion engines and certain compressor components to mitigate noise levels.
- Well sites and associated facilities will be painted in earth tones, based on standard colors recommended by the BLM, to allow them to better blend in with the natural background color of the surrounding landscape.
- BMPs will be used during construction to ensure contaminants do not move off site.
- The cuttings pit will be netted while not actively being used.
- A semi-closed loop drilling system will be utilized. As part of this, QEP would implement a closed circulation drilling mud system, whereby drilling fluid is circulated from the well into steel mud tanks and the drill cuttings are separated from the drilling fluid. The cuttings would then be stabilized, and placed in a cuttings pit on-site. The reinforced lining of the cuttings pit would have a minimum thickness of 20 mils to prevent seepage and contamination of underlying soil. Any minimal free fluid left in the cuttings pit would be removed and disposed of in accordance with BLM and NDIC regulations. All liquids from drilling would be transported off-site. The drill cuttings pit would be reclaimed to BLM and NDIC standards immediately upon finishing completion operations.
- Prior to its use, the cuttings pit would be fenced on the non-working sides. The access side would be fenced and netted immediately following drilling and completion operations in order to prevent wildlife and livestock from accessing the pit.
- A two foot berm would be constructed and maintained around the perimeter of the pad.
- If a whooping crane is sighted within one-mile of a well site or associated facilities while it is under construction, all work will cease within one-mile of that part of the project and the USFWS will be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area.
- All efforts will be made to complete construction outside the migratory bird nesting season (February 1 through July 15) in order to avoid impacts to migratory birds during the breeding/nesting season. In the event that construction will need to take place during the

migratory bird nesting season, an acceptable alternative to mowing would be to have a qualified biologist conduct pre-construction surveys for migratory birds or their nests within five days prior to the initiation of all construction activities. The findings of these surveys would be reported to USFWS. If any migratory bird is found on-site during construction, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.

- If a bald or golden eagle or eagle nest is sighted within 0.5 miles of the project construction area, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.
- Wire mesh or grate covers will be placed over barrels or buckets placed under valves and spigots to collect dripped oil.
- Netting, with a maximum mesh size of 1.5 inches, will be used to keep birds and other small animals out of open pits.
- All storage tanks and heater/treater will be surrounded by an impermeable berm that would act as secondary containment to guard against possible spills. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production.
- Re-seeding of native species shall occur as needed on stockpile areas and slope areas during reclamation.
- All additional fill material required for construction of the project will be obtained from a supplier whose material has been certified weed-free.
- Prior to mobilization, drilling rigs and associated equipment will be pressure washed or air blasted off Tribal lands to prevent the possible transportation of noxious or undesirable vegetation onto Tribal lands as well as USACE managed lands.
- Subsurface gathering lines and buried electrical lines would be located within the access road right-of-way

CHAPTER 4 PREPARERS AND AGENCY COORDINATION

4.1 Introduction

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

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

4.2 Preparers

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

Table 4.1, Preparers

AFFILIATION	NAME	TITLE	PROJECT ROLE
Bureau of Indian Affairs	Marilyn Bercier	Regional Environmental Scientist	Review of Draft EA and recommendation to Regional Director regarding FONSI or EIS
	Mark Herman	Environmental Engineer	
Questar Exploration and Production Company	Debbie Stanberry	Supervisor Regulatory Affairs	Project development, alternatives, document review
	Tracy Opp	Operations Specialist	Project development, alternatives, document review
Kadrmass, Lee & Jackson, Inc.	Charlotte Brett	Environmental Planner	Senior review
	Steve Czczok	Environmental Planner	Impact assessment, exhibit creation
	Rick Leach	Surveyor	Site Plats
	Brian O'Donnchadha	Archaeologist	Cultural resources surveys
	Jerry Reinisch	Environmental Planner/Biologist	Project coordination, field resources surveys, impact assessment, principal author
	Grady Wolf	Environmental Planner	Project Manager

4.3 Agency Coordination

To initiate early communication and coordination, an early notification package to tribal, federal, state, and local agencies and other interested parties was distributed on October 8, 2010. This scoping package included a brief description of the proposed project, as well as a location map. Pursuant to Section 102(2) (D) (IV) of NEPA, a solicitation of views was requested to ensure that social, economic, and environmental effects were considered in the development of this project.

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

4.4 Public Involvement

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

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Appendix A

Agency Scoping Materials

October 8, 2010

Dear Interested Party:

On behalf of Questar Exploration and Production Company, Kadrmas, Lee & Jackson, Inc. are preparing an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) for the Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM). The proposed action includes approval by the BIA and BLM of the development of one well pad, with two wells, and access road in Dunn County on the Fort Berthold Reservation.

The proposed action would advance the exploration and production of oil from the Bakken and Three Forks Pools. ***Please refer to the enclosed project location map.*** The proposed wells are: MHA-1-06-07H-147-92 and MHA 3-06-07H-147-92. Construction of the proposed well pad and access road is proposed to begin as early as May 2011.

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

Please provide your comments by **November 8, 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)

October 8, 2010

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

**Re: Questar Exploration and Production
MHA 1-06-07H-147-92 and MHA 3-06-07H-147-92
Fort Berthold Reservation
Dunn County, North Dakota**

Dear Mr. Towner,

On behalf of Questar Exploration and Production (QEP), Kadmas, Lee & Jackson, Inc. (KL&J) is preparing an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) for the BIA (Bureau of Indian Affairs) and Bureau of Land Management (BLM). The proposed action includes approval by the BIA and BLM of the development of one dual well pad, resulting in the drilling and completion of two oil and gas wells at one location on the Fort Berthold Reservation. This well pad is proposed to be positioned in the following location:

Both the MHA 1-06-07H-147-92 and MHA 3-06-07H-147-92 wells would be located atop the same well pad positioned in SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 36, Township 148 North, Range 93 West, 5th P.M. **Please refer to the enclosed project location map.** The proposed action would advance the exploration and production of oil from the Bakken and Three Forks Pools. The well pad has been positioned to utilize existing roadways for access to the extent possible and to minimize environmental impacts by drilling two wells from the same pad location. Construction of the proposed well pad and access road is scheduled to begin in May 2011.

An intensive, pedestrian resource survey of the well pad and access road was conducted on September 30, 2010 by KL&J. The purpose of this survey was to gather site-specific data and photos with regards to botanical, biological, threatened and endangered species, biological, raptor, and water resources. A study area of 10 acres centered on the well pad center point, and a 200-foot wide access road corridor were used to evaluate the resources mentioned above. **Please refer to enclosed study area map.** In addition, a 0.50 mile wide buffer around all areas of project disturbance was used to evaluate the presence of eagles and eagle nests. Resources were evaluated using visual inspection and pedestrian transects across the site. **Please refer to the enclosed eagle buffer map.**

BIA-facilitated EA on-site assessments of the well pad and access road were also conducted on September 30, 2010. The BIA Environmental Protection Specialist, as well as representatives from QEP, and KL&J were present. The site was evaluated for cultural resources clearance on September 30, 2010 with representatives from the Tribal Historic Preservation Office and KL&J. During these assessments, construction suitability with respect to topography, stockpiling, drainage, erosion control, and other surface issues were considered. Well pad and access road locations were adjusted, as appropriate; to avoid

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

Threatened and Endangered Species: The proposed well site occurs in Dunn County. In Dunn County, the interior least tern, whooping crane, black-footed ferret, pallid sturgeon, and gray wolf are all listed as endangered species. The piping plover is listed as a threatened species. The Dakota skipper and Sprague's Pipit, is listed as a candidate species. Dunn County also contains designated critical habitat for the piping plover. None of these species were observed during the field survey and on-site assessment.

Whooping cranes use shallow, seasonally and semi-permanently flooded palustrine (marshy) wetlands for roosting, and various cropland and emergent wetlands for feeding. No shallow, emergent wetlands or cropland food sources were observed near the study area. However, the proposed project is located in the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred. Therefore, the proposed project may affect but is not likely to adversely affect whooping cranes. Per USFWS recommendations on previous projects of a similar nature, if a whooping crane is sighted within one-mile of a well site or associated facilities while under construction, all work will cease within one-mile of that part of the project and the USFWS will be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area.

Suitable habitat for the interior least tern, pallid sturgeon, and piping plover is largely associated with Lake Sakakawea and its shoreline. Potential habitat for these species exists approximately 0.25 miles southeast of the proposed site. The well pad and access road are located on upland prairie grassland, with the shoreline of Lake Sakakawea approximately 0.25 miles away. The topographic features of the area and distance from the shoreline should assist in providing sight and sound buffers for shoreline-nesting birds.

Storage tanks and the heater/treater would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from the site. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. As a tertiary containment measure, sorbent booms will be placed in select locations down-gradient of each well pad in order to prevent materials from entering surface drainageways in the event of an accidental release. In addition, solidification of drill cuttings before placement in the pit and the reinforced lining of the cuttings pit would diminish the potential for pit leaching. Due to the implementation of secondary and tertiary containment measures and the cuttings pit parameters, the transfer of accidentally released fluids to Lake Sakakawea and its associated habitats is unlikely. With the given distance from the lake, construction methodologies to minimize impacts, and the level of containment measures, the proposed project may affect, but is not likely to adversely affect the interior least tern, pallid sturgeon, or piping plover, and is not likely to destroy or adversely modify critical habitat.

The black-footed ferret historically could be found throughout the Rocky Mountains and Great Plains. In North Dakota, the black-footed ferret may potentially be present within prairie dog towns. However, they have not been confirmed in North Dakota for over 20 years and are presumed extirpated. Its preferred habitat includes areas around prairie dog towns, as it relies on prairie dogs for food and lives in prairie dog burrows. Black-footed ferrets

require at least an 80-acre prairie dog town to survive. Due to a lack of suitable habitat and known populations, the proposed project is anticipated to have no effect to the black-footed ferret.

Historically, the gray wolf's preferred habitat includes biomes such as boreal forest, temperate deciduous forest, and temperate grassland. While the gray wolf is not common in North Dakota, occasionally individual wolves do pass through the state. The project area is located far from other known wolf populations and is positioned on heavily grazed grasslands. Due to a lack of preferred habitat characteristics and known populations, the proposed project is anticipated to have no effect to the gray wolf.

The preferred habitat for the Dakota skipper consists of flat, moist bluestem prairies and upland prairies with an abundance of wildflowers. Upland prairie grasses were observed in the study area; however, the grasslands within the area have been heavily grazed by cattle. Due to a lack of preferred habitat, the proposed project is anticipated to have no effect to the Dakota skipper.

The Sprague's pipit is a small songbird found in prairie areas throughout the Northern Great Plains. Preferred habitat includes rolling, upland mixed-grass prairie habitat with high plant species diversity. The Sprague's pipit breeds in areas with minimal human disturbance. The proposed project area does consist of upland prairie, which may provide potential habitat for the Sprague's pipit, but the study area had been heavily grazed. Due to the lack of potential habitat for the Sprague's pipit within the project area, the proposed project is anticipated to have no effect on the Sprague's pipit.

Botanical Resources: The MHA 1-06-07H-147-92 well site consisted of heavily grazed upland grassland. The access road leading to the proposed well pad was dominated by Kentucky bluegrass, green needlegrass and western snowberry. Fringed sagewort, prairie coneflower, green needlegrass, Kentucky bluegrass, little bluestem, western snowberry, prairie junegrass, and Canada thistle were all found throughout the study area. Chokecherry, green ash, and silver buffaloberry were observed growing in the drainages to the south and east of the site. No wetlands were observed in the study area; therefore, no wetland plant species were observed. One noxious weed species was observed (Canada thistle). There are no threatened or endangered plant species listed for Dunn County.

Biological Resources: The project area contains suitable habitat for mule deer, whitetail deer, sharp-tailed grouse, ring-necked pheasant, golden eagle, red tail hawk, bald eagle, badger, song birds, coyote, red fox, cottontail rabbit, jackrabbit, and North American porcupine. No wildlife species were observed on the day of the on-site assessment.

During drilling activities, the noise, movements, and lights associated with having a drilling rig on-site are expected to deter wildlife from entering the area. In addition, the cuttings pit would only be used for solid material storage, and it is expected that very minimal free fluid will be present in the pit (semi closed loop system). The absence of exposed liquids in the pit 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 with proper maintenance until the closure of the reserve pits.

In addition, design considerations will be implemented to further protect against potential habitat degradation. The storage tanks and heater/treater would be surrounded by an impermeable berm that would act as secondary containment to guard against possible

spills. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. BMPs to minimize wind and water erosion of soil resources, as well as implementation of a closed mud system with an on-site cuttings pit during drilling, would also be put into practice.

Construction activities will be completed outside the migratory bird nesting season (February 1 through July 15) in order to avoid impacts to migratory birds during the breeding/nesting season. The site would be mowed in the fall prior to construction to deter migratory birds from nesting in the area. In the event that construction will need to take place during the migratory bird nesting season, an acceptable alternative to mowing would be to have a qualified biologist conduct pre-construction surveys for migratory birds or their nests within five days prior to the initiation of all construction activities. In addition, if any migratory bird is found on-site during construction, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.

Additionally, all reasonable, prudent, and effective measures to avoid the taking of migratory bird species will be implemented during the construction and operation phases. These measures will include: the use of suitable mufflers on all internal combustion engines; certain compressor components to mitigate noise; only utilizing approved roadways; placing wire mesh or grate covers over barrels or buckets placed under valves and spigots to collect dripped oil; maintaining open pits and ponds that are free from oil, and netting cuttings pits with netting that has a maximum mesh size of 1.5 inches.

Eagles: Surveys for eagle nests were conducted on September 30, 2010 and no evidence of eagle nests or observations of eagles were noted within 0.5 miles of the project area. If a bald or golden eagle or eagle nest is sighted within 0.5 miles of the project construction area, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.

Water Resources: The study area sloped slightly to the northeast away from the pad toward Lake Sakakwea. Several ridges bounded the study area on the south and east sides, with small wooded drainages leading to Lake Sakakwea to the east. The pad was moved from the original location north to further avoid and to minimize the effects to adjacent drainages and to minimize areas of cut and fill during construction of the pad by using the natural topography as a secondary containment in the event of a spill or release from the well pad.

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

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

- A semi closed loop system with an on-site cuttings pit would be used during drilling. Drill cuttings would be solidified before being placed in the reinforced lined cuttings pit. The reinforced lining of the cuttings pit would have a minimum thickness of 20mm to prevent seepage and contamination of underlying soil. Any minimal fluids remaining in drill cuttings pit would be removed and disposed of in accordance with BLM and NDIC rules and regulations. All liquids from drilling would be transported off-site. The drill cuttings pit would be reclaimed to BLM and North Dakota Industrial Commission (NDIC) standards immediately upon finishing completion operations.
- Prior to its use, the cuttings pit would be fenced on the non-working sides. The access side would be fenced and netted immediately following drilling and completion operations in order to prevent wildlife and livestock from accessing the pit.
- Sorbent booms will be placed in select locations down-gradient of each well pad in order to prevent materials from entering surface drainageways in the event of an accidental release.
- Construction activities will be completed outside the migratory bird nesting season (February 1 through July 15) in order to avoid impacts to migratory birds during the breeding/nesting season. The site would be mowed in the fall prior to construction to deter migratory birds from nesting in the area. In the event that construction will need to take place during the migratory bird nesting season, an acceptable alternative to mowing would be to have a qualified biologist conduct pre-construction surveys for migratory birds or their nests within five days prior to the initiation of all construction activities. In addition, if any migratory bird is found on-site during construction, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.
- Measures implemented during construction to avoid the taking of migratory bird species will include: the use of suitable mufflers on all internal combustion engines; certain compressor components to mitigate noise; only utilizing approved roadways; placing wire mesh or grate covers over barrels or buckets placed under valves and spigots to collect dripped oil; maintaining open pits and ponds that are free from oil, and netting cuttings pits with netting that has a maximum mesh size of 1.5 inches.
- Per USFWS recommendations on previous projects of a similar nature, if a whooping crane is sighted within one-mile of a well site or associated facilities while under construction, all work will cease within one-mile of that part of the project and the USFWS will be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area.
- The storage tanks and heater/treater will be surrounded by an impermeable berm that will act as secondary containment to guard against possible spills. The berm will be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. BMPs would be implemented to minimize wind and water erosion of soil resources and a closed loop system would be used during drilling. As a tertiary containment measure, sorbent booms will be placed in select locations down-gradient of each well pad in order to prevent materials from entering surface drainageways in the event of an accidental release.

To ensure that social, economic, and environmental effects are considered in the development of this project, we are soliciting your views and comments on the proposed development of this project, pursuant to Section 102(2) (D) (IV) of the National

Environmental Policy Act of 1969, as amended. We are particularly interested in any property that your department may own, or have an interest in, located within the project area. We would also appreciate being made aware of any proposed development your department may be contemplating in the area of the proposed project. Any information that might help us in our study would be appreciated.

It is requested that any comments or information be forwarded to our office on or before **November 8, 2010**. We request your comments by that date to ensure that we will have ample time to review them and incorporate them into the necessary environmental documentation. A draft copy of the Environmental Assessment document will be provided to your office once complete.

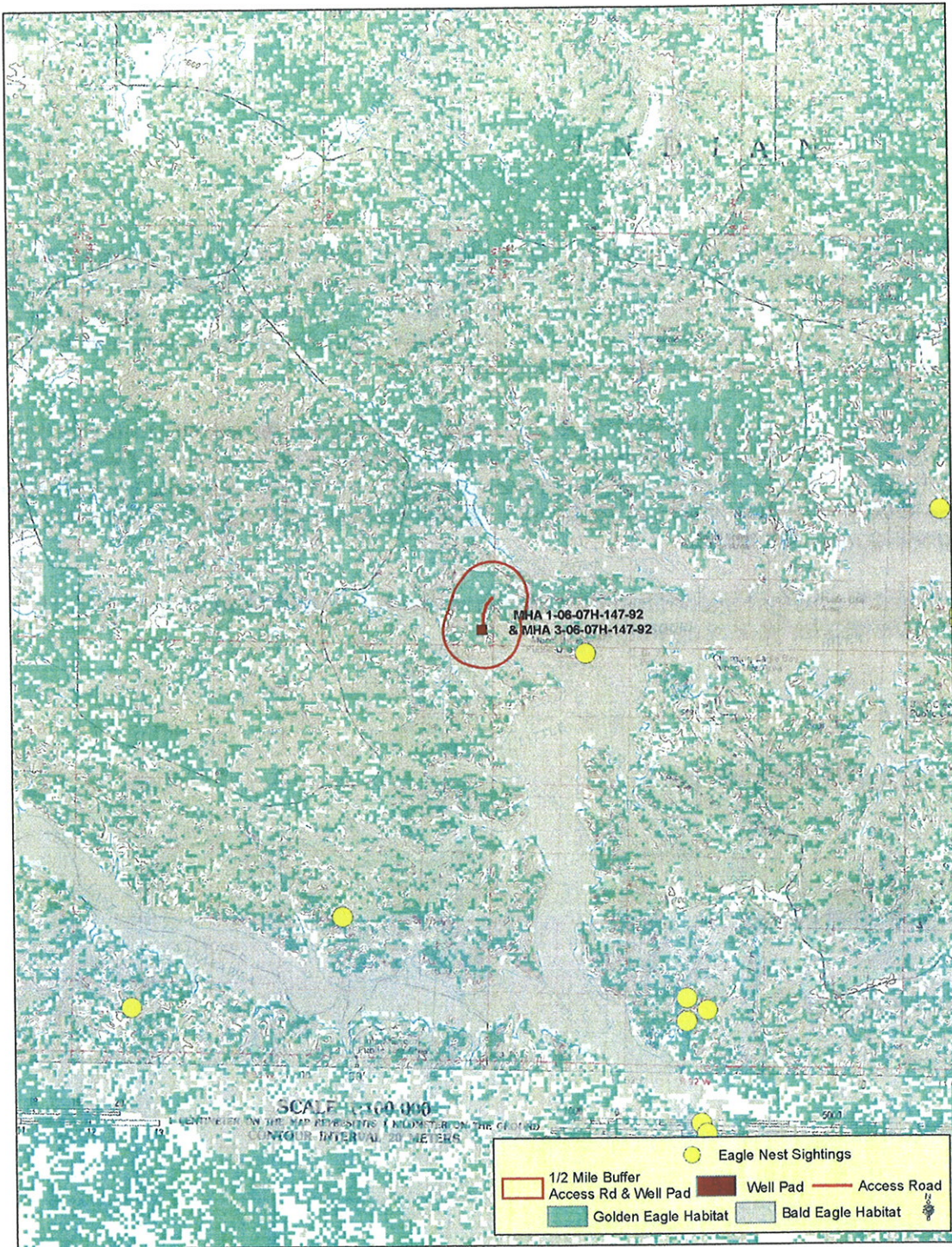
If you would like further information regarding this project, please contact me at (701) 355-8705. Thank you for your cooperation.

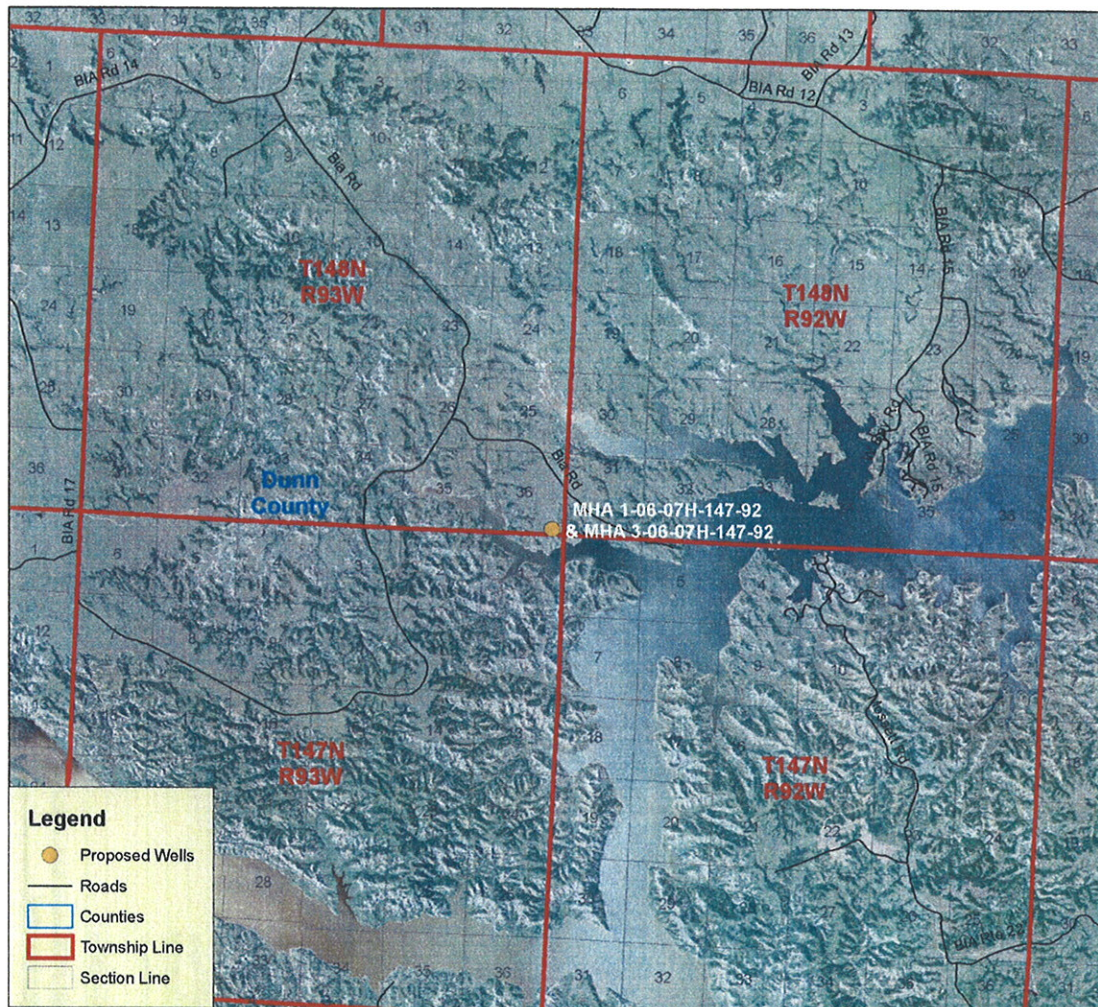
Sincerely,

Kadrmass, Lee & Jackson, Inc.

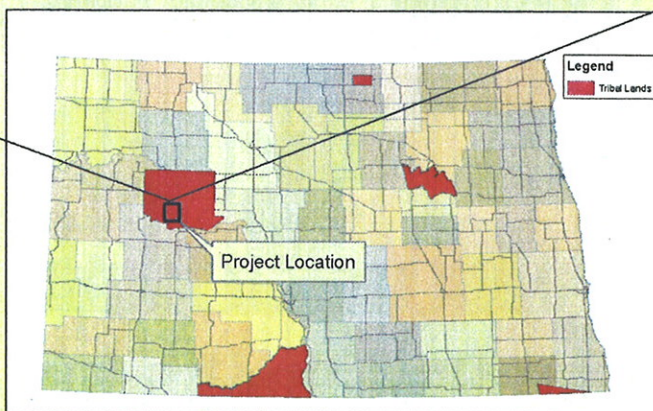
Jerry D. Reinisch
Environmental Planner

Enclosures (Maps)





**QEP Energy Co.
 Proposed Wells
 Dunn County, ND**



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

[Project Name] SOV LIST

C Title	First	Last	Title	Department	Agency	Address	City	State	Zip
Mr.	Michael	Seavage	Tribal Chairman	Fl. Totten Tribal Business Office	Sisseton-Wapeton Oyate	PO Box 509	Sisseton	SD	57262-0287
Ms.	Myra	Pearson	Tribal Chairperson		Spirit Lake Dacotah Nation	PO Box 359	Fl. Totten	ND	58535
Mr.	Marcus	Wells	Tribal Chairman		Three Affiliated Tribes	HC3 Box 2	New Town	ND	58763
Mr.	David	Brien	Tribal Chairman		Turtle Mountain Band of Chippewa Indians	PO Box 900	Belcourt	ND	58316-0900
Mr.	Charles	Murphy	Tribal Chairman		Standing Rock Sioux Tribe	PO Box D	Fort Yates	ND	58538
Ms.	Adrienne	Swallow	Environmental Protection Specialist		Standing Rock Sioux Tribe	PO Box D	Fort Yates	ND	58538
Mr.	Eilon	Spotted Horse	Environmental Division Director		Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Damon	Williams	Tribal Attorney	Natural Resources Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Fred	Fox	Director		Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Ms.	V. Judy	Brugh	Representative	Energy Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Arnold	Strahs	Representative	Four Bears Segment	Three Affiliated Tribes	PO Box 685	Mandaree	ND	58757
Mr.	Scott	Eagle	Representative	Shell Creek Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Mervin	Packmeau	Representative	Parshall/Lucky Mound Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Frank	Whitecalf	Representative	White Shield Segment	Three Affiliated Tribes	PO Box 468	Parshall	ND	58770
Mr.	Barry	Benson	Representative	Twin Bulls Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Fred	Pottra	Director	Game and Fish Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Lester	CrowsHeart	Director	Fort Berthold Rural Water	Three Affiliated Tribes	308 Four Bears Complex	New Town	ND	58763
Mr.	Roger	Hovda	Operations Manager		Reservation Telephone Cooperative	PO Box 68	Parshall	ND	58770-0068
Mr.	Silas	Ironheart, Jr.	SLT-EPA Director	91st Missile Maintenance Squadron	Spirit Lake Dacotah Nation	P.O. Box 99	Fort Totten	ND	58335
Sr		or Madam	Chief Missile Engineer		Cable Affairs Office	417 Bomber Blvd.	Minot AFB	ND	58705
Mr.	Weldon	Loudermik	Regional Director	Dakotas Area Office	Bureau of Indian Affairs	115 4th Ave. SE	Aberdeen	SD	57401
Mr.	Richard	Nelson	Chief, Resource Management	North Dakota Field Office	Bureau of Reclamation	PO Box 1017	Bismarck	ND	58502-1017
Mr.	Lonny	Bagley	Field Office Manager	Division on Mineral Resources	Bureau of Land Management	99 23rd Ave W, Suite A	Dickinson	ND	58801
Mr.	Mike	Nash	Assistant Field Office Manager	Bismarck Airports District Office	Bureau of Land Management	99 23rd Ave W, Suite A	Dickinson	ND	58801
Mr.	Steve	Obenauer	Manager	Office of Economic Analysis	Federal Aviation Administration	2301 University Drive, Bldg 23B	Bismarck	ND	58504
Sr		or Madam	Manager	ND Regulatory Office	US Army Corps of Engineers	1513 S. 22th St.	Washington	DC	20590
Mr.	Charles	Sorenson	Natural Resource Specialist	Recreation Field Office	US Army Corps of Engineers	PO Box 527	Riverdale	ND	58565
Mr.	Irwin	Russell	State Conservationalist	Western Area Power Admn.	US Department of Agriculture	PO Box 1498	Bismarck	ND	58502-1458
Mr.	Gerald	Paulson	Director, Transmission Lines and Substations	NEPA Program, Region 8	US Department of Energy	PO Box 1173	Bismarck	ND	58502-1173
Mr.	Larry	Svoboda	Wetlands Coordinator	ND Field Office	US Environmental Protection Agency	1595 Wynkoop Street	Denver	CO	80202-1129
Mr.	Richard	Clark	Field Supervisor	Water Resources Division	US Environmental Protection Agency	1595 Wynkoop Street	Denver	CO	80202-1129
Mr.	Jeffrey	Townler	Director	Environmental Health Section	US Fish & Wildlife Service	3425 Miriam Ave.	Bismarck	ND	58501
Ms.	Cheryl	Kulas	Executive Director	Gold Seal Center	US Geological Survey	800 E. Interstate Ave.	Bismarck	ND	58501
Mr.	L. David	Galt	Chief		Indian Affairs Commission	1st Floor, Judicial Wing, Rm 117	Bismarck	ND	58505-0300
Mr.	Terry	Steinwand	Director		ND Department of Health	918 E. Divide Ave., 4th floor	Bismarck	ND	58501-1947
Mr.	Ed	Murphy	State Geologist		ND Game & Fish Department	100 Bismarck Expressway	Bismarck	ND	58501-5095
Mr.	Mark	Zimmerman	Director		ND Geological Survey	600 E. Blvd. Ave.	Bismarck	ND	58505-0840
Mr.	Dale	Fink	State Engineer		ND Parks & Recreation Dept.	1600 E. Century Ave., Suite 3	Bismarck	ND	58503-0849
Mr.	Scott	Hochhalter	Soil Conservation Specialist		ND State Water Commission	900 E. Blvd. Ave.	Bismarck	ND	58505-0850
Mr.	Reinhard	Hauck	Auditor		Soil Conservation Committee	2718 Gateway Ave., #104	Bismarck	ND	58503
Mr.	Tim	Steffen	Chairman		Dunn County	PO Box 105	Manning	ND	58542
Mr.	Bill	Boyd	Construction Manager		Dunn County	1740 Hwy 22	Manning	ND	58542
Mr.	Doug	Dixon	General Manager		Midcontinent Cable Company	719 Memorial Hwy	Bismarck	ND	58501
Mr.	Ken	Miller	Manager/CEO		Montana Dakota Utilities	PO Box 1406	Williston	ND	58802-1406
Mr.	Ray	Christenson	CEO		Northern Border Pipeline	13710 FNB Parkway	Omaha	NE	68154-5200
Mr.	David C.	Schalckoph	Manager		Southwest Water Authority	4665 2nd St W	Dickinson	ND	58601
Sr		or Madam	District Engineer		West Plains Electric Coop., Inc.	PO Box 1038	Dickinson	ND	58602-1038
Mr.	Larry	Gangl	District Engineer		Xcel Energy	PO Box 2747	Fargo	ND	58108-2747
Mr.	Les	Albert	Regional Environmental Scientist		ND Department of Transportation	1700 3rd Ave W, Suite 101	Dickinson	ND	58601
Ms.	Marilyn	Berrier	Regional Environmental Scientist	Division of Environmental Safety, and Cultural Resource Management	Consolidated Telephone Company	PO Box 1408	Dickinson	ND	58602-1408
					Bureau of Indian Affairs	115 4th Ave. SE	Aberdeen	SD	57401

Appendix B

Agency Scoping Responses

United States Department of Agriculture



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

October 26, 2010

RECEIVED
OCT 28 2010

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

RE: BIA – Applying for the development of one dual well pad, resulting in the drilling and completion of two exploratory oil and gas wells (MHA-1-06-07H-147-92 and MHA 3-06-07H-147-92) on the Fort Berthold Reservation by Questar Exploration and Production Company.

Dear Mr. Reinisch:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated October 8, 2010, concerning the development of one dual well pad, resulting in the drilling and completion of two exploratory oil and gas wells (MHA 1-06-07H-147-92 and MHA 3-06-07H-147-92) on the Fort Berthold Reservation by Questar Exploration and Production Company.

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

Wetlands – The Wetland Conservation Provisions of the 1985 Food Security Act, as amended, provide that if a USDA participant converts a wetland for the purpose of, or to have the effect of, making agricultural production possible, loss of USDA benefits could occur. NRCS has developed the following guidelines for the installation of buried utilities. If these guidelines are followed, the impacts to the wetland(s) will be considered minimal allowing USDA participants to continue to receive USDA benefits. Following are the requirements: 1) Disturbance to the wetland(s) must be temporary, 2) no drainage of the wetland(s) is allowed (temporary or permanent), 3) mechanized landscaping necessary for installation is kept to a minimum and preconstruction contours are maintained, 4) temporary side cast material must be placed in such

Helping People Help the Land

An Equal Opportunity Provider and Employer

Mr. Reinisch
Page 2

a manner not to be dispersed in the wetland, and 5) all trenches must be backfilled to the original wetland bottom elevation.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Paul J. Sweeney". The signature is fluid and cursive, with a large initial "P" and "S".

PAUL J. SWEENEY
State Conservationist



REPLY TO
ATTENTION OF

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

October 26, 2010

North Dakota Regulatory Office

Kadmas, Lee and Jackson, Inc
Attn: Jerry D. Reinisch, Environmental Planner
128 Soo Line Drive
PO Box 1157
Bismarck, North Dakota 58502-1157

Dear Mr. Reinisch:

This is in response to your solicitation letter on behalf of **Questar Exploration and Production**, received on October 12, 2010, requesting Department of the Army (DA), United States Army Corps of Engineers (Corps) comments for two proposed oil and gas exploratory wells from a single pad within the Fort Berthold Indian Reservation. The proposed wells include: **MHA-1-06-07H-147-92 and MHA 3-06-07H-147-92, Section 36, Township 148 North, Range 93 West, Dunn County, North Dakota.**

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 are the Missouri River (including Lake Sakakawea and Lake Oahe), Yellowstone River, James River south of Jamestown, North Dakota, Bois de Sioux River, Red River of the North, and the Upper Des Lacs Lake. Section 404 of the Clean Water Act regulates the discharge of dredge or fill material (temporarily or permanently) in waters of the United States. Waters of the United States may include, but are not limited to, rivers, streams, ditches, coulees, lakes, ponds, and their adjacent wetlands. Fill material includes, but is not limited to, rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mines or other excavation activities and materials used to create any structure or infrastructure in waters of the United States.

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

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

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

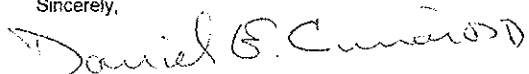
In the event your project requires approval from the U.S. Army Corps of Engineers and cannot be authorized by Nationwide Permit(s), a Standard or Individual Permit will be required. A project that requires a Standard or Individual Permit is intensely reviewed and will require the issuance of a public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

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

If any of these projects require a Section 10 and/or Section 404 permit, please complete and submit the enclosed Department of the Army permit application (ENG Form 4345) to the U.S. Army Corps of Engineers, North Dakota Regulatory Office, 1513 South 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 or phone at (701) 255-0015.

Sincerely,



Daniel E. Cimarosti
Regulatory Program Manager
North Dakota

Enclosure
ENG Form 4345
Fact Sheet NWP 12 and 14

CF w/o encl
✓EPA Denver (Brent Truskowski)

Jerry Reinisch

From: Sorensen, Charles G NWO [Charles.G.Sorensen@usace.army.mil]
Sent: Thursday, October 14, 2010 4:42 PM
To: jerryreinisch@kijeng.com
Cc: Ames, Joel O NWO
Subject: Comments for the Questar Exploration MHA 1-26-27H and MHA 3-26-27H

Jerry

Thanks for letting the Garrison Dam/Lake Sakakawea Project provide comments regarding Questar Exploration proposed MHA 1-26-27H and MHA 3-26-27H proposed well locations.

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

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

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

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

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

Prior to the drilling rig and associated equipment being moved/ placed that all equipment be either pressure washed or air blasted off Tribal lands to prevent the possible transportation of noxious or undesirable vegetation onto Tribal lands as well as USACE managed lands.

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

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

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

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

- a. Has the project area already been degraded, and if so, to what extent?
- b. Are other ongoing activities in the area causing impacts, and if so, to what extent?

- c. What is the likelihood that this project will lead to a number of associated projects?
- d. What are the trends for activities and impacts in the area?

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

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

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



DK-5000
ENV-6.00

United States Department of the Interior

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



RECEIVED
OCT 22 2010

OCT 21 2010

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

Subject: Solicitation for an Environmental Assessment for the Proposed Construction, Drilling, Completion, and Production of Four Exploratory Oil and Gas Wells On Two Dual Pads 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 letters dated October 8, 2010, and the information and maps have been reviewed by Bureau of Reclamation staff.

Although it appears there are no Reclamation facilities in the immediate vicinity of your four proposed oil wells at two 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. Since your maps do not specify the location of your access roads, your development of the following oil well sites could potentially impact proposed or existing water pipelines:

Fort Berthold- MHA -1-06-07H-147-92 and MHA -3-06-07H-147-92, SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36,
T. 148N., R. 93W.

Fort Berthold- MHA -1-26-27H-149-91 and MHA -3-26-27H-149-91, SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 26,
T. 149 N., R. 91W.

Note that blue and orange lines represent Reclamation water lines.

We are providing an index map depicting water pipeline alignments in the vicinity of the proposed wells and surrounding area to aid you in identification of potential for adverse effect to federal facilities. Also, should you have need to cross a Fort Berthold Rural Water System pipeline, please refer to the enclosed sheet for pipeline crossing specifications and contact our engineer Ryan Waters, as below. Since Reclamation is the lead federal agency for the Fort Berthold Rural Water System, we request that any work planned on the reservation be coordinated with Mr. Lester Crows Heart, Fort Berthold Rural Water Director, Three Affiliated Tribes, 308 4 Bears Complex, New Town, North Dakota 58763. In addition, we would like to see a copy of the draft EA when available.

Thank you for providing the information and opportunity to comment. If you have additional environmental questions, please contact me at 701-221-1287 or Ryan Waters, General Engineer, for engineering questions at 701-221-1262.

Sincerely,



Kelly B. McPhillips
Environmental Specialist

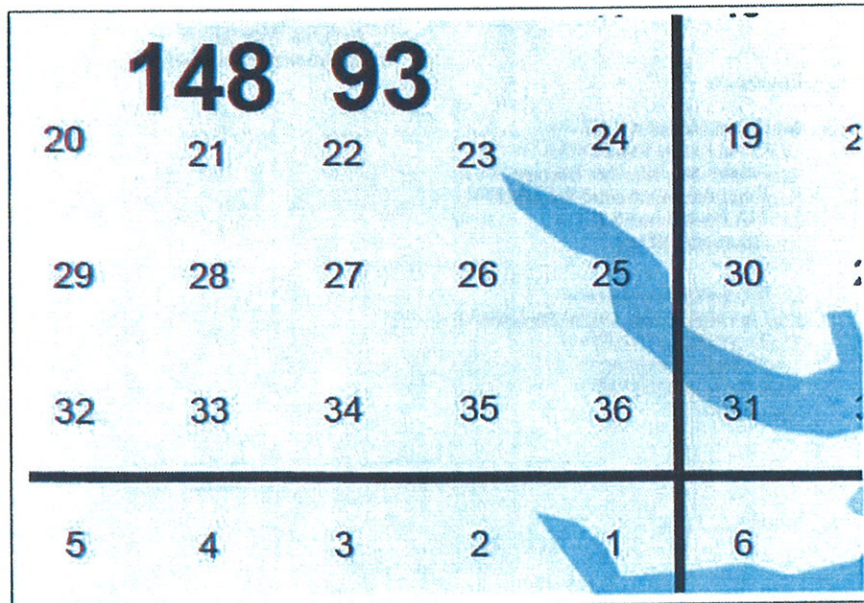
Enclosures - 3

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

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

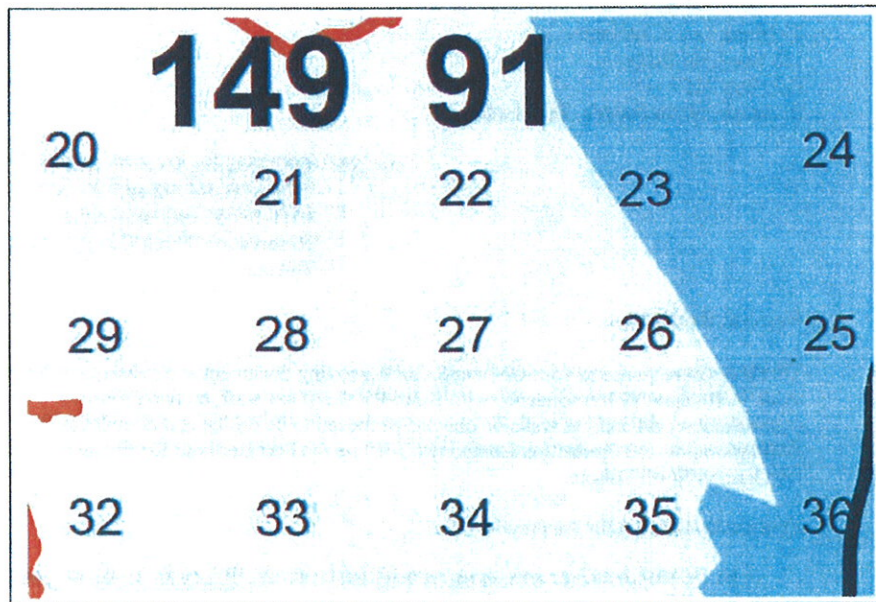
Subject: Solicitation for an Environmental Assessment for the Proposed Construction, Drilling, Completion, and Production of Four Exploratory Oil and Gas Wells On Two Dual Pads on the Fort Berthold Reservation in Dunn County, North Dakota by Questar Exploration and Production Company.

Fort Berthold- MHA -1-06-07H-147-92, SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36, T. 148 N., R. 93 W.



Subject: Solicitation for an Environmental Assessment for the Proposed Construction, Drilling, Completion, and Production of Four Exploratory Oil and Gas Wells On Two Dual Pads on the Fort Berthold Reservation in Dunn County, North Dakota by Questar Exploration and Production Company.

Fort Berthold- MHA -1-26-27H-149-91 and MHA -3-26-27H-149-91, SE¼SW¼ sec. 26, T. 149 N., R. 91W.





United States Department of the Interior

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



NOV 15 2010

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

Re: QEP Scoping for Proposed Well MHA
1-06-07H-147-92 and MHA 3-06-
07H-147-92 on Fort Berthold
Reservation, Dunn County, North
Dakota

Dear Mr. Reinisch:

This is in response to your October 8, 2010, scoping document and subsequent November 3, 2010, email correspondence with Heidi Riddle of my staff, on two proposed exploratory oil and gas wells on one pad proposed to be drilled and completed by Questar Exploration and Production Company (QEP) on the Fort Berthold Reservation, Dunn County, North Dakota.

Specific location for the proposed pad is:

MHA 1-06-07H-147-92 and MHA 3-06-07H-147-92: T. 149 N., R. 91 W., Section 26, Dunn County

We offer the following comments under the authority of and in accordance with the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.) (MBTA), the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.) (NEPA), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250) (BGEPA), Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds", the Endangered Species Act (16 U.S.C. 1531 et seq.) (ESA), and the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57).

Threatened and Endangered Species

In an e-mail dated October 13, 2009, the Bureau of Indian Affairs (BIA) designated Kadmas, Lee & Jackson (KLJ) to represent the BIA for informal Section 7 consultation

under the ESA. Therefore, the U.S. Fish and Wildlife Service (Service) is responding to you as the designated non-Federal representative for the purposes of ESA, and under our other authorities as the entity preparing the NEPA document for adoption by the BIA.

The Service concurs with your “may affect, is not likely to adversely affect” determination for piping plovers, interior least terns, and pallid sturgeon. This concurrence is predicated on QEP’s commitment to construct and maintain a two foot berm around the perimeter of the well pad.

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

The Service acknowledges your “no effect” determinations for gray wolf and black-footed ferret.

The Dakota skipper and Sprague’s pipit are candidate species for listing under the ESA; therefore, an effects determination is not necessary for these species. However, the Service’s Candidate Conservation Program provides a means for conserving these species. Early conservation preserves management options, minimizes the cost of recovery, and reduces the potential for restrictive land use policies in the future. Through Candidate Conservation Agreements and Candidate Conservation Agreements with Assurances, the Service can work with interested public and private parties to identify threats to candidate species or species at risk. Effective candidate conservation may reverse the species’ decline, ultimately eliminating the need for ESA protection. If you would like more information on these programs, please notify the Service for further coordination.

Migratory Birds and Bald and Golden Eagle Protection Act

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

- The site will be mowed in the fall prior to construction to deter migratory birds from nesting in the area;
- Construction will be done outside of the migratory bird nesting season (Feb. 1 - July 15);
- Or, conduct a bird/nest survey five days prior to construction and report any findings to the Service.

Your letter states that line of sight surveys for eagle nests were conducted within 0.5 mile of the project area and no eagle nests were found. In addition, QEP has agreed to contact the Service if any eagles are sighted within 0.5 mile of the construction area.

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

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

Sincerely,



Jeffrey K. Towner
Field Supervisor
North Dakota Field Office

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



NORTH DAKOTA
DEPARTMENT of HEALTH

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OCT 22 2010

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



October 18, 2010

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

Re: Questar Exploration and Production Company
MHA 1-06-07H-147-92 and MHA 3-06-07H-147-92 Wells
On the Fort Berthold Reservation, Dunn County

Dear Mr. Reinisch:

This department has reviewed the information concerning the above-referenced project submitted under date of October 8, 2010, with respect to possible environmental impacts.

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

1. Development of the production facilities and any access roads or well pads should have a minimal effect on air quality provided measures are taken to minimize fugitive dust. However, operation of the wells has the potential to release air contaminants capable of causing or contributing to air pollution. We encourage the development and operation of the wells in a manner that is consistent with good air pollution control practices for minimizing emissions.
2. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.
3. Oil and gas related construction activities located within tribal boundaries within North Dakota may be required to obtain a permit to discharge storm water runoff from the U.S. Environmental Protection Agency. Further information may be obtained from the U.S. EPA website or by calling the U.S. EPA – Region 8 at (303) 312-6312. Also, cities or counties

Environmental Health
Section Chief's Office
701.328.5150

Division of
Air Quality
701.328.5188

Division of
Municipal Facilities
701.328.5211

Division of
Waste Management
701.328.5166

Division of
Water Quality
701.328.5210

Printed on recycled paper.

Mr. Jerry D. Reinisch

2.

October 18, 2010

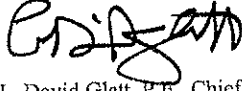
may impose additional requirements and/or specific best management practices for construction affecting their storm drainage system. Check with the local officials to be sure any local storm water management considerations are addressed.

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

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

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

Sincerely,



L. David Glat, 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
701.328.5150

Division of
Air Quality
701.328.5188

Division of
Municipal Facilities
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Waste Management
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Division of
Water Quality
701.328.5210



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OCT 29 2010

"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

October 28, 2010

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

Dear Mr. Reinisch:

RE: MHA 1-06-07H-147-92 & MHA 3-06-07H-147-92
MHA 1-26-27H-149-91 & MHA 3-26-27H-149-91

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

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

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

Sincerely,

Paul Schadewald
Chief
Conservation & Communication Division

js



John Hoeven, Governor
Mark A. Zimmerman, Director

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

October 27, 2010

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

RECEIVED
OCT 28 2010

Re: Questar Exploration and Production Drilling and Completion of Two Exploratory Oil and Gas Wells
MIA 1-06-07H-147-92 and MIA 3-06-07H-147-92

Dear Mr. Reinisch:

The North Dakota Parks and Recreation Department has reviewed the above referenced project proposal submitted by Questar Exploration and Production to drill and complete two exploratory oil and gas wells located in Section 36, T148N, R93W, Dunn County.

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

The North Dakota Natural Heritage biological conservation database has been reviewed to determine if any current or historical plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, we do have records for the occurrence of *Artemisia cana/Pascopyrum smithii sparse shrubland* (silver sage - Western wheatgrass scrub) in a section adjacent to the project area indicating that the habitat in the project area may be suited for this community or other rare, threatened, sensitive or endangered species. Please see the attached spreadsheet and map for more information on this occurrence. We defer further comments regarding animal species to the North Dakota Game and Fish Department and the United States Fish and Wildlife Service.

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

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

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

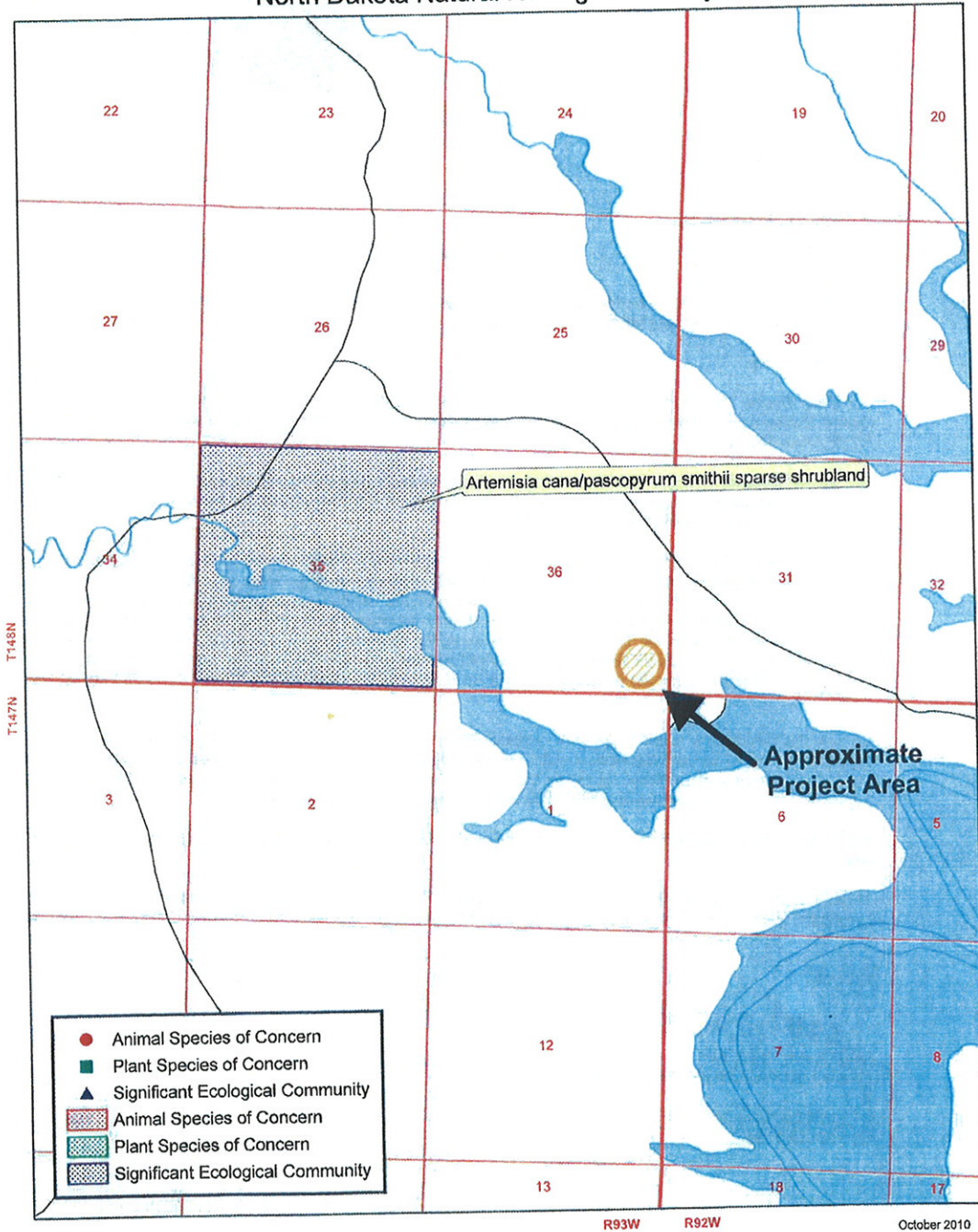
Sincerely,

Jesse Hanson, Manager
Planning and Natural Resources Division

R.USNDNH*2010-246
CD/1019/DL1108

.....
Play in our backyard!

North Dakota Parks and Recreation Department
North Dakota Natural Heritage Inventory



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

State Scientific Name	State Common Name	State Rank	Global Rank	Federal Status	Township Range Section	County	Last Observation	Estimated Representation Accuracy	Precision
Artemisia cana/pascopyrum smithii sparse shrubland	Silver Sage-western Wheatgrass Scrub	S2S3	GNR		148N093W - 35; 148N093W - 36	Dunn	1997-10-31	Medium	S

North Dakota Natural Heritage Inventory Biological and Conservation Data Disclaimer

The quantity and quality of data collected by the North Dakota Natural Heritage Inventory are dependent on the research and observations of many individuals and organizations. In most cases, this information is not the result of comprehensive or site-specific field surveys; many natural areas in North Dakota have never been thoroughly surveyed, and new species are still being discovered. For these reasons, the Natural Heritage Inventory cannot provide a definite statement on the presence, absence, or condition of biological elements in any part of North Dakota. Natural Heritage data summarize the existing information known at the time of the request. Our data are continually upgraded and information is continually being added to the database. This data should never be regarded as final statements on the elements or areas that are being considered, nor should they be substituted for on-site surveys.

Estimated Representation Accuracy

Value that indicates the approximate percentage of the Element Occurrence Representation (EO Rep) that was observed to be occupied by the species or community (versus buffer area added for locational uncertainty). Use of estimated representation accuracy provides a common index for the consistent comparison of EO reps, thus helping to ensure that aggregated data are correctly analyzed and interpreted.

Very high (>95%)

High (>80%, <= 95%)

Medium (>20%, <= 80%)

Low (>0%, <= 20%)

Unknown

(null) - Not assessed

Precision

A single-letter code for the precision used to map the Element Occurrence (EO) on a U.S. Geological Survey (USGS) 7.5' (or 15') topographic quadrangle map, based on the previous Heritage methodology in which EOs were located on paper maps using dots.

S - Seconds: accuracy of locality mappable within a three-second radius; 100 meters from the centerpoint

M - Minute: accuracy of locality mappable within a one-minute radius; 2 km from the centerpoint

G - General: accuracy of locality mappable to map or place name precision only; 8 km from centerpoint

U - Unmappable



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>

November 4, 2010

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

Dear Mr. Reinisch:

This is in response to your request for review of environmental impacts associated with the Questar Exploration and Production, MHA 1-06-07H-147-92 and MHA3-06-07H-147-92, Fort Berthold Reservation, Dunn County, ND.

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

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

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

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

Sincerely,

Larry Knudson
Research Analyst

LJK:dp/1570

JOHN HOEVEN, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
SECRETARY AND STATE ENGINEER

507 South Main
Dickinson, ND 58601
701-483-4000
Fax 701-483-0001
1-888-225-5282
www.ctctel.com

*Consolidated
Telcom*

*Consolidated
Enterprises, Inc.*

*Consolidated
Communications
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*Consolidated
Cable Vision, Inc.*

*Consolidated
Communications
Networks, Inc.*



October 19, 2010

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

**Re: Questar Exploration and Production
MHA 1-06-07H-147-92 and MHA 3-06-07H-147-92
Fort Berthold Reservation
Dunn County, North Dakota**

**Questar Exploration and Production
MHA 1-26-27H-149-91 and MHA 3-26-27H-149-91
Fort Berthold Reservation
Dunn County, North Dakota**

RECEIVED
OCT 20 2010

Dear Jerry D. Reinisch;

This letter is in response to the above mentioned projects. Consolidated Telcom does not have any buried telecommunications facilities in the areas of the proposed well sites.

Sincerely,

Consolidated Telcom

A handwritten signature in blue ink that reads "Les Alpert".

Les Alpert
Field Services / Safety Supervisor
701-483-7362
Fax 701-483-7393
les@consolidatedtelcom.com



United States Department of the Interior

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



IN REPLY REFER TO:
DESCRM
MC-208

JAN 25 2011

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

Dear Mr. Crows Breast:

We have considered the potential effects on cultural resources of a dual oil well pad and access road in Dunn County, North Dakota. Approximately 19 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-1883/FB/11**, the proposed undertaking, location, and project dimensions are described in the following report:

Ó Donnchadha, Brian
(2010) MHA 1-06-07H-147-92 & MHA 3-06-07H-147-92 Well Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLI 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,

Regional Director

Enclosure

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

Notice of Availability and Appeal Rights

Questar: MHA 1-06-07H-147-92 and MHA 3-06-07H-147-92

The Bureau of Indian Affairs (BIA) is planning to issue administrative approvals related to installation of two oil and gas wells atop single pad as shown on the attached map. Construction by Questar is expected to begin in 2011.

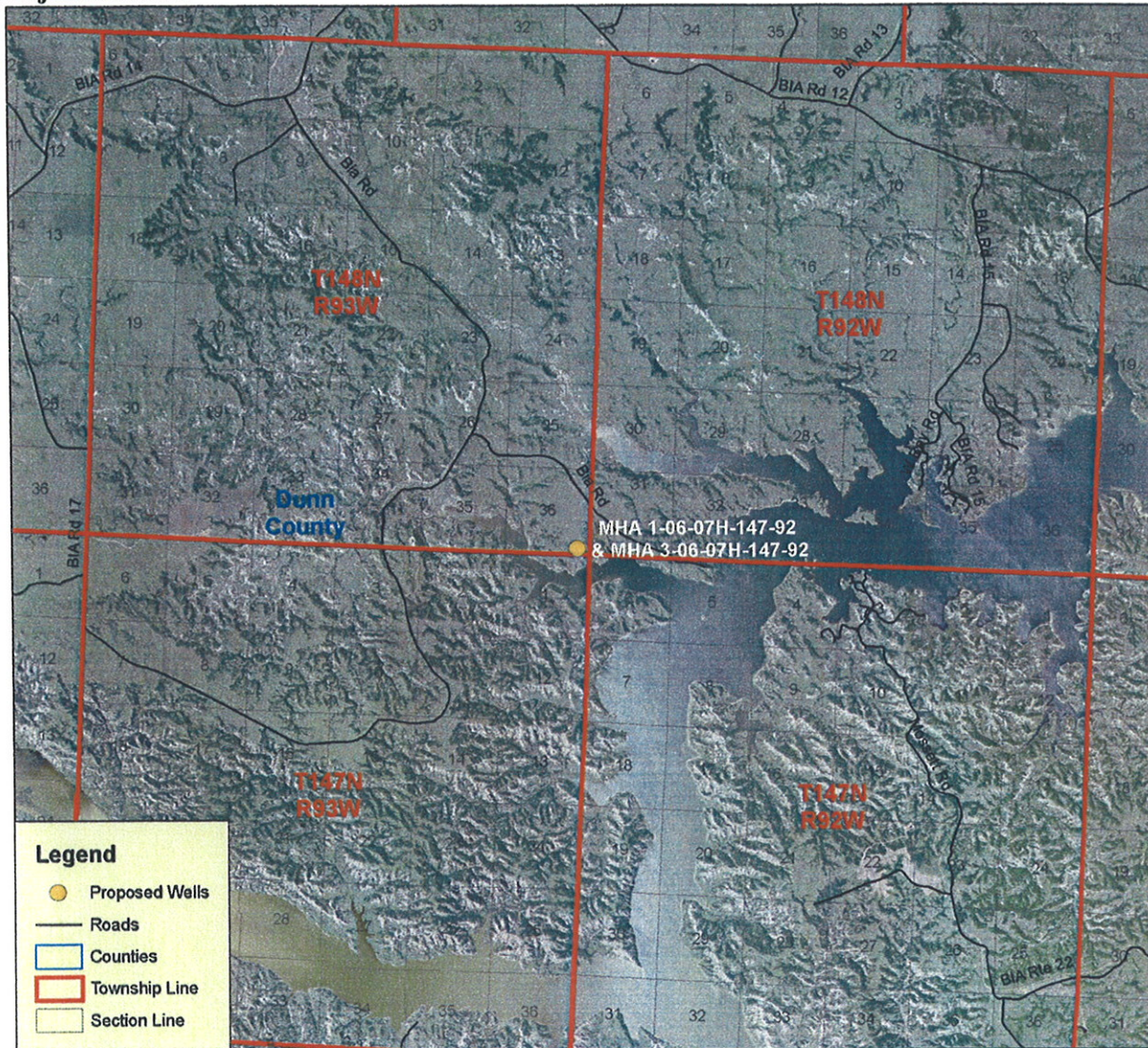
An environmental assessment (EA) determined that proposed activities will not cause significant impacts to the human environment. An environmental impact statement is not required. Contact Howard Bemer, Superintendent at 701-627-4707 for more information and/or copies of the EA and the Finding of No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

The FONSI is only a finding on environmental impacts – it is not a decision to proceed with an action and *cannot* be appealed. BIA’s decision to proceed with administrative actions *can* be appealed until April 1, 2011, by contacting:

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

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

Project locations.



Legend

- Proposed Wells
- Roads
- Counties
- ▭ Township Line
- ▭ Section Line

**QEP Energy Co.
Proposed Wells
Dunn County, ND**

