United States Department of the Interior

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

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
DESCRM
MC-208

MAR 15 2010

MEMORANDUM

TO: Superintendent, Fort Berthold Agency

FROM: ACTING Regional Director, Great Plains Region

SUBJECT: Environmental Assessment and Finding of No Significant Impact

In compliance with the regulations of the National Environmental Policy Act (NEPA) of 1969, as amended, for the proposed drilling of four wells by Questar on MHA-1-23-24H-149-91, MHA-2-23-24H-149-91, MHA-1-26-27H-149-91, and MHA-2-26-27H-149-91 on the Fort Berthold Reservation, an Environmental Assessment (EA) has been completed and a Finding of No Significant Impact (FONSI) has been issued.

All the necessary requirements of the National Environmental Policy Act have been completed. Attached for your files is a copy of the EA, FONSI and Notice of Availability. The Council on Environmental Quality (CEQ) regulations 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: Marcus Levings, Chairman, Three Affiliated Tribes (with attachment)
Perry "No Tears" Brady, THPO (with attachment)
Tracy Opp, Questar (with attachment)
Roy Swalling, Bureau of Land Management (with attachment)
Jonathon Shelman, Corps of Engineers (with attachment)

Finding of No Significant Impact

Questar Exploration and Production Company

Environmental Assessment for
Drilling of MHA-1-23-24H-149-91, MHA-2-23-24H-149-91,
MHA-1-26-27H-149-91 and MHA-2-26-27H-149-91
Exploratory Oil and Gas Wells

Fort Berthold Indian Reservation
Dunn County, North Dakota

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

- MHA-1-23-24H-149-91 and MHA-2-23-24H-149-91 located in T149N, R91W, Section 22 (two wells).
- MHA-1-26-27H-149-91 and MHA-2-26-27H-149-91 located in T149N, R91W, Section 26 (two wells).

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

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

This determination is based on the following factors:

1. Agency and public involvement solicited for the preceding NEPA document was sufficient to ascertain potential environmental concerns associated with the currently proposed project.
2. Protective and prudent measures were designed to minimize impacts to air, water, soil, vegetation, wetlands, wildlife, public safety, water resources, and cultural resources. The remaining potential for impacts was disclosed for both the proposed actions and the No Action alternative.
3. Guidance from the U.S. Fish and Wildlife Service has been fully considered regarding wildlife impacts, particularly in regard to threatened or endangered species.
4. The proposed actions are designed to avoid adverse effects to historic, archaeological, cultural and traditional properties, sites and practices. Compliance with the procedures of the National Historic Preservation Act is complete.
5. Environmental justice was fully considered.
6. Cumulative effects to the environment are either mitigated or minimal.
7. No regulatory requirements have been waived or require compensatory mitigation measures.
8. The proposed projects will improve the socio-economic condition of the affected Indian community.

ACTING Regional Director

3/15/10
Date

Environmental Assessment

United States Bureau of Indian Affairs

Great Plains Regional Office
Aberdeen, South Dakota

Questar Exploration and Production Company

Drilling of MHA-1-23-24H-149-91, MHA-2-23-24H-149-91, MHA-1-26-27H-149-91 and MHA-2-26-27H-149-91 Exploratory Oil and Gas Wells

Fort Berthold Indian Reservation

March 2010

For information contact:
Bureau of Indian Affairs, Great Plains Regional Office
Division of Environment, Safety and Cultural Resource Management
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Chapter 1 Purpose and Need for Action

1.1 Introduction

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

1.2 Description of the Proposed Action

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

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

- MHA#1-23-24H-149-91 and MHA#2-23-24H-149-91 located in T149N, R91W, Section 22
- MHA#1-26-27H-149-91 and MHA#2-26-27H-149-91 located in T149N, R91W, Section 26

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

1.3 Need for the Proposed Action

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

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

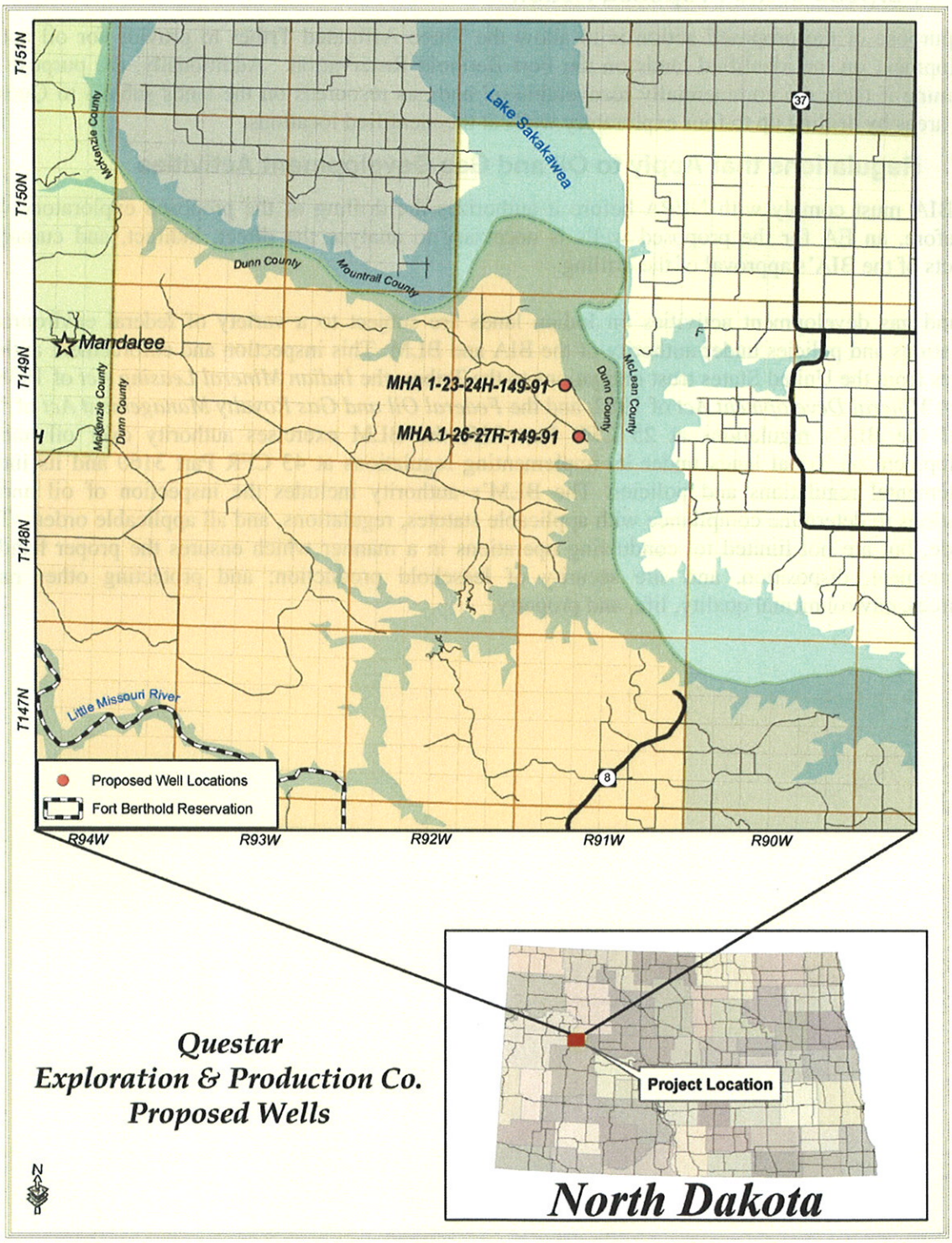


Figure 1-1, Project Location Map

1.4 Purpose of the Proposed Action

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

1.5 Regulations that Apply to Oil and Gas Development Activities

The BIA must comply with NEPA before it authorizes the drilling of the proposed exploratory wells. Therefore, an EA for the proposed wells is necessary to analyze the direct, indirect, and cumulative impacts of the BIA's approval of the drilling.

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.

2.1 Introduction

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

2.2 Alternative A: No Action

Under the no action alternative (Alternative A), the BIA and BLM would not authorize the development of one or more of the four proposed exploratory wells. There would be no environmental impacts associated with Alternative A. However, the Three Affiliated Tribes would not receive potential royalties on production, or other economic benefits from oil and gas development on the Reservation, and the potential for commercially recoverable deposits of oil and gas would not be evaluated.

2.3 Alternative B: Proposed Action

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

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

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

2.3.1 MHA#1-23-24H-149-91 and MHA#2-23-24H-149-91

The MHA#1-23-24H-149-91 and MHA#2-23-24H-149-91 wells would be located in the NE¼NE¼ of Section 22, Township 149 North, Range 91 West to access potential oil and gas resources within the 640 acre spacing unit consisting of the northern half of Sections 23 and 24, Township 149 North, Range 91 West. ***Please refer to Figure 2-1, MHA#1-23-24H-149-91 and MHA#2-23-24H-149-91 Well Overview.***

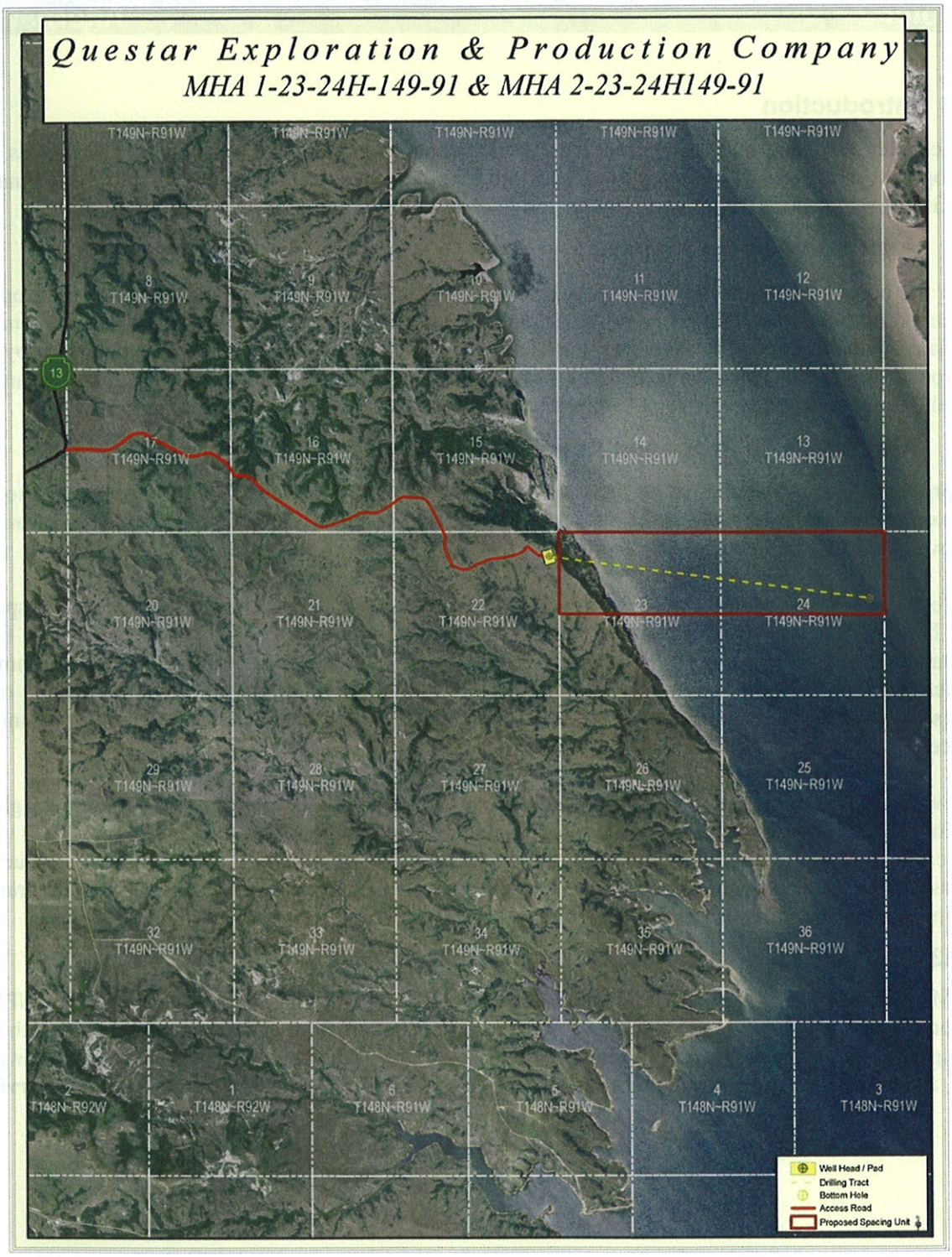


Figure 2-1, MHA#1-23-24H-149-91and MHA#2-23-24H-149-91 Well Overview

The MHA#1-23-24H-149-91 and MHA#2-23-24H-149-91 wells would be accessed from BIA 13. Beginning in the SENE of Section 18, T149N-R91W following an existing two tract road east to the well location. The access road will be constructed by improving 3.54 miles of existing two track road. Additional improvements to the MHA#1-23-24H-149-91 well access road would include placement of culverts and cattle guards as needed. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignment.

2.3.2 MHA#1-26-27H-149-91 and MHA#2-26-27H-149-91

The MHA#1-26-27H-149-91 and MHA#2-26-27H-149-91 wells would be located in the SE¼SW¼ of Section 26, Township 149 North, Range 91 West to access potential oil and gas resources within the 640 acre spacing unit consisting of the southern half of Sections 26 and 27, Township 149 North, Range 91 West. ***Please refer to Figure 2-2, MHA#1-26-27H-149-91 and MHA#2-26-27H-149-91 Well Overview.***

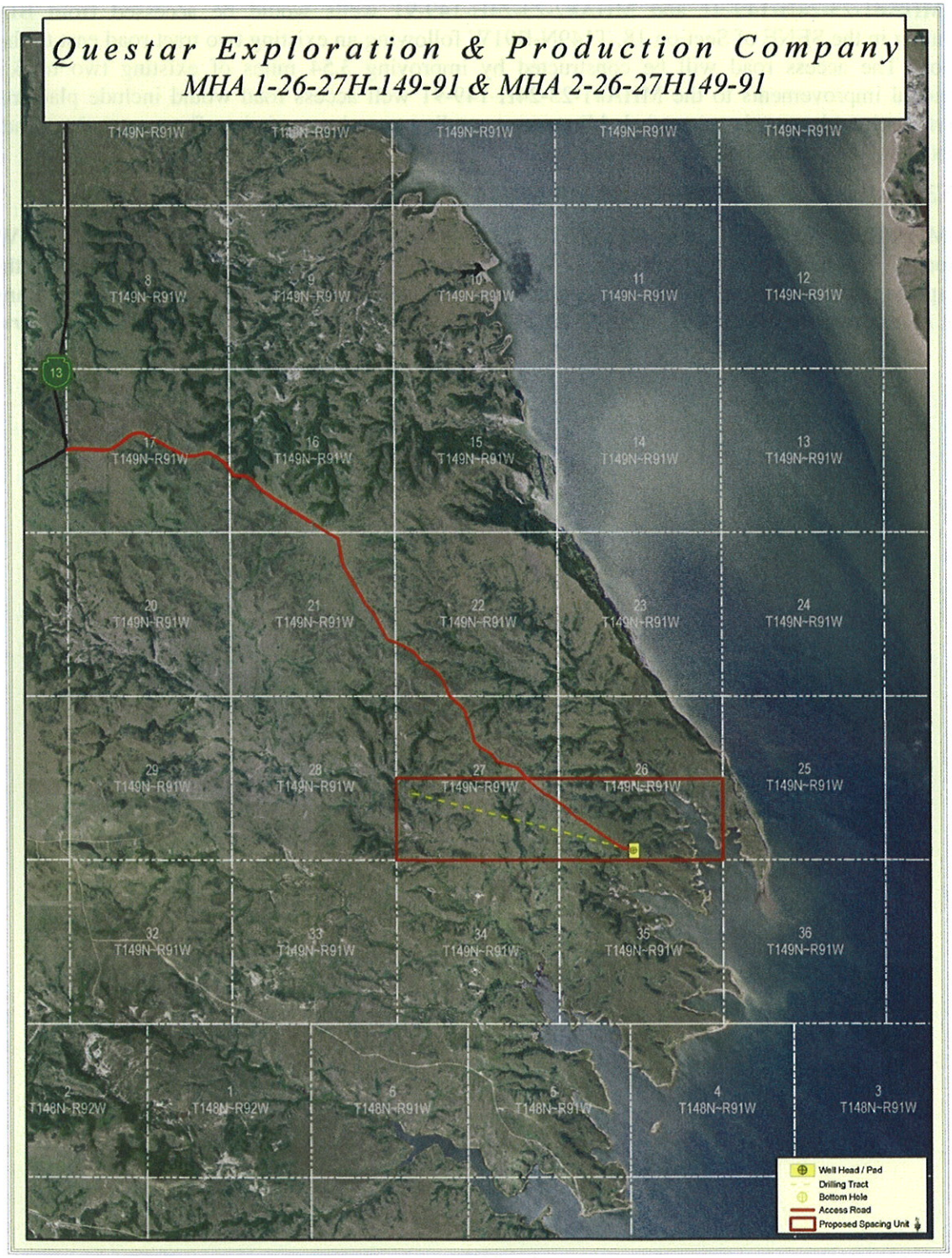


Figure 2-2, MHA#1-26-27H-149-91 and MHA#2-26-27H-149-91 Well Overview

The MHA#1-26-27H-149-91 well would be accessed from BIA 13. Beginning in the SENE of Section 18, T149N-R91W following exist two track. Turn SE in the SWSE of Section 16: T149N-R91W and following the existing two-track to the SWSE of Section 26, T149N-R91W. The 2.91 miles of two-track will be improved during construction of the access road. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignment. Culverts and cattle guards would be installed as needed along this new access road.

2.4 Activities that Apply to Development of All Wells

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

2.4.1 Field Camps

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

2.4.2 Access Roads

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

2.4.3 Well Pads

The proposed well pads would consist of a leveled area surfaced with several inches of gravel or crushed scoria. The pads would be used for the drilling rig and related equipment, as well as an excavated, lined pit to store drilling fluids, drilled cuttings, and fluids processed during drilling. The level well pad areas required for drilling and completing operations (including reserve pits for dried cuttings) would each be approximately 345 X 510 feet (approximately 4.04 acres). Cut and fill slopes on the edge of the well pad would be determined on a well-by-well basis. The well pad will be fenced, and the reserve pit covered with netting to protect wildlife from hazardous areas.

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

2.4.4 Drilling

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

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

For the first 2,500 feet drilled at each well, a fresh water based mud system with non-hazardous additives would be used to minimize contaminant concerns. Water would be obtained from a commercial source for this drilling stage. About 8 gallons of water would be used per foot of hole drilled, for a total of about 40,000 gallons (20,000 gallons in the hole and 20,000 gallons as working volume at the surface). After setting and cementing the near-surface casing, an oil-based mud system or brine based drilling solution will be used to drill the remainder of the hole.

Drilling fluids would be separated from cuttings and contained in steel tanks placed on liners until they were ready for re-use. Any free fluids remaining in reserve pits would be removed and disposed of in accordance with NDIC (North Dakota Industrial Commission) rules and regulations. Cuttings generated from drilling would be deposited in reserve pits on well pads. The pits would be lined to prevent seepage and contamination of underlying soil. Prior to their use, the entire location will be fenced in order to prevent wildlife and livestock from accessing the pit. Reserve pit cuttings will be solidified into an inert, solid mass by chemical means. The treated material will be buried in reserve pits in accordance with NDIC rules and regulations.

2.4.5 Casing and Cementing

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

2.4.6 Completion and Evaluation

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

2.4.7 Commercial Production

If commercially recoverable oil and gas resources are found at any of the proposed sites, the site(s) would become established as a production site(s). Each site would be reduced to less than two acres in size and refitted as an oil and gas production facility. Additional production equipment, including a well head pumping unit, vertical heater/treater, storage tanks (typically four 400 barrel steel tanks), and a flare/production pit would be installed. The storage tanks and heater/treater would be surrounded by a berm that would guard against possible spills. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. All permanent above ground production facilities would be painted to blend into the surrounding landscape, as determined by the BIA, based on standard colors recommended by the BLM.

In the event that an oil gathering pipeline does not exist, oil would be collected in the storage tanks and periodically trucked to an existing oil terminal to be sold. Produced water would also be captured in storage tanks and periodically trucked to an approved disposal site. The frequency of trucking activities for both oil resources and produced water would be dependent upon volumes and rates of production.

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

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

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

2.4.8 Reclamation

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

If no commercial production developed from one or any of the proposed wells, or upon final abandonment of commercial operations, all disturbed areas would be reclaimed within one year of the well closure. As part of the final reclamation process, all well facilities would be removed, well bores would be plugged with cement, and dry hole markers would be set in accordance with NDIC and BLM requirements. Both access roads and well pad areas would be re-contoured to match topography of the original landscape. An exception to these reclamation measures may occur if the BIA approves assignment of an access road either to the BIA roads inventory or to concurring surface allottees.

2.5 Potential for Future Development

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

Chapter 3 Description of the Affected Environment and Impacts

3.1 Introduction

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

3.2 Geologic Setting and Land Use

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

According to Western 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 areas is primarily identified as part of the Missouri Coteau eco-region, which consists of glaciated uplands, river breaks, valley wall side and footslopes, coulees, alluvial terraces and floodplains. The floodplains are primarily located in the bottomlands of the Missouri River.

The western and southern portions of the Fort Berthold Reservation consist of prairie grasslands and buttes. The northern and eastern areas of the Reservation provide fertile farmland. The proposed project areas are located within a predominately rural area. Land within the proposed project areas is predominantly grasslands (92%) and shrubland (8%). ***Please refer to Figure 3-1, Land Use.*** Additional surrounding land uses include agricultural and water.

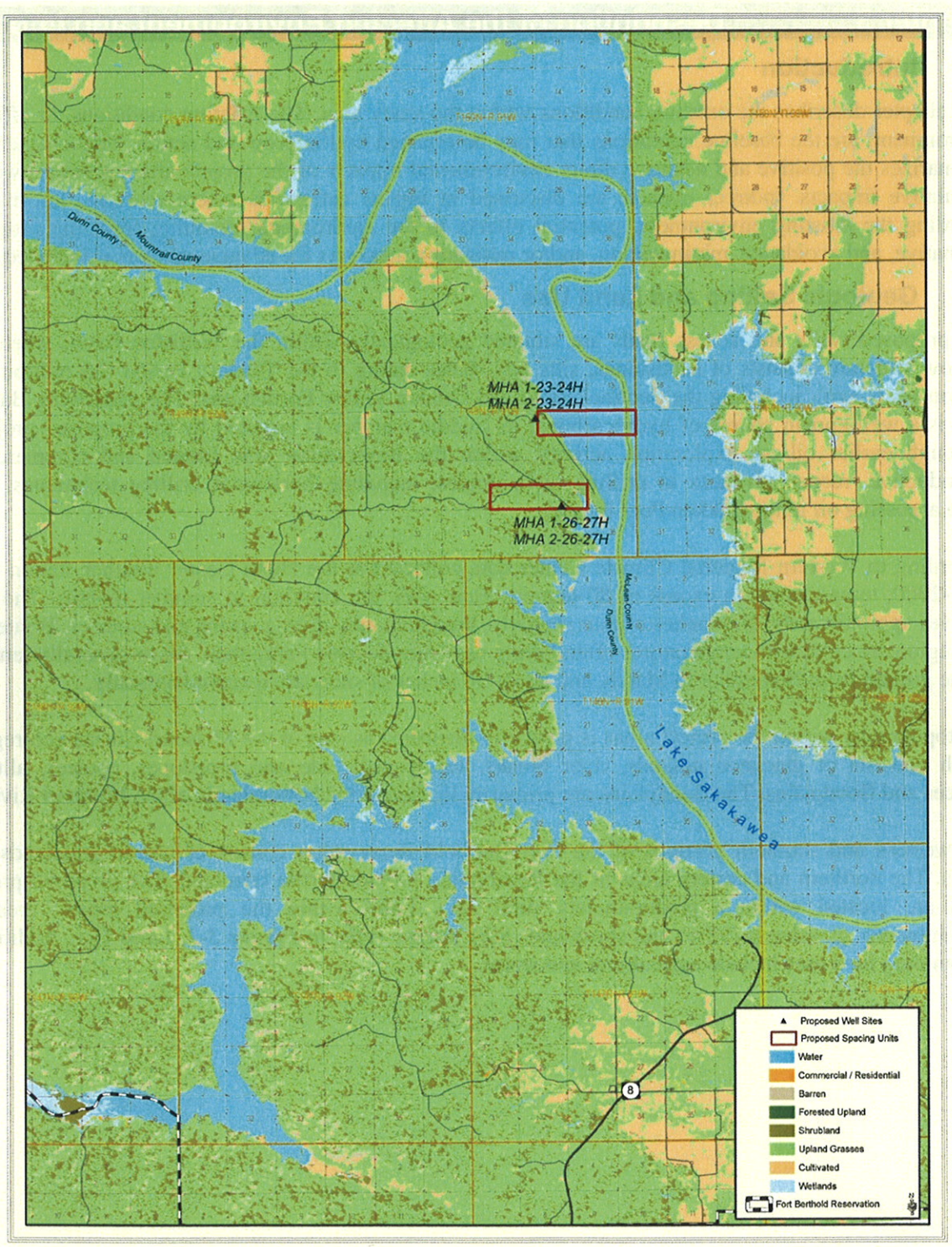


Figure 3-1, Land Use

3.3 Geologic Setting and Land Use Impacts/Mitigation

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

Alternative B (Proposed Action) – Alternative B would result in the conversion of approximately 80.36 acres of land from present use to part of an exploratory oil and gas network. ***Please refer to Table 3.1, Summary of Land Use Conversion.***

Table 3.1
Summary of Land Use Conversion

Well Site	Well Pad Acres	Access Road Acres	Total Acres
MHA#1-23-24H-149-91 and MHA#2-23-24H-149-91	4.53	28.32	32.85
MHA#1-26-27H149-91 and MHA#2-26-27H-149-91	4.44	23.25	37.69
		Total	**70.54**

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

3.4 Soils

The NRCS (Natural Resource Conservation Service) Soil Survey of Dunn County dates from 1982, with updated information available online through the NRCS Web Soil Survey. There are nine soil types identified within the project impact areas. Characteristics of these soils are identified in ***Table 3.2, Soils.***

Table 3.2 Soils								
Map Unit Symbol	Soil Name	Percent Slope	Composition (in upper 60 inches)			Erosion Factor[1]		Hydrologic Soil Group[2]
			% sand	% silt	% clay	T	Kf	
9E	Cabba loam	15 to 45	41	39	20	1	0.32	C
30E	Cohagen-Vebar fine sandy loams	9 to 25	79	13	8	2	0.20	D
31F	Cohagen-Vebar rock outcrop complex	15 to 40	79	13	8	2	0.24	D
88B	Williams loams	3 to 6	35	35	30	5	0.28	B
88C	Williams loams	6 to 9	35	35	30	5	0.28	B
93C	Williams-Zahl loams	6 to 9	35	35	30	5	0.28	B
93D	Zahl-Williams loams	9 to 15	35	34	31	5	0.28	B
93E	Zahl-Williams loams	15 to 25	35	34	31	5	0.28	D
207F	Arikara Loam	9 to 75	38	37	25	5	0.02	B

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

3.4.1 Soil Impacts/Mitigation

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

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

- *MHA#1-23-24H-149-91* – A minimum of 3,655 cubic yards of topsoil and 30,810 cubic yards of material for future site reclamation would be stockpiled on site.
- *MHA#1-26-27H-149-91* – A minimum of 3,584 cubic yards of topsoil and 22,500 cubic yards of material for future site reclamation would be stockpiled on site.

Based on NRCS soil profiles, topsoil probably exists in excess of 18 inches at each of the well sites, yielding sufficient quantity of topsoil for construction and reclamation activities.

[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).

Topsoil and embankment stockpiles are proposed to be located on the southeast corner of the MHA#1-23-24H-149-91 pad and on the southwest side of the MHA#1-26-27H-149-91 pad. The stockpiles have been positioned to assist in diverting runoff away from the disturbed area, thus minimizing erosion.

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

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

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

3.5 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.

3.5.1 Surface Water

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

All of the proposed well sites are located in the Lake Sakakawea basin, meaning surface waters within this basin drain to Lake Sakakawea. All proposed wells are located in the Saddle Butte Watershed and the Saddle Butte Bay Sub-Watersheds. ***Please refer to Figure 3-2, Surface Water Resources.*** Runoff throughout the study area is by sheet flow until collected by ephemeral and perennial streams draining to Lake Sakakawea. Surface runoff for each well site would typically travel to Lake Sakakawea via drainage patterns as follows:

- *MHA#1-23-24H-149-91* and MHA#2-23-24H-149-91– Runoff from the well pad would travel 0.32 miles southwest into an unnamed coulee. From there, it would travel southeast 1.63 miles to a small bay of Lake Sakakawea, for a total traveled distance of 1.95 miles.
- *MHA#1-26-27H-149-91 and MHA#2-26-27H-149-91* – the northern 2/3 of the pad drains in a northerly direction into an unnamed channel which travels northeast 0.36 miles to a small bay of Lake Sakakawea. The southern 1/3 of the pad drains southeast down a slope and channel 0.37 miles to the previously mentioned portion of Lake Sakakawea.

3.5.2 Surface Water Impacts/Mitigation

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

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

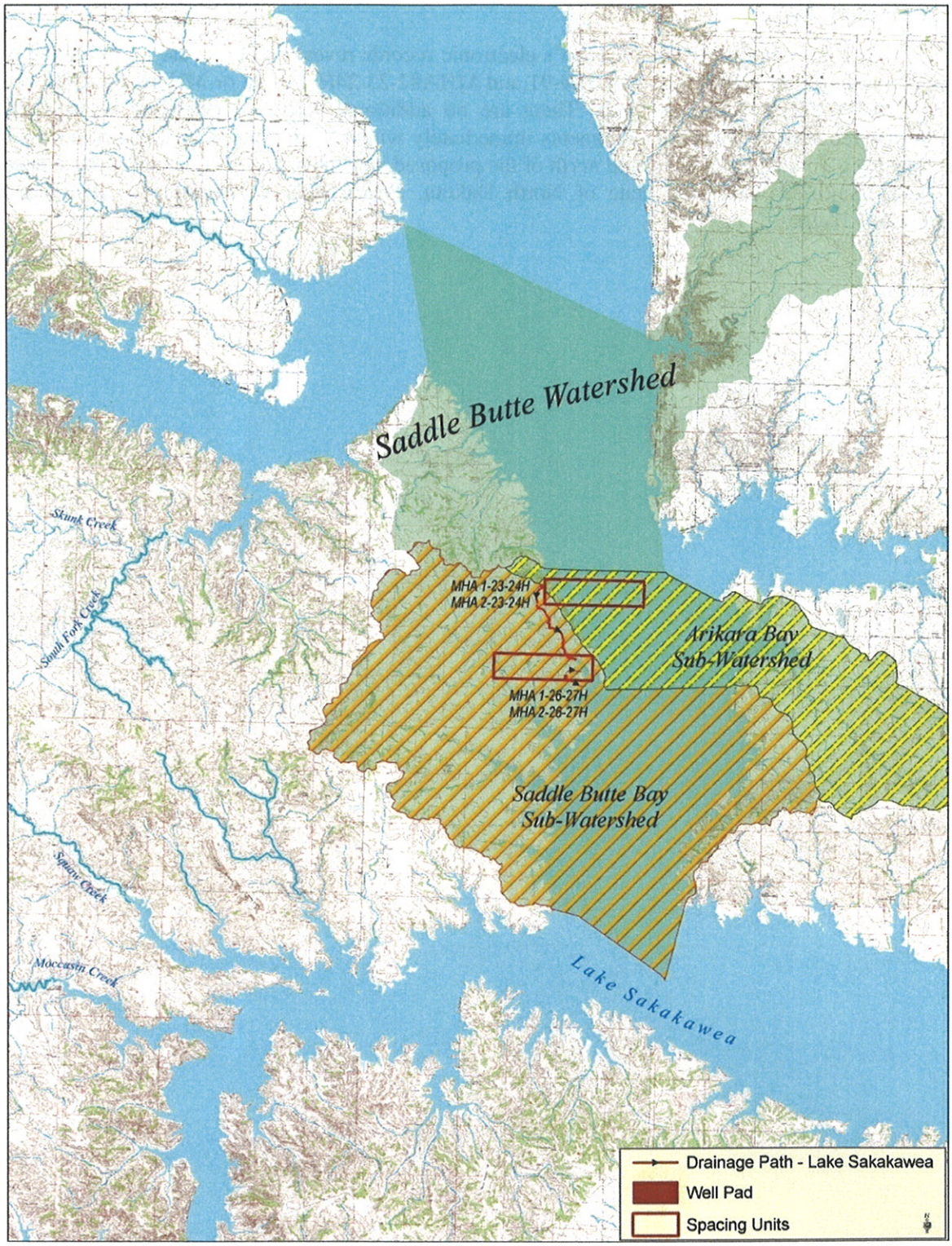


Figure 3-2, Surface Water Resources

3.5.3 Ground Water

The North Dakota State Water Commission's electronic records reveal that there are no permitted wells within one-mile of the MHA#1-23-24H-149-91 and MHA#2-23-24H-149-91 or MHA#1-26-27H-149-91 and MHA#2-26-27H-149-91 well pads. There are no additional active or permitted water wells or groundwater-fed surface water impoundments immediately within the proposed well pad or access road areas. The New Town aquifer is located north of the proposed well sites; however, no sole source aquifers have been identified within the state of North Dakota. ***Please refer to Figure 3-3, Aquifers and Groundwater Wells.***

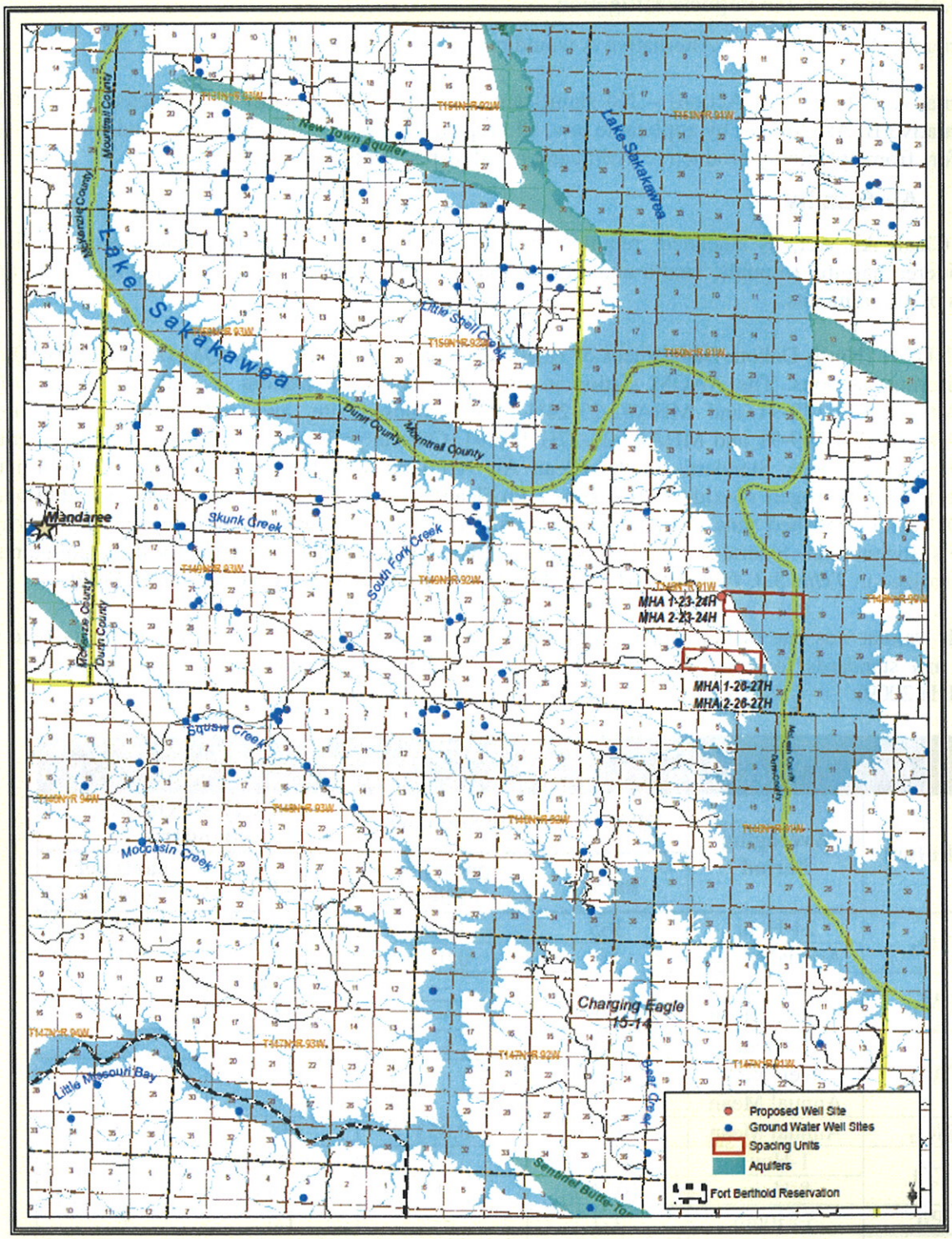


Figure 3-3, Aquifers and Groundwater Wells

3.5.4 Ground Water Impacts/Mitigation

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

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

3.6 Air Quality

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

The NDDH (North Dakota Department of Health) operates a network of AAQM (Ambient Air Quality Monitoring) stations. The AAQM station in Dunn Center, North Dakota is 29.0 miles south of the MHA#1-23-24H-149-91 and MHA#2-23-24H-149-91proposed site, and 28.0 miles south from the MHA#1-26-27H-149-91 and MHA#2-26-27H-149-91. Criteria pollutants tracked under EPA's National Ambient Air Quality Standards in the Clean Air Act include SO_2 (sulfur dioxide), PM (particulate matter), NO_2 (nitrogen dioxide), O_3 (ozone), Pb (lead), and CO (carbon monoxide). In addition, the NDDH has established state air quality standards. State standards must be as stringent as (but may be more stringent than) federal standards. The federal and state air quality standards for these pollutants are summarized in ***Table 3.3, Federal and State Air Quality Standards (EPA 2006, NDDH 2009).***

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

Table 3.3
Federal Air Quality Standards and NDDH Data

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

In addition, the Fort Berthold Reservation complies with the North Dakota National Ambient Air Quality Standards and visibility protection. The Clean Air Act affords additional air quality protection near Class I areas. Class I areas include national parks greater than 6,000 acres in size, national monuments, national seashores, and federally designated wilderness areas larger than 5,000 acres designated prior to 1977. There are no Federal Class I areas[3] within the project area. The Theodore Roosevelt National Park is the nearest Class I area, located approximately 47.8 miles west of the MHA#1-23-24H-149-91 well, 47.6 miles west of the MHA#1-26-27H149-91 well.

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

3.7 Threatened and Endangered Species

In accordance with Section 7 of the Endangered Species Act of 1973, 50 CFR Part 402 as amended, each federal agency is required to ensure the following two criteria. First, any action funded or carried out by such agency must not be likely to jeopardize the continued existence of any federally-listed endangered or threatened species or species proposed to be listed. Second, no such action can result in the destruction or adverse modification of habitat of such species that is determined to be critical by the Secretary. An endangered species is in danger of extinction throughout all or a significant portion of its range. A threatened species is one that is likely to become endangered in the foreseeable future. A candidate species is one which may warrant listing as an endangered or threatened species, but the data are inconclusive. While candidate species are not legally protected under the Endangered Species Act, it is within the spirit of the Endangered Species Act to consider these species as having significant value and worth protecting.

The proposed action area was evaluated to determine the potential for occurrences of federally-listed threatened, endangered, and candidate species. The USFWS (United States Fish and Wildlife Service) has identified the interior least tern, whooping crane, black-footed ferret, pallid sturgeon, and gray wolf as endangered species that may be found within Dunn County. The piping plover is listed as a threatened species for Dunn County. In addition, Dunn County contains designated critical habitat for the piping plover adjacent to Lake Sakakawea. The Dakota skipper, a candidate species, is also listed for Dunn County. Habitat requirements and other information regarding listed species for Dunn County are as follows:

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

3.7.1 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 in prairie dog towns. However, they have not been confirmed in North Dakota for over 20 years and are presumed extirpated. Their preferred habitat includes areas around prairie dog towns, as they rely on prairie dogs for food and live in prairie dog burrows. Black-footed ferrets require at least an 80-acre prairie dog town to survive. No prairie dog towns were observed within the proposed well pads or access road corridors.

3.7.2 Gray Wolf (Canis lupus)

The gray wolf is the largest wild canine species in North America. In North America, the gray wolf is found throughout northern Canada, Alaska, and the forested areas of Northern Michigan, Minnesota, and Wisconsin. They have been re-introduced to Yellowstone National Park in Wyoming. While the gray wolf is not common in North Dakota, occasionally individual wolves do pass through the state. Given poor habitat, unreliable food supplies, nearby human inhabitation and the distance to known populations in Canada, Montana, Minnesota, and Wyoming, colonization of this species would be unlikely in North Dakota. Historically, its preferred habitat includes biomes such as boreal forest, temperate deciduous forest, and temperate grassland. Gray wolves live in packs of up to 21 members, although some individuals will roam alone. The proposed project areas are located far from other known wolf populations and do not contain preferred habitat for suitable prey to sustain a population.

3.7.3 Interior Least Tern (Sterna antillarum)

The interior least tern nests along inland rivers. It 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 or near the project areas. Lake Sakakawea and the Missouri River are located outside the project areas at least 0.25 miles northeast of the project areas at the nearest point.

3.7.4 Pallid Sturgeon (Scaphirhynchus albus)

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

There is no existing or potential habitat within or near the project areas. Habitat where the pallid sturgeon may occur, such as Lake Sakakawea, is located at least 0.25 away at its nearest point to the project areas.

3.7.5 Whooping Crane (Grus americana)

The whooping crane is the tallest bird in North America. In the United States, this species ranges through the Midwest and Rocky Mountain regions from North Dakota south to Texas and east into Colorado. Whooping cranes migrate through North Dakota along a band running from the south central to the northwest parts of the state.

They use shallow, seasonally and semi-permanently flooded palustrine (marshy) wetlands for roosting and various cropland and emergent wetlands for feeding. During migration, whooping cranes are often recorded in riverine habitats, including the Missouri River. Currently there are three wild populations of whooping cranes, yielding a total species population of about 365. Of these groups, only one is self-sustaining.

The proposed project is located in the Central Flyway where 75% of confirmed whooping crane sightings have occurred. However, there is no existing or potential stopover habitat within the project areas. Lake Sakakawea and the Missouri River are located outside the project areas at least 0.25 miles away at the nearest point to the project areas.

3.7.6 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.

The North Dakota Heritage Inventory recorded a piping plover sighting approximately 0.5 miles northwest of the project area in 1996. However, there is no potential piping plover habitat within the project areas. The nearest piping plover habitat at Lake Sakakawea would be approximately 0.25 miles away from the project areas at the nearest point. Though the USFWS recommends a one-mile separation distance between oil and gas development and potential habitat, the existing suitable habitat for foraging and nesting at that location is positioned several hundred feet below the grade of the proposed project and is not anticipated to be impacted by project activities.

3.7.7 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.

The proposed project areas do consist of upland prairies; however, the project areas have been grazed and disturbed by human activity and, therefore, it is unlikely that the sites contain the high quality prairie necessary for Dakota skipper.

Lake Sakakawea and associated Missouri River habitat is located 0.25 miles from the MHA#1-23-24H-149-91 and MHA#2-23-24H-149-91 wells and 0.78 miles from the MHA#1-26-27H-149-91 and MHA#2-26-27H-149-91. There is no existing or potential habitat for the listed threatened and endangered species within or near the project areas and none of these species were observed during field surveys performed by Kadrmas, Lee & Jackson (KL&J) October 2009.

3.8 Threatened and Endangered Species Impacts/Mitigation

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

Alternative B (Proposed Action) – Due to a lack of potential habitat and species observances within the project areas, the proposed project may affect, but is unlikely to adversely affect, any of the listed species. The proposed project is not likely to jeopardize the continued existence of these species and is not likely to destroy or adversely modify critical habitat.

At the request of the USFWS, if a whooping crane is sighted within one mile of the project areas during construction, all activity shall cease within that mile until the USFWS is contacted.

3.8.1 Wetlands, Wildlife and Vegetation

Biological and botanical surveys at each site were conducted by KL&J on October 23, 2009. Data gathered from these surveys, as well as through coordination with the USFWS, North Dakota Parks and Recreation Department, and North Dakota Game and Fish Department, are summarized below. The Three Affiliated Tribes Game and Fish Department was also contacted as part of project scoping.

3.8.2 Wetlands

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

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

3.9 Wetland Impacts/Mitigation

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

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

3.9.1 Wildlife

During the field surveys, big and small game species, raptors, non-game species, as well as their potential habitats, were identified. The project areas all contain suitable habitat for mule deer, sharptail grouse, ringneck pheasant, mourning dove, red-tailed hawk, song birds, coyote, red fox, North American badger, and white-tailed jackrabbit. Species observed at both project areas include mule deer and sharptail grouse.

Protection is provided for the bald and golden eagle, as well as other migratory birds, through the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

The Bald and Golden Eagle Protection Act of 1940, 16 U.S.C. 668–668d, as amended, was written with the intent to protect and preserve bald and golden eagles, both of which are treated as species of concern within the Department of the Interior. In addition, the Migratory Bird Treaty Act (916 U.S.C. 703–711) regulates impacts to these species such as direct mortality, habitat degradation, and/or displacement of individual birds.

The bald eagle (*Haliaeetus leucocephalus*) is not common in North Dakota, but is sighted along the Missouri River during spring and fall migration periods and periodically in other places in the state such as the Devils Lake and Red River areas. There are approximately 15 breeding pairs of bald eagles in North Dakota, most of which nest along the Missouri River. Its preferred habitat includes open areas, forests, rivers, and large lakes. Bald eagles tend to use the same nest year after year, building atop the previous year's nest.

The golden eagle (*Aquila chrysaetos*) can be spotted in North Dakota throughout the badlands and along the upper reaches of the Missouri River in the western part of the state. It may be seen throughout the State during the winter. 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 shrubland, grasslands and riparian habitats.

3.9.2 Wildlife Impacts/Mitigation

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

Alternative B (Proposed Action) – Ground clearing activities associated with the proposed project may impact individuals or suitable habitat for the wildlife species discussed above. While wildlife may use the project areas for breeding and feeding, wildlife are generally expected to adapt to changing conditions and continue to thrive. In addition, avian species that may frequent the project areas are transitory in nature and are also generally expected to adapt to changing conditions and continue to thrive. A buffer of one-half mile should be maintained for raptor nests. The proposed project may affect individuals of these wildlife species, but is not likely to adversely affect any populations, or to result in a trend towards listing of any of the species identified. No grouse leks were observed in project areas, timing restrictions for construction are not required.
During drilling activities, the noise, motion and lights associated with having a drilling rig on site should be sufficient to deter any wildlife from entering the area. Reserve pits can be netted during the drilling portion as needed. Immediately after the drilling rig leaves the location, reserve pits are permanently netted with State and Federal approved nets. These will remain in place until closure of the reserve pits.

3.9.4 Vegetation

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

The proposed MHA#1-23-24H-149-91 well pad would occur on upland prairie that is currently being grazed; however, the site's access road primarily follows an existing two-track trail through upland prairie and wooded draws. ***Please refer to Figures 3-4, MHA#1-23-24H-149-91 and MHA#2-23-24H-149-91 Well Site Vegetation and 3-5, MHA#1-23-24H-149-91 and MHA#2-23-24H-149-91Access Road Vegetation.***

Figure 3-4, MHA#1-23-24H-149-91 and MHA#2-23-24H-149-91 Well Site Vegetation

Figure 3-5, MHA#1-23-24H-149-91 and MHA#2-23-24H-149-91 Access Road Vegetation

The proposed MHA#1-26-27H-149-91 well site and access road occurred on upland prairie that is currently being grazed. The proposed access road follows an existing two-track trail. ***Please refer to Figure 3-6, MHA#1-23-24H-149-91 and MHA#2-23-24H-149-91 Well Site Mapped Vegetation Communities.*** The pad and access road were dominated by primarily tall grass. Adjacent areas contained wooded draws with mixed deciduous trees.

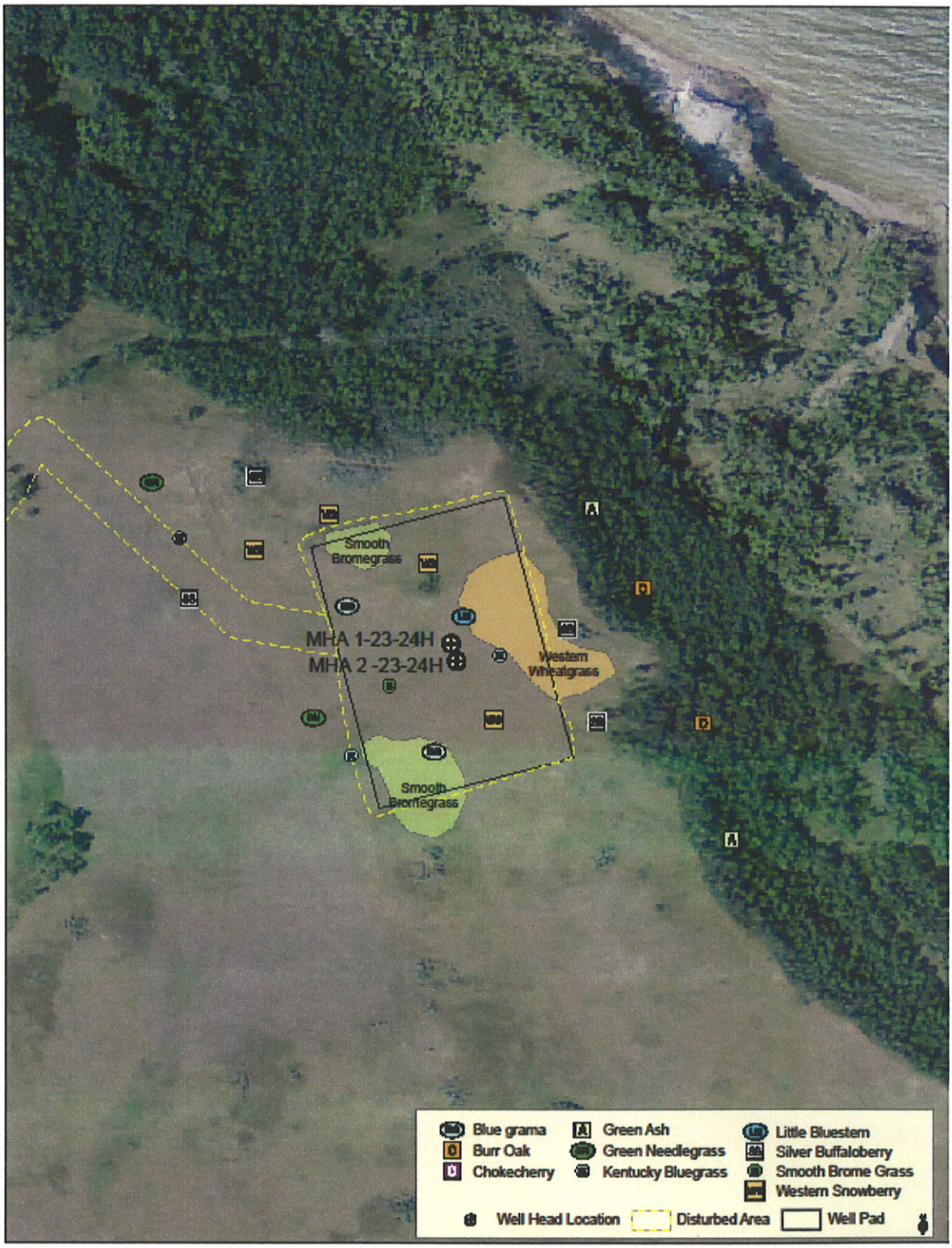


Figure 3-6, MHA#1-23-24H-149-91 and MHA#2-23-24H-149-91 Well Site Mapped Vegetation Communities

The pad and access road were covered with mixed short and tall grasses in an area that had been grazed. Adjacent areas contained wooded draws with mixed deciduous trees and shrubs.

Figure 3-7, MHA#1-26-27H-149-91 and MHA#2-26-27H-149-91 Well Site Vegetation

Figure 3-8, MHA#1-26-27H-149-91 and MHA#2-26-27H149-91 Access Road Vegetation

Figure 3-9, MHA#1-26-27H-149-91 and MHA#2-26-27H-149-91 Well Site Mapped Vegetation Communities

In addition, the project areas were surveyed for the presence of noxious weeds. Of the 12 species declared noxious under the North Dakota Century Code (Chapter 63-01.0), seven are known to occur in Dunn County. ***Please refer to Table 3.4, Noxious Weed Species.*** In addition, counties and cities have the option to add species to the list to be enforced only in their jurisdiction; however, Dunn County has listed no additional species.

Table 3.4
Noxious Weed Species

Common Name	Scientific Name	Dunn County Acres	Observed in the Field
Absinth wormwood	*Artemesia abinthium* L.	38,600	No
Canada thistle	*Cirsium arvense* (L.) Scop	32,800	Yes
Dalmation toadflax	*Linaria genistifolia* ssp. *dalmatica*	1	No
Diffuse knapweed	*Centaurea diffusa* Lam	--	No
Field bindweed	*Convolvulus arvensis* L.	33,000	No
Leafy spurge	*Euphorbia esula* L.	10,500	No
Musk thistle	*Carduus nutans* L.	2	No
Purple loosestrife	*Lythrum salicaria*	--	No
Russian knapweed	*Acroptilon repens* (L.) DC.	--	No
Saltcedar (tamarisk)	*Tamarix ramosissima*	--	No
Spotted knapweed	*Centaurea maculosa* Lam.	0	No
Yellow starthistle	*Centaurea solstitalis* L.	--	No

Small quantities (one to four plants) of Canada thistle were observed within the access road corridor for the both proposed sites. In addition, small quantities of Canada thistle were observed within the well pad portion of the MHA#1-23-24H-149-91 and MHA#2-23-24H-149-91 study area. Each of the noxious weed sightings consisted of either a single plant or a few plants growing close together as a single grouping. None of the other listed noxious weeds were identified during the field surveys.

3.9.4 Vegetation Impacts/Mitigation

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

Alternative B (Proposed Action) – Ground clearing activities associated with construction of the proposed wells and access roads would result in vegetation disturbance. However, the areas of proposed surface disturbances are minimal in the context of the setting, and these impacts would be further minimized in accordance with the Gold Book and other requirements. Following construction, disturbed vegetation would be reseeded in-kind, and a noxious weed management plan would be implemented to prevent the spread of noxious weeds and non-native species.

3.10 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.

Cultural resource inventories of these well pads and access roads were conducted by personnel of Kadrmas, Lee & Jackson, Inc., using a pedestrian methodology. For the MHA #1-23-24H-149-91 (and MHA #2-23-24H-149-91) project approximately 69.7 acres were intensively inventoried (Ó Donnchadha 2009) and for the MHA #1-26-27H-149-91 (and MHA #2-26-27H-149-91) project approximately 95.4 acres were inventoried (Ó Donnchadha 2010). These surveys were done on November 2, 2009. No historic properties were located within either of these project areas that appear to possess the quality of integrity and meet at least one of the criteria (36 CFR 60.6) for inclusion on the National Register. As the lead federal agency, and as provided for in 36 CFR 800.5, on the basis of the information provided, BIA reached determinations of **no historic properties affected** for these undertakings. This determination was communicated to the THPO for the MHA #1-23-24H-149-91 project on February 5, 2010, and for the MHA #1-26-27H-149-91 project on February 1, 2010 (see Part 4); however, no response was received from the THPO within the allotted 30-day comment period for either of these project areas.

3.10.1 Cultural Resources Impacts/Mitigation

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

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

3.10.2 Socioeconomic Conditions

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

The Fort Berthold Reservation and Dunn County have lower than statewide averages of per capita income and median household income. In addition, the Fort Berthold Reservation has higher rates of unemployment and individuals living below poverty level than the State. Dunn County's unemployment rate is lower than the statewide average, but the individuals living below poverty level is higher than the statewide average. ***Please refer to Table 3.6, Employment and Income.***

Table 3.5
Employment and Income[4]

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

Population decline in rural areas of North Dakota has been a growing trend as individuals move toward metropolitan areas of the state, such as Bismarck and Fargo. While Dunn County'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 3.7, Demographic Trends.***

Table 3.6
emographic Trends[5]

Location	Population in 2000	% of State Population	% Change 1999-2000	Predominant Race	Predominant Minority
Dunn County	3,600	0.6%	-7.8%	White	American Indian (14.1%)
Fort Berthold Reservation	5,915	1.0%	+9.8%	American Indian[6]	White (26.9%)
Statewide	**642,200**	**--**	**+0.5%**	**White**	**American Indian (5.6%)**

[4] Source: *US Bureau of the Census, Census 2000.*
[5] Source: *US Bureau of the Census, Census 2000.*
[6] According to the Fort Berthold Library, there are 9,500 enrolled members of the Three Affiliated Tribes.

3.10.3 Socioeconomic Impacts/Mitigation

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

Alternative B (Proposed Action) – Alternative B is not anticipated to substantially impact the socioeconomic conditions in the project areas, but it does have the potential to yield beneficial impacts on Tribal employment and income. The Three Affiliated Tribes and allotted owners of mineral interests may receive income from oil and gas development on the Fort Berthold Reservation in the form of royalties, if drilling and production are successful, as well as from TERO (Tribal Employee Rights Office) taxes on construction of drilling facilities. Moreover, qualified individual tribal members may find employment through oil and gas development and increase their individual income. Employment opportunities related to oil and gas development may lessen the unemployment rate and increase income levels on the Fort Berthold Reservation. Additionally, the proposed action may result in indirect economic benefits to tribal business owners resulting from construction workers expending money on food, lodging, and other necessities.

3.11 Environmental Justice

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

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

3.11.1 Environmental Justice Impacts/Mitigation

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

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

3.12 Infrastructure and Utilities

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

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

3.12.1 Infrastructure and Utility Impacts/Mitigation

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

Alternative B (Proposed Action) – Alternative B would require improvements to existing roadways, as well as construction of new roadway segments. Questar will follow Dunn County and North Dakota Department of Transportation rules and regulations regarding rig moves and oversize/overweight loads on state and county roads used as haul roads. All contractors are required to permit their oversize/overweight loads through these entities. Questar's contractors will be required to adhere to all local, county, and state regulations and ordinances regarding rig moves, oversize/overweight loads, and frost restrictions.

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

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

3.13 Public Health and Safety

Health and safety concerns include hydrogen sulfide (H_2S) gas[7], hazardous materials used or generated during well installation or production, and traffic hazards associated with heavy drill rigs and tankers.

3.13.1 Public Health and Safety Impacts/Mitigation

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

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

H_2S Gases. It is unlikely that the proposed action would result in release of H_2S at dangerous concentrations; however, Questar will submit H_2S Contingency Plans to the BLM as part of the APD. These plans establish safety measures to be implemented throughout the drilling process to prevent accidental release of H_2S into the atmosphere. The Contingency Plans are designed to protect persons living and/or working within 3,000 feet of each well location and include emergency response procedures and safety precautions to minimize the potential for an H_2S gas leak during drilling activities. Satellite imagery revealed no residences within 3,000 feet of the proposed Questar sites.

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

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

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

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

3.14 Cumulative Impacts

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

3.14.1 Past, Present, and Reasonably Foreseeable Actions

At the time this EA was written, there were approximately 214 active and/or proposed oil and gas wells within 20 miles on the Fort Berthold Reservation. ***Please refer to Figure 3-10, Existing and Proposed Oil and Gas Wells.***

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

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

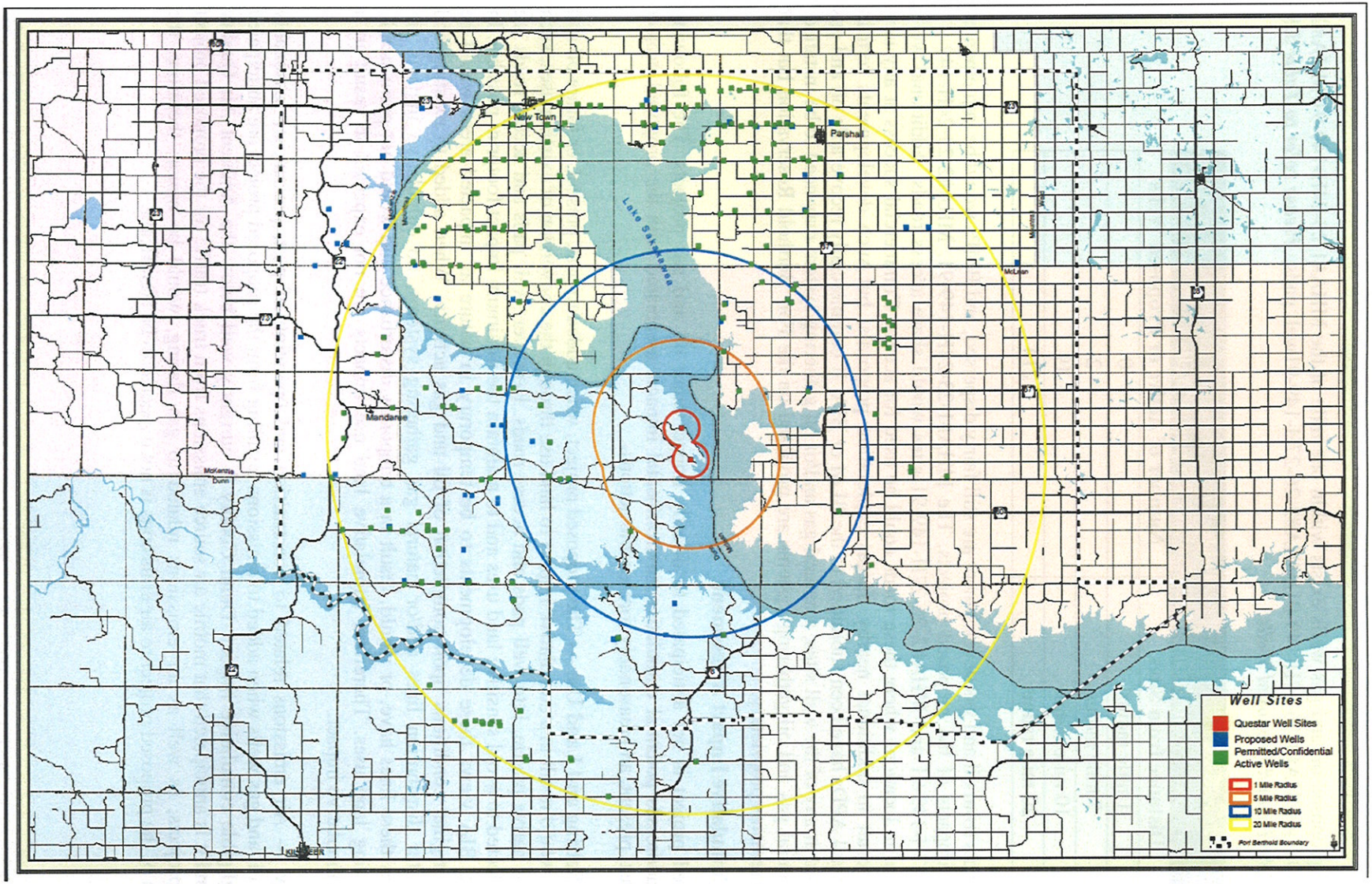


Figure 3-10, Existing and Proposed Oil and Gas Wells

No active or proposed oil and gas wells exists within one mile of the MHA#1-23-24H-149-91/MHA#2-23-24H-149-91 or MHA#1-26-27H-149-91/MHA#2-26-27H-149-91well pads. ***Please refer to Table 3.8, Summary of Active and Proposed Wells.***

Table 3.7
Summary of Active and Proposed Wells

Distance from Sites	Number of Active or Proposed Wells
1 mile radius	0
5 mile radius	2
10 mile radius	19
20 mile radius	214

Current impacts from oil and gas development are still fairly dispersed, and BMPs would be implemented to minimize impacts of the proposed projects. The MHA#1-23-24H-149-91, MHA#2-23-24H-149-91, MHA#1-26-27H-149-91 and MHA#2-26-27H-149-91 sites would share access roads. Additional wells may be placed in locations where these roads could be used for access. Commercial success at any new well might result in additional nearby oil/gas exploration proposals, but such developments remain speculative until APDs have been submitted to the BLM or BIA. If commercially recoverable oil and gas are discovered at any of the well sites, a natural gas and/or oil gathering system may need to be installed. Currently natural gas and oil gathering systems are proposed on the Fort Berthold Reservation but that information remains proprietary.

3.14.2 Cumulative Impact Assessment

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

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

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

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

Infrastructure and Utilities — The contribution of the proposed project and other projects to stress on local roadways used for hauling materials may result in a cumulative impact to local roadways. However, abiding by permitting requirements and roadway restrictions with the jurisdictional entities are anticipated to offset any cumulative impact that may result from the proposed project and other past, present, or future projects.

The proposed action has been planned to avoid impacts to resources such as wetlands, floodplains, surface water, cultural resources, and threatened and endangered species. Unavoidable impacts to these or other resources would be minimized and/or mitigated in accordance with applicable regulations. No significant cumulative impacts are reasonably foreseen from existing or proposed activities.

3.15 Irreversible and Irretrievable Commitment of Resources

Removal and consumption of oil or gas from the Bakken Pool would be an irreversible and irretrievable commitment of resources. Other potential resource commitments include acreage devoted to disposal of cuttings, soil lost through wind and water erosion, cultural resources inadvertently destroyed, wildlife killed during earth-moving operations or in collisions with vehicles, and energy expended during construction and operation. None of these impacts are expected to be significant.

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

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

3.16 Permits

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

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

3.17 Environmental Commitments/Mitigation

The following commitments have been made by Questar Exploration and Production Company:

- Topsoil would be segregated and stored on-site to be used in the reclamation process.
- BMPS will be implemented to minimize wind and water erosion of soil resources. Soil stockpiles will be positioned to help divert runoff around the well pad.
- Well sites and access roads will avoid surface waters.
- The reserve pit would be located away from areas of shallow ground water and have a synthetic liner to prevent potential leaks. All spills or leaks of chemicals and other pollutants will be reported to the BLM and BIA. The procedures of the surface management agency shall be followed to contain leaks or spills.
- All proposed wells will be cemented and cased to isolate aquifers from potentially productive hydrocarbon and disposal/injection zones.
- Wetlands and riparian areas would be avoided.
- If a whooping crane is sighted within one mile of the project areas during construction, all activity within that mile shall cease until the USFWS is contacted.
- Disturbed vegetation would be re-seeded in kind upon completion of the project. Additionally, a noxious weed management plan would be implemented.
- Well sites and access roads would avoid impacts to cultural resources. If cultural resources are discovered during construction or operation, work shall immediately be stopped, the affected site secured, and BIA and THPO notified. In the event of a discovery, work shall not resume until written authorization to proceed has been received from the BIA.
- Access roads would be located at least fifty feet away from identified cultural resources.
- All project workers are prohibited from collecting artifacts or disturbing cultural resources in any area under any circumstances.
- Questar will ensure all contractors working for the company will adhere to all local, county, and state regulations and ordinances regarding rig moves, oversize/overweight loads, and frost law restrictions.
- Utility modifications would be identified during design and coordinated with the appropriate utility company.
- Disposal areas would be properly fenced to prevent human or animal access.
- H_2S Contingency Plans for each well site will be submitted to the BLM as part of the APD.
- Established load restrictions for state and BIA roadways would be followed and haul permits would be acquired as appropriate.
- Suitable mufflers would be put on all internal combustion engines and certain compressor components to mitigate noise levels.
- Well sites and associated facilities would be painted in colors to allow them to better blend in with the natural background color of the surrounding landscape.

Chapter 4 Preparers and Agency Coordination

4.1 Introduction

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

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

4.2 Preparers

KL&J prepared this EA under a contractual agreement between Questar Exploration and Production Company and KL&J, 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, document review
	Tracy Opp	Permit Agent-Contract	
KL&J	Shanna Braun	Environmental Planner	Quality Control/Quality Assurance
	Rick Leach	Surveyor	Site plats
	Brian O'Donnchadha	Principal Investigator	Cultural resources surveys
	Jerry Reinisch	Environmental Planner/Biologist	Project coordination, field resources surveys, impact assessment, principal author
	Skip Skattum	GIS Analyst	Impact assessment, exhibit creation

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 December 21, 2009. This scoping package included a brief description of the proposed project, as well as a location map. Pursuant to Section 102(2) (D) (IV) of the National Environmental Policy Act of 1969, a solicitation of views was requested to ensure that social, economic, and environmental effects were considered in the development of this project. ***Appendix A contains Agency Scoping Materials.***

At the conclusion of the 30-day comment period, which ended January 20, 2010, nine responses were received. These comments provide valuable insight into the evaluation of potential environmental impacts. The comments were referenced and incorporated where appropriate within the environmental impact categories addressed in this document. ***Appendix B contains Agency Scoping Responses.***

4.4 Public Involvement

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

Appendix A

Scoping Materials

December 21, 2009

Dear Interested Party:

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

The proposed action would advance the exploration and production of oil from the Bakken Pool. ***Please refer to the enclosed project location map.*** The proposed wells are: MHA-1-23-24H-149-91 and MHA-1-26-27H-149-91. Construction of the proposed well pads and access roads is proposed to begin as early as spring 2010.

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

Please provide your comments by **January 20, 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.

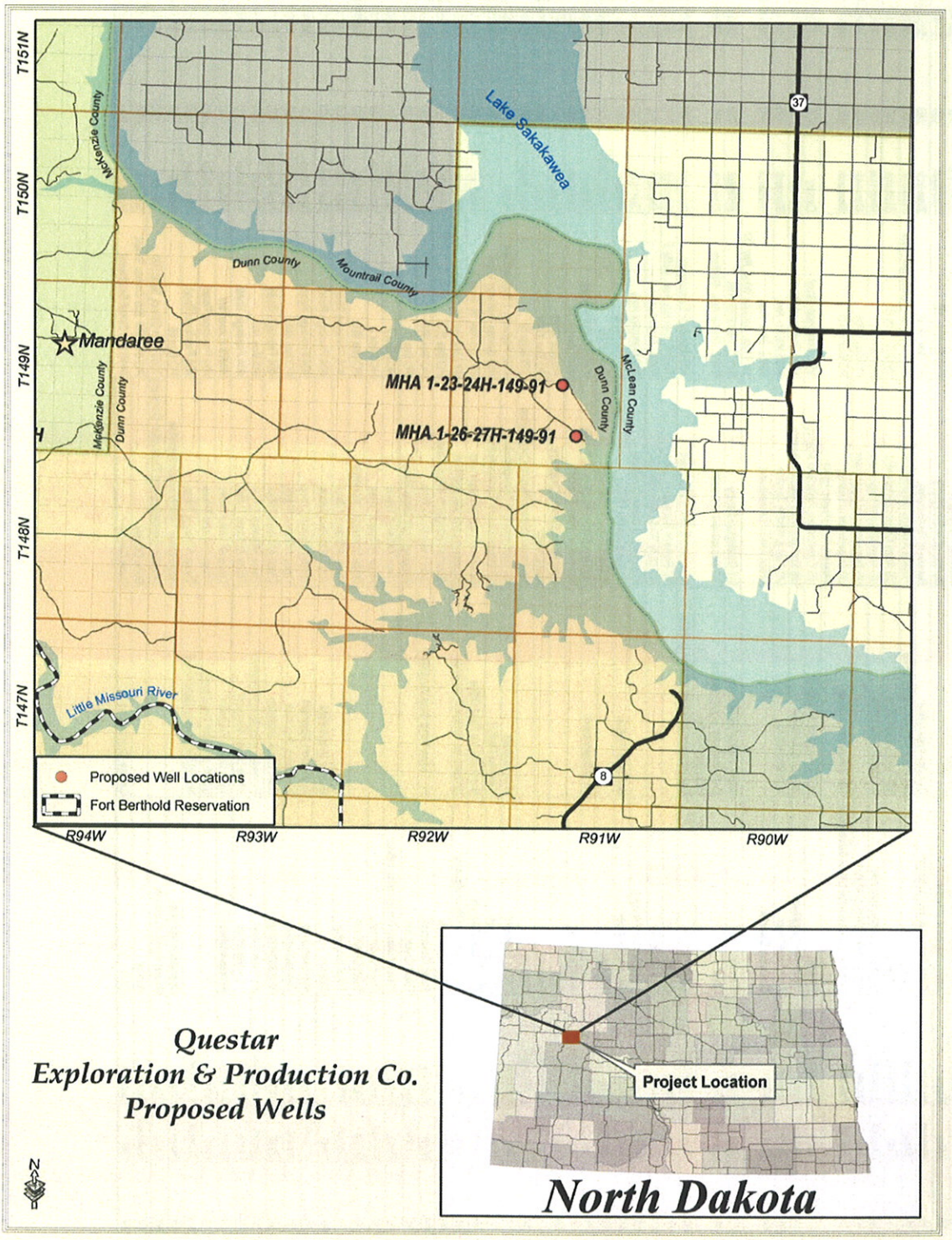
Sincerely,

Kadrmas, Lee & Jackson, Inc.

Jerry D. Reinisch
Environmental Planner

Enclosure (Map)

Kadrmas
Lee &
Jackson
Engineers Surveyors
Planners


T151N
T150N
T149N
T148N
T147N
R94W
R93W
R92W
R91W
R90W
Lake Sakakawea
McKenzie County
Dunn County
Mountrail County
McLean County
Mandaree
MHA 1-23-24H-149-91
MHA 1-26-27H-149-91
Little Missouri River
Proposed Well Locations
Fort Berthold Reservation
37
8
Questar
Exploration & Production Co.
Proposed Wells
Project Location
North Dakota
N

SOV MASTER LIST

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

CTitle	First	Last	Title	Department	Agency	Address	City	State	Zip
Sir		or Madam	Chief Missile Engineer	5 CES/CEOE	Minot Air Force Base	320 Peacekeeper Place	Minot AFB	ND	58705
Mr.	Mike	Black	Acting Regional Director		Bureau of Indian Affairs	115 4th Ave. SE	Aberdeen	SD	57401
Mr.	Richard	Nelson	Chief, Resource Management	Dakotas Area Office	Bureau of Reclamation	PO Box 1017	Bismarck	ND	58502-1017
Mr.	Steve	Oberlauer	Manager	Bismarck Airports District Office	Federal Aviation Administration	2301 University Drive, Bldg 23B	Bismarck	ND	58504
Mr.	Dan	Cimarosti	Manager	ND Regulatory Office	US Army Corps of Engineers	1513 S. 12th St.	Bismarck	ND	58504
Mr.	Charles	Sorensen	Natural Resource Specialist	Riverdale Field Office	US Army Corps of Engineers	PO Box 527	Riverdale	ND	58565
Mr.	John	Glover	Acting State Conservationist		US Department of Agriculture	PO Box 1458	Bismarck	ND	58502-1458
Mr.	Gerald	Paulson	Director, Transmission Lines/ Substations	ND Maintenance Office	US Department of Energy Western Area Power Admin.	PO Box 1173	Bismarck	ND	58502-1173
Mr.	Larry	Svoboda	Director	NEPA Program, Region 8	US Environment Protection Agency	1595 Wynkoop Street	Denver	CO	80202-1129
Mr.	Richard	Clark	Wetlands Coordinator	Region 8, EPR-EP	US Environment Protection Agency	1595 Wynkoop Street	Denver	CO	80202-1129
Mr.	Jeffrey	Towner	Field Supervisor	ND Field Office	US Fish & Wildlife Service	3425 Miriam Ave.	Bismarck	ND	58501
Ms.	Cheryl	Kulas	Executive Director		Indian Affairs Commission	600 E. Blvd. Ave. 1st Floor, Judicial Wing, Rm 117	Bismarck	ND	58505-0300
Mr.	Greg	Wiche	Director	Water Resources Division	US Geological Survey	821 E. Interstate Ave.	Bismarck	ND	58501
Mr.	L. David	Glatt	Chief	Environmental Health Section Gold Seal Center	ND Department of Health	918 E. Divide Ave., 4th floor	Bismarck	ND	58501-1947
Mr.	Mike	McKenna	Chief	Conservation & Communication Division	ND Game & Fish Department	100 Bismarck Expressway	Bismarck	ND	58501-5095
Mr.	Doug	Prchal	Director		ND Parks & Recreation Dept.	1600 E. Century Ave., Suite 3	Bismarck	ND	58503-0649
Mr.	Dale	Frink	State Engineer		ND State Water Commission	900 E. Blvd. Ave.	Bismarck	ND	58505-0850
Mr.	Bill	Fogel	Construction Manager		Midcontinent Cable Company	710 Memorial Hwy	Bismarck	ND	58501
Mr.	Doug	Dixon	General Manager	Badlands Region	Montana Dakota Utilities	PO Box 1406	Williston	ND	58802-1406
Mr.	George	Berg	Manager		NoDak Electric Coop., Inc.	Box 13000	Grand Forks	ND	58208-3000
Mr.	Ken	Miller		Land Department	Northern Border Pipeline Company	13710 FNB Parkway	Omaha	NE	68154-5200
Mr.	Ray	Christensen	Manager/CEO		Southwest Water Authority	4665 2nd St. W.	Dickinson	ND	58601
Mr.	David C.	Schelkoph	CEO		West Plains Electric Coop., Inc.	PO Box 1038	Dickinson	ND	58602-1038
Sir		or Madam	Manager		Xcel Energy	PO Box 2747	Fargo	ND	58108-2747
Sir		or Madam	Manager		Mountrail-Williams Electric Cooperative	355 Main St	New Town	ND	58763
Mr.	Jim	Redding	District Engineer	Minot District	ND Department of Transportation	1305 Highway 2 Bypass East	Minot	ND	58701-7922
Mr.	Walt	Peterson	District Engineer	Williston District	ND Department of Transportation	605 Dakota Parkway West		ND	58802-0698
Mr.	Lonny	Bagley	Field Office Manager	North Dakota Field Office	Bureau of Land Management	99 23rd Ave. W, Suite A	Dickinson	ND	58601
Mr.	Mike	Nash	Assistant Field Office Manager	Division of Mineral Resources	Bureau of Land Management	99 23rd Ave. W, Suite A	Dickinson	ND	58601
Mr.	Michael	Selvage	Tribal Chairman		Sisseton/Wahpeton Sioux Tribe	PO Box 509	Sisseton	SD	57262-0509
Ms.	Myra	Pearson	Tribal Chairman	Ft. Totten Tribal Business Office	Spirit Lake Sioux Tribe	PO Box 359	Ft. Totten	ND	58335
Mr.	Charles	Murphy	Tribal Chairman		Standing Rock Sioux Tribe	PO Box D	Fort Yates	ND	58538
Mr.	Perry	Brady	Tribal Historic Preservation Officer		Three Affiliated Tribes	HC3 Box 2	New Town	ND	58763
Mr.	Marcus	Levings	Tribal Chairman		Three Affiliated Tribes	HC3 Box 2	New Town	ND	58763
Mr.	David	Brien	Tribal Chairman		Turtle Mountain Chippewa	PO Box 900	Belcourt	ND	58316-0900
Mr.	Damon	Williams	Tribal Attorney		Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Fred	Fox	Director	Energy Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Ms.	V. Judy	Brugh	Representative	Four Bears Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Arnold	Strahs	Representative	Mandaree Segment	Three Affiliated Tribes	PO Box 665	Mandaree	ND	58757
Mr.	Scott	Eagle	Representative	Shell Creek Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Mervin	Packineau	Representative	Parshall/Lucky Mound Segment	Three Affiliated Tribes	PO Box 400	Parshall	ND	58770
Mr.	Frank	Whitecalf	Representative	White Shield Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Barry	Benson	Representative	Twin Buttes Segment	Three Affiliated Tribes	7087 9 E Ave NW	Halliday	ND	58636
Mr.	Fred	Poitra		Game and Fish Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Ms.	Annette	Youngbird		Natural Resources Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Roger	Hovda	Operations Manager		Reservation Telephone Cooperative	PO Box 68	Parshall	ND	58770-0068
Mr.	Tracy	Opp	Permit Agent-Contracts		Questar Exploration and Production Company	1050 17th Street, Suite500	Denver	CO	80265
Mr.	Reinhard	Hauck	Auditor		Dunn County	PO Box 105 205 Owens Street	Manning	ND	58642-0105
Mr.	Cliff	Ferebee	Chair	County Commission	Dunn County	8449 2nd Street Southwest	Halliday	ND	58636-0793

Appendix B

Agency Scoping Responses

Questar Exploration and Production Company
MHA#1-23-24H-149-91, MHA#2-23-24H-149-91, MHA#1-26-27H-149-91 and MHA#2-26-27H-149-91
Fort Berthold Reservation
List of Agency Scoping Responses

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

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

Tribal
Determination Letter to the THPO

United States Department of Agriculture

NRCS

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

January 11, 2010

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

RE: Development of two well pads and access roads in Dunn County on the Fort Berthold Reservation with two wells on each pad. The second well will be approximately spaced (approximately 42-feet apart). Dunn County, ND

Dear Mr. Reinisch:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated December 23, 2009, concerning the development of two well pads and access roads in Dunn County on the Fort Berthold Reservation with two wells on each pad. The second well will be approximately spaced (approximately 42-feet apart).

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

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 permanent structures where wetlands occur. If these guidelines are followed, the impacts to the wetland(s) will be considered minimal allowing USDA participants to continue to receive USDA benefits. Following are the requirements: 1) Disturbance to the wetland(s) must be temporary, 2) no drainage of the wetland(s) is allowed (temporary or permanent), 3) mechanized landscaping necessary for installation is kept to a minimum and preconstruction contours are maintained, 4) temporary side cast material must be placed in such a manner not to be dispersed in the wetland, and 5) all trenches must be backfilled to the original wetland bottom elevation.

Helping People Help the Land

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,

IRWIN RUSSELL
Acting State Conservationist

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

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

REPLY TO
ATTENTION OF

December 31, 2009

North Dakota Regulatory Office [NWO-2009-03170-BIS]

Kadrmas Lee & Jackson
Attn: Jerry D. Reinisch
PO Box 1157
Bismarck, North Dakota 59502-1157

Dear Mr. Reinisch:

This is in response to your solicitation letter on behalf of **Questar Exploration and Production Company (Questar)**, received on December 22, 2009 requesting Department of the Army (DA), United States Army Corps of Engineers (Corps) comments on four proposed oil and gas exploratory wells within the Fort Berthold Indian Reservation. The proposed four wells include; **MHA-1-23-24H-149-91 and MHA-2-23-24H-149-91 (surface location Section 22, Township 149 North, Range 91 West); and MHA-1-26-27H-149-91 and MHA-2-26-27-149-91 (surface location Section 26, Township 149 North, Range 91 West).** The proposed projects are located within 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 include the Missouri River (Lake Sakakawea and Lake Oahe), Yellowstone River, James River south of Jamestown, North Dakota, Bois de Sioux River, Red River of the North, and the Upper Des Lacs Lake. Section 404 of the Clean Water Act regulates the discharge of dredge or fill material (temporarily or permanently) in waters of the United States. Waters of the United States may include, but are not limited to, rivers, streams, ditches, coulees, lakes, ponds, and their adjacent wetlands. Fill material includes, but is not limited to, rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mines or other excavation activities and materials used to create any structure or infrastructure in waters of the United States.

For any proposed well where the well line and/or bottom hole is under or crosses under Lake Sakakawea, regardless of depth, we require that project proponent provide a DA permit application (ENG Form 4345) to the Corps. In addition, any upgrade and/or construction of access roads that require the placement of fill material in waters of the United States may require a preconstruction notification (PCN) to the Corps. Finally, utility lines that cross waters of the United States may likewise require a PCN to the Corps.

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.

Printed on Recycled Paper

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

Sincerely,

Daniel E. Cimarosti
Regulatory Program Manager
North Dakota

Enclosure
ENG Form 4345

Instructions for Preparing a
Department of the Army Permit Application

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DRAWINGS AND ILLUSTRATIONS

General Information.

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

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

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

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

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

PRIVACY ACT STATEMENT

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

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

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
NWO-2009-3170-BIS	BIS		

(ITEMS BELOW TO BE FILLED BY APPLICANT)

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

STATEMENT OF AUTHORIZATION

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

_____ _____
APPLICANT'S SIGNATURE DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)

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

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

17. DIRECTIONS TO THE SITE

ENG FORM 4345, SEPT 2009 EDITION OF OCT 2004 IS OBSOLETE Proponent: CECW-CR

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

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

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

20. Reason(s) for Discharge

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

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

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

Acres

Or

Liner Feet

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

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

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

Address –

City – State – Zip –

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

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

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

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

SIGNATURE OF APPLICANT DATE SIGNATURE OF AGENT DATE

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

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

ENG FORM 4345, SEPT 2009

Jerry Reinisch

From: Sorensen, Charles G NWO [Charles.G.Sorensen@usace.army.mil]
Sent: Friday, January 08, 2010 1:56 PM
To: jerryreinisch@kljeng.com
Subject: Comments on the MHA-1-23-24H-149-91 and MHA-1-26-27H-149-91 wells

Mr. Reinisch

At this time I would like to thank you for having the opportunity to comment on the subject well locations. As the well locations are not on COE lands but are in close proximity to COE managed lands, and knowing that any spills of chemicals etc have the ability to migrate towards Lake Sumer. To help elevate the problems pertaining to these well locations the COE respectfully would ask that Questa and KLJ consider the following conditions

Due to the close proximity of the well location to lands managed by the U.S. Army Corps of Engineers (USACE) and the potential of possible contamination of the Little Missouri River and Lake Sakakawea due to the loss of drilling mud's and or fluids it is USACE recommendation that a Closed Loop mud and drilling fluid system be used vs. the standard pit containment methods for drilling fluids.

That a catch trench be established on the that side of the pad closest to the COE boundary for the purpose of catching, holding, and preventing any run off from the pad and associated facilities from entering tributaries to Little Missouri River and Lake Sakakawea. All fluids that accumulate in said trench should be pumped out of the trench and disposed of properly.

If living quarters will be onsite it is requested that all sewage collection systems are to be of a closed system ensuring that there are no open or exposed tanks, catch basins, etc.

That all additional fill material come from a private source that has been certified as being free of all noxious weeds; so as to prevent the spreading of said weeds on to COE lands.

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

Thank you

Charles Sorensen
Natural Resource Specialist
U.S. Army Corps of Engineers
Riverdale, North Dakota Office
(701) 654 7411 ext 232

1

United States Department of the Interior

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

TAKE PRIDE IN AMERICA

RECEIVED
DEC 29 2009

DK-5000
ENV-6.00

DEC 28 2009

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

Subject: Solicitation for Environmental Assessment for Drilling and Completion of Up to Four Proposed Oil and Gas Exploratory Wells on the Fort Berthold Reservation in Dunn County, North Dakota

Dear Mr. Reinisch:

This letter is written to inform you that the letters sent on December 21 was received and the information and map have been reviewed by Bureau of Reclamation staff.

Oil well sites located in Dunn County could potentially affect Reclamation facilities in the form of the rural water pipelines of the Fort Berthold Rural Water System.

The proposed oil well sites MHA 1-23-24H-149-91and MHA-2-23-24H-149-91 co-located in section 22, T149N, R91W and MHA 1-26-27H-149-91and MHA-2-26-27H-149-91 co-located in section 26, T149N, R91W are not in the vicinity of any existing or proposed rural water pipelines and should not affect any Reclamation facilities.

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. Marvin Danks, Fort Berthold Rural Water Director, Three Affiliated Tribes, 308 4 Bears Complex, New Town, North Dakota 58763.

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

Sincerely,

Ronald D. Melhouse

Ronald D. Melhouse
Environmental Specialist

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. Marvin Danks
Fort Berthold Rural Water Director
Three Affiliated Tribes
308 4 Bears Complex
New Town, ND 58763

United States Department of the Interior

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

JAN 14 2010

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

RECEIVED
JAN 15 2010

Re: Four exploratory oil and gas wells on the Fort Berthold Reservation

Dear Mr. Reinisch:

This is in response to your December 21, 2009, letter regarding four proposed exploratory oil and gas wells at two pad locations on the Fort Berthold Reservation. Questar Exploration and Production Company has proposed four exploratory oil and gas wells on the Fort Berthold Reservation, Dunn County, North Dakota.

Specific locations are:

MHA-1-23-24H-149-91 and MHA-2-23-24H-149-91 on the surface location: T. 149. N., R. 91 W., Section 22
MHA-1-26-27H-149-91 and MHA-2-26-27-149-91 on the surface location T. 149 N., R. 91 W., Section 26

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).

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

Threatened and Endangered Species

A list of federally endangered and threatened species that may be present within the proposed project's area of influence is enclosed. This list fulfills requirements of the Service under Section 7 of the ESA. This list remains valid for 90 days. The BIA or designated non-Federal agent should make a determination of the proposed projects' effects on listed species, including whether there is anticipated destruction or adverse modification of designated critical habitat. This determination may be included in the EA. It should state whether or not the BIA plans to incorporate the Service's recommendations to avoid and minimize any adverse effects. If the BIA does not plan to take the recommended measures, the document should explain why not.

There is designated critical habitat for the piping plover in Dunn County. We recommend that a buffer of at least one-half mile be maintained from piping plover critical habitat. Critical habitat can be viewed on the Service website (http://www.fws.gov/northdakotafieldoffice/endspecies/species/piping_plover.htm). GIS layers of critical habitat can be obtained by contacting our office at the letterhead address.

The Aransas Wood Buffalo Population (AWBP) of endangered whooping cranes is the only self-sustaining migratory population of whooping cranes remaining in the wild. These birds breed in the wetlands of Wood Buffalo National Park in Alberta and the Northwest Territories of northern Canada, and overwinter on the Texas coast. Whooping cranes in the AWBP annually migrate through North Dakota during their spring and fall migrations. They make numerous stops along their migration route to feed and roost before moving on.

Whooping cranes in the AWBP annually migrate through North Dakota during their spring and fall migrations. The proposed project lies within a 90 mile corridor that includes approximately 75 percent of all reported whooping crane sightings in the State (enclosure).

Whooping cranes are unlikely to spend more than a few days in any one spot during migration. The Service suggests that the Environmental Assessment (EA) include a requirement that if a whooping crane is sighted within one mile of a well site or associated facilities while it is under construction, that all work cease within one mile of that part of the project and the Service be contacted immediately. In coordination with the Service, work may resume after the bird(s) leave the area.

Potential habitat for the Dakota skipper exists on the Fort Berthold. In 1995, the Dakota skipper was determined to be a candidate species under the ESA. No legal requirement exists to protect candidate species; however, it is within the spirit of the ESA to consider these species as having significant value and worth protecting.

The Dakota skipper is a small to medium-sized hesperiine butterfly associated with high quality prairie ranging from wet-mesic tallgrass prairie to dry-mesic mixed grass prairie. The first type of habitat is relatively flat and moist native bluestem prairie. Three species

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

Migratory Birds

The MBTA has no provisions for incidental take. Regardless, it is understood that some birds may be killed even if all reasonable conservation measures are implemented. The Service's Office of Law Enforcement carries out its mission to protect migratory birds through investigations and enforcement, and through fostering relationships with individuals and industries seeking to eliminate their impacts to migratory birds. While it is not possible under the MBTA and BGEPA to absolve individuals or companies from liability by following these guidelines, enforcement will be focused on those individuals or companies that take migratory birds with disregard for the law, and where no legitimate conservation measures have been applied. Please inform us as to whether you intend to follow the following recommendations to minimize impacts to migratory birds, including bald and golden eagles.

Schedule construction for late summer or fall/early winter so as not to disrupt migratory birds or other wildlife during the breeding season (February 1 to July 15). If work is proposed to take place during the breeding season or at any other time which may result in the take of migratory birds, their eggs, or active nests, the Service recommends that the project proponent arrange to have a qualified biologist conduct a field survey of the affected habitats to determine the presence of nesting migratory birds. If nesting migratory birds, their eggs, or active nests are found, we request you contact this office, suspend construction, or take other measures, such as maintaining adequate buffers, to protect the birds until the young have fledged. The Service further recommends that field surveys for nesting birds, along with information regarding the qualifications of the biologist(s) performing the surveys, and any avoidance measures implemented at the project site be thoroughly documented and that such documentation be shared with the Service and maintained on file by the project proponent.

The Service estimates that 500,000 to 1 million birds are killed nationwide every year from exposed oil at oil drilling and/or production sites. The unauthorized take of migratory birds at oil production facilities can be prevented with a minimum of expense and effort. Wildlife mortalities in North Dakota are most often observed in association with drilling reserve pits, flare pits, and/or drip buckets and barrels. The Service strongly recommends that the pads be constructed as closed-loop systems, without a reserve pit.

Regardless of whether the pads are built with reserve pits, we recommend that the BIA include the following measures in the EA so as to ensure compliance with the MBTA.

- **Keep Oil Off Open Pits or Ponds.** Immediate clean up of oil in open pits is critical to prevent wildlife mortalities.

- **Place Covers on Drip Buckets/Barrels Located Under Valves and Spigots.** Bird entrapments are common within the small (55 gallon or less) barrels placed under valves and spigots to collect dripped oil. Placing a wire mesh or grate over the top of these barrels is a very practical way of preventing access for wildlife.

- **Use Effective and Proven Exclusionary Devices.** Netting is the most effective method of keeping birds from entering open pits (reserve and flare pits). Flagging, reflectors, and strobe lights are not effective. Published scientific studies as well as field inspections by Service personnel have documented bird mortalities at oil pits with flagging, reflectors, and strobe lights (e.g. Esmoil 1995). The effectiveness of netting pits to exclude birds and other wildlife depends on its installation. Effective installation requires a design allowing for snow-loading and one that also prevents ground entry by small mammals and birds. A maximum mesh size of 1.5 inches will allow for snow-loading and will exclude most birds. Nets or wire mesh over flare pits can be implemented if the flare tube is high enough to keep flame away from the net. Some examples of both effective and ineffective netting techniques can be found on the Service's website at http://www.fws.gov/mountain%2Dprairie/contaminants/contaminants1c.html.

Bald and/or golden eagles may use the project area where the proposed wells will be located. Golden eagles inhabit a wide variety of habitat types, including open grassland areas. They are known to nest on cliffs, in trees, manmade structures, and on the ground (Kochert et al. 2002). There are numerous records of golden eagle nests on the Fort Berthold reservation (Pers. Comm. Anne Marguerite Coyle, Dickinson State University). While the bald eagle tends to be more closely associated with forested areas near water (Buehler 2000), they have been found nesting in single trees several miles from the nearest water body. Therefore, there may also be potential habitat for the bald eagle at the proposed project sites. Especially early in the nesting season, eagles can be very sensitive to disturbance near the nest site and may abandon their nest as a result of low disturbance levels, even from foot traffic. A buffer of at least 1/2 mile should be maintained for golden and bald eagle nests. A permit is required for any take of bald or golden eagles or their nests. Permits to take golden eagles or their nests are available only for legitimate emergencies and as part of a program to protect golden eagles.

The Service recommends that aerial raptor surveys be conducted prior to any on-the-ground activities. The Service recommends that an aerial nest survey (preferably by helicopter) be conducted within 1.0 mile of any proposed ground disturbances to identify active and inactive nest sites near the proposed well pad and associated facilities,

including proposed new roads. Aerial surveys should be conducted between March 1 and May 15, before leaf-out so that nests are visible.

Aerial surveys should include the following:

1. Due to the ability to hover and facilitate observations of the ground, helicopters are preferred over fixed wing aircraft, although small aircraft may also be used for the raptor surveys. Whenever possible, two observers should be used to conduct the surveys. Even experienced observers only find approximately 50 percent of nests on a flight (Pers. Comm. Anne Marguerite Coyle, Dickinson State University), so we recommend that two flights be performed prior to any on-the-ground work, including other biological surveys or other work.

2. Observations of raptors and nest sites should be recorded using GPS. The date, location, nest condition, activity status, raptor species, and habitat should be recorded for each sighting.

3. We request that you share the qualifications of the biologist(s) conducting the survey, method of survey, and results of the survey with the Service.

High Value Habitat Avoidance

To minimize disturbance to fish and wildlife habitat in the project area, the Service provides the following recommendations:

- Make no stream channel alterations or changes in drainage patterns.

- Install and maintain appropriate erosion control measures to reduce sediment transport to adjacent wetlands and stream channels.

- Reseed disturbed areas with a mixture of native grass and forb species immediately after construction to reduce erosion.

Cumulative Effects Analysis

A large number of wells and appurtenant facilities are being constructed in the western portion of North Dakota. The Service is concerned that the wells, and especially the associated roads, are being put in piecemeal without an overarching plan to ensure that the facilities are being constructed to access all new pads most efficiently, while disturbing the least amount of habitat. While we understand that there is still some level of uncertainty regarding the extent of the oil formations, there has been enough drilling in this area that the Service believes that the uncertainty is relatively small and decreasing. It would be appropriate for the EA to include some cumulative effects analysis of the existing and proposed pads, roads, electrical transmission lines, and preferably pipelines to transport the products.

Habitat Fragmentation

Prairie habitat is increasingly being lost or fragmented because of the large number of wells and associated roads that are being constructed in areas of the State that were formerly relatively undeveloped. Only about 30% of native prairie in North Dakota remains from pre-settlement times (Strong et al. 2005), with nearly all native tallgrass prairie converted nationwide (Ricketts et al. 1999). Oil pads, associated roadways, and vehicle traffic can cause fragmentation of the landscape, disrupting wildlife patterns and making it more likely that non-native plant species may invade an area. The Service recommends placing as few well pads as possible on the landscape and locating pads so as to avoid or minimize the construction of new roads. Many prairie species require large, contiguous blocks of grasslands for their biological needs and may either avoid patchy habitat or experience reduced reproductive success.

- The Service recommends that impacts to native prairie be avoided or minimized. If native prairie cannot be avoided, the Service recommends outlining stringent reclamation requirements, including a bond sufficient to cover the cost of reclamation, as described in the "Post-production Phase – Reclamation" section below.

- The Service recommends that oil wells use existing roads and trails to the greatest extent possible, minimizing all new road construction.

- If a new road is necessary, the Service recommends avoiding native prairie to the greatest extent possible.

- If new roads are constructed, the Service recommends that the disturbed areas along the road be reseeded immediately with a native prairie mix to reduce erosion and prevent invasion by non-native species. Disturbed areas should be monitored regularly throughout the life of the project, and treated with herbicide as necessary to ensure that exotic species are not infesting disturbed areas.

- If multiple companies are developing well pads in the same general area, roads should be shared to the greatest extent possible to minimize disturbance.

- Install and maintain appropriate erosion control measures to reduce sedimentation and water quality degradation of wetlands and streams near the project area.

The Service recommends that the BIA incorporate the relevant requirements described in the Dakota Prairie Grasslands Land and Resource Management Plan (USDA 2001). This document includes a number of requirements to avoid sensitive resources. In particular, the Service suggests that the BIA incorporate the relevant portions of Appendix D, Oil and Gas Stipulations.

Post-production Phase – Reclamation

Each project should include a plan to restore the landscape following project completion, including a bond sufficient to reclaim the area in full. Within one year of a well's closure, the well pads, roads, and associated facilities should be completely removed from the landscape, the land recontoured back to its original profile, and the area reseeded with a native prairie mix. Since native prairie species take some time to establish, and intensive management may be required for several years to ensure that weeds do not infest the area, the Service recommends that the BIA follow the timeline requirements set out in the 2003 *North Dakota Public Service Commission, Standards for evaluation of revegetation success and recommended procedures for pre-and postmining vegetation assessments* (available on-line at http://www.psc.state.nd.us/jurisdiction/reclamation/files/revegdocjuly2003final.pdf). This document requires that reclaimed areas be managed for a minimum of ten years, starting in the year when first seeded. Starting in the sixth year, for at least two consecutive years, or three out of the last five, including the last year, the reclaimed area must meet the approved standard as described in the document.

For prairie areas, the Service recommends planting a diverse mixture of native cool and warm season grasses and forbs. While the North Dakota Public Service Commission document requires only five native grass species, recent research has suggested that a more diverse mix, including numerous forb species, is not only ecologically beneficial, but is also more weed resistant, allowing for less intensive management and chemical use. In essence, the more species included in a mixture, the higher the probability of providing competition to resist invasion by non-native plants. The seed source should be as local as possible, preferably collected from the nearby native prairie.

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

Sincerely,

Jeffrey K. Towner

Jeffrey K. Towner
Field Supervisor
North Dakota Field Office

Enclosures

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

Literature Cited

Buehler, David A. 2000. Bald Eagle (*Haliaeetus leucocephalus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/506.

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Strong, L. L, T. H. Sklebar, and K. E. Kermes. 2005. The North Dakota Gap Analysis Project -- Final Report. U.S. Geological Survey. 451 pages. Available online at http://www.npwrc.usgs.gov/projects/ndgap/NDGAP_FinalReport_complete.pdf.

USDA. 2001. Land and resource management plan for the Dakota Prairie Grasslands Northern Region. Accessed October 13, 2009. Available at http://www.fs.fed.us/ngp/plan/feis_plan_dakota_prairie.htm.

FEDERAL THREATENED, ENDANGERED, AND CANDIDATE SPECIES
AND DESIGNATED CRITICAL HABITAT FOUND IN
DUNN COUNTY, NORTH DAKOTA
January 2010

ENDANGERED SPECIES

Birds

Interior least tern (Sterna antillarum): Nests along midstream sandbars of the Missouri and Yellowstone Rivers.

Whooping crane (Grus Americana): Migrates through west and central counties during spring and fall. Prefers to roost on wetlands and stockdams with good visibility. Young adult summered in North Dakota in 1989, 1990, and 1993. Total population 140-150 birds.

Fish

Pallid sturgeon (Scaphirhynchus albus): Known only from the Missouri and Yellowstone Rivers. No reproduction has been documented in 15 years.

Mammals

Black-footed ferret (Mustela nigripes): Exclusively associated with prairie dog towns. No records of occurrence in recent years, although there is potential for reintroduction in the future.

Gray wolf (Canis lupus): Occasional visitor in North Dakota. Most frequently observed in the Turtle Mountains area.

THREATENED SPECIES

Birds

Piping plover (Charadrius melodus): Nests on midstream sandbars of the Missouri and Yellowstone Rivers and along shorelines of saline wetlands. More nest in North Dakota than any other state.

CANDIDATE SPECIES

Invertebrates

Dakota skipper (Hesperia dacotae): Found in native prairie containing a high diversity of wildflowers and grasses. Habitat includes two prairie types: 1) low (wet) prairie dominated by bluestem grasses, wood lily, harebell, and smooth camas; 2) upland (dry) prairie on ridges and hillsides dominated by bluestem grasses, needlegrass, pale purple and upright coneflowers and blanketflower.

DESIGNATED CRITICAL HABITAT

Birds

Piping Plover - Lake Sakakawea - Critical habitat includes sparsely vegetated shoreline beaches, peninsulas, islands composed of sand, gravel, or shale, and their interface with the water bodies.

Kadrmas Lee & Jackson
Engineers Surveyors Planners

December 21, 2009

Mr. Steve Obenauer, Manager
2301 University Drive, Bldg 23B
Bismarck, ND 58504

Dear Steve:

On behalf of Questar Exploration and Production Company, Kadrmas, Lee & Jackson, Inc. are preparing an EA (Environmental Assessment) under NEPA (the National Environmental Policy Act) for the BIA (Bureau of Indian Affairs) and BLM (Bureau of Land Management). The proposed action includes approval by the BIA and BLM of the development of two well pads and access roads in Dunn County on the Fort Berthold Reservation with two wells on each pad. The second well will be appropriately spaced (approximately 42-feet apart) on each of these well pads.

The proposed action would advance the exploration of oil from the Bakken Pool. ***Please refer to the enclosed project location map.*** The proposed four wells are: MHA-1-23-24H-149-91 and MHA-2-23-24H-149-91 (surface location: Sec. 22, T149N, R91W) and MHA-1-26-27H-149-91 and MHA-2-26-27-149-91(surface location: Sec. 26, T149N, R91W). Construction of the proposed well pads and access roads is proposed to begin as early as spring 2010.

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

Please provide your comments by **January 18, 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 proposed 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)

701 355 8400
128 Soo Line Drive
PO Box 1157
Bismarck, ND 58502-1157
Fax 701 355 8781
www.kljeng.com
Kadrmas, Lee & Jackson, Inc.
A KLJ Solutions Company

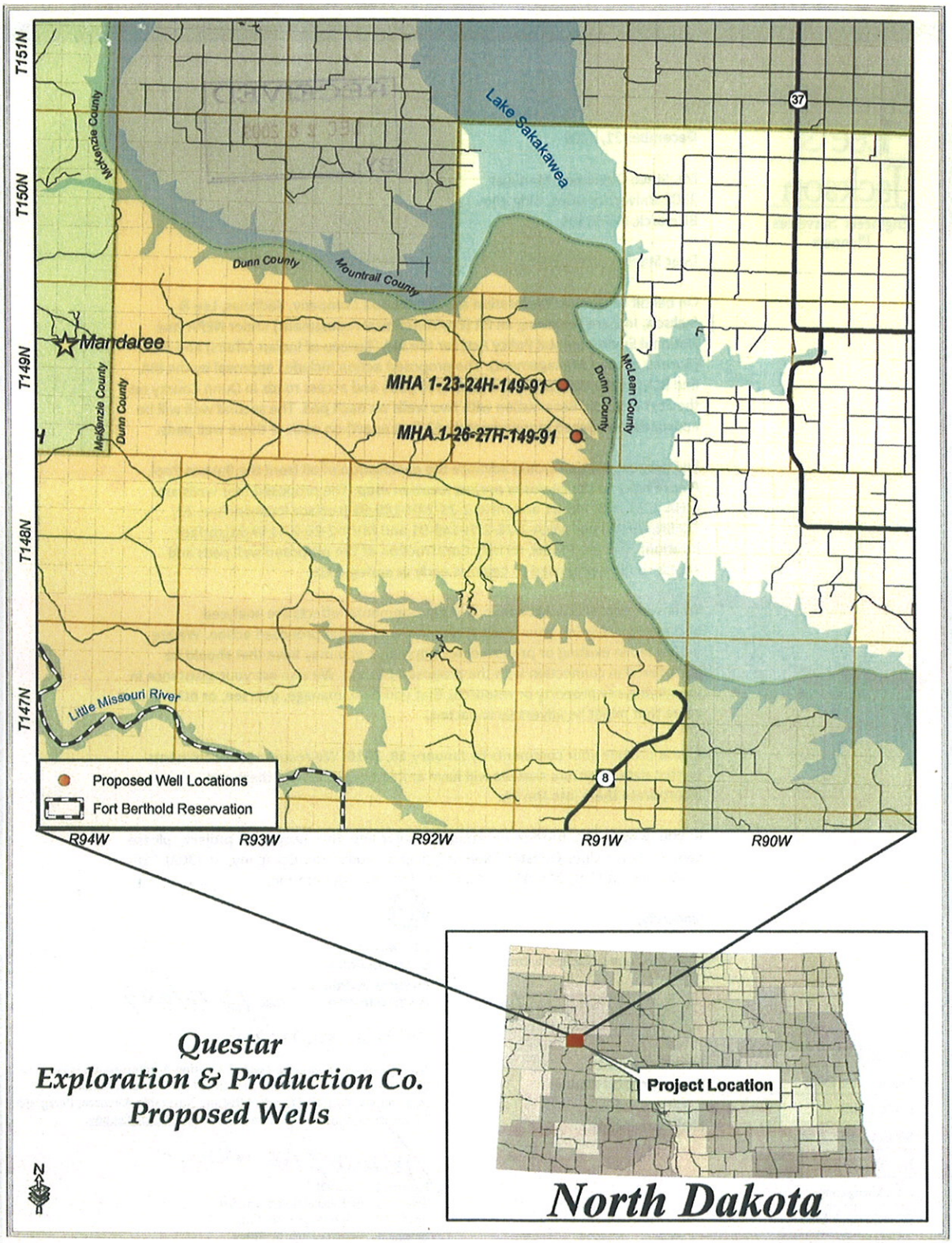
U.S. Department of Transportation
Federal Aviation Administration

Date 12/22/2009

Dear Mr. Reinisch:

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

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


T151N
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Lake Sakakawea
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McKenzie County
Dunn County
Mountrail County
McLean County
Mandaree
MHA 1-23-24H-149-91
MHA 1-26-27H-149-91
Little Missouri River
Proposed Well Locations
Fort Berthold Reservation
Questar
Exploration & Production Co.
Proposed Wells
Project Location
North Dakota
N

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

December 30, 2009

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

Re: Four Proposed Oil Wells by Questar Exploration and Production Company
MHA-1-23-24H-149-91, MHA-2-23-24H-149-91, MHA-1-26-27H-149-91,
and MHA-2-26-27-149-91On the Fort Berthold Reservation, Dunn County

Dear Mr. Reinisch:

This department has reviewed the information concerning the above-referenced project submitted under date of December 21, 2009, 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

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

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

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

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

Sincerely,

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

LDG:cc
Attach.

NORTH DAKOTA
DEPARTMENT of HEALTH

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

Construction and Environmental Disturbance Requirements

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

Soils

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

Surface Waters

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

Fill Material

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

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

"VARIETY IN HUNTING AND FISHING"

NORTH DAKOTA GAME AND FISH DEPARTMENT

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

January 14, 2010

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

Dear Mr. Reinisch:

RE: Exploratory Oil & Gas Wells
Fort Berthold Reservation

Questar Exploration and Production Company has proposed four oil and gas wells on the Fort Berthold Reservation in Sections 22 & 26, T149N, R91W of Dunn County, North Dakota.

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

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

Sincerely,

Steve Ryba

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

js

John Hoeven, Governor
Douglass A. Prchal, 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

RECEIVED
JAN 12 2010

January 11, 2010

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

Re: Questar Exploration and Production Company Development of an Access Road and Two Well Pads

Dear Mr. Reinisch:

The North Dakota Parks and Recreation Department (NDPRD) has reviewed the above referenced project proposal submitted by Questar Exploration and Production Company to develop an access road and two well pads located in Sections 22 and 26, T149N, R91W, 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 historic plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, we do have a record for the occurrence of *Charadrius melodus* (piping plover) in a section adjacent to the project area indicating that the habitat in the project area may be suited for this specie or other rare, threatened, sensitive or endangered species. Please see the attached spreadsheet and map for more information on this occurrence. We defer further comments regarding animal species to the North Dakota Game and Fish Department and the United States Fish and Wildlife Service.

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

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

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

Sincerely,

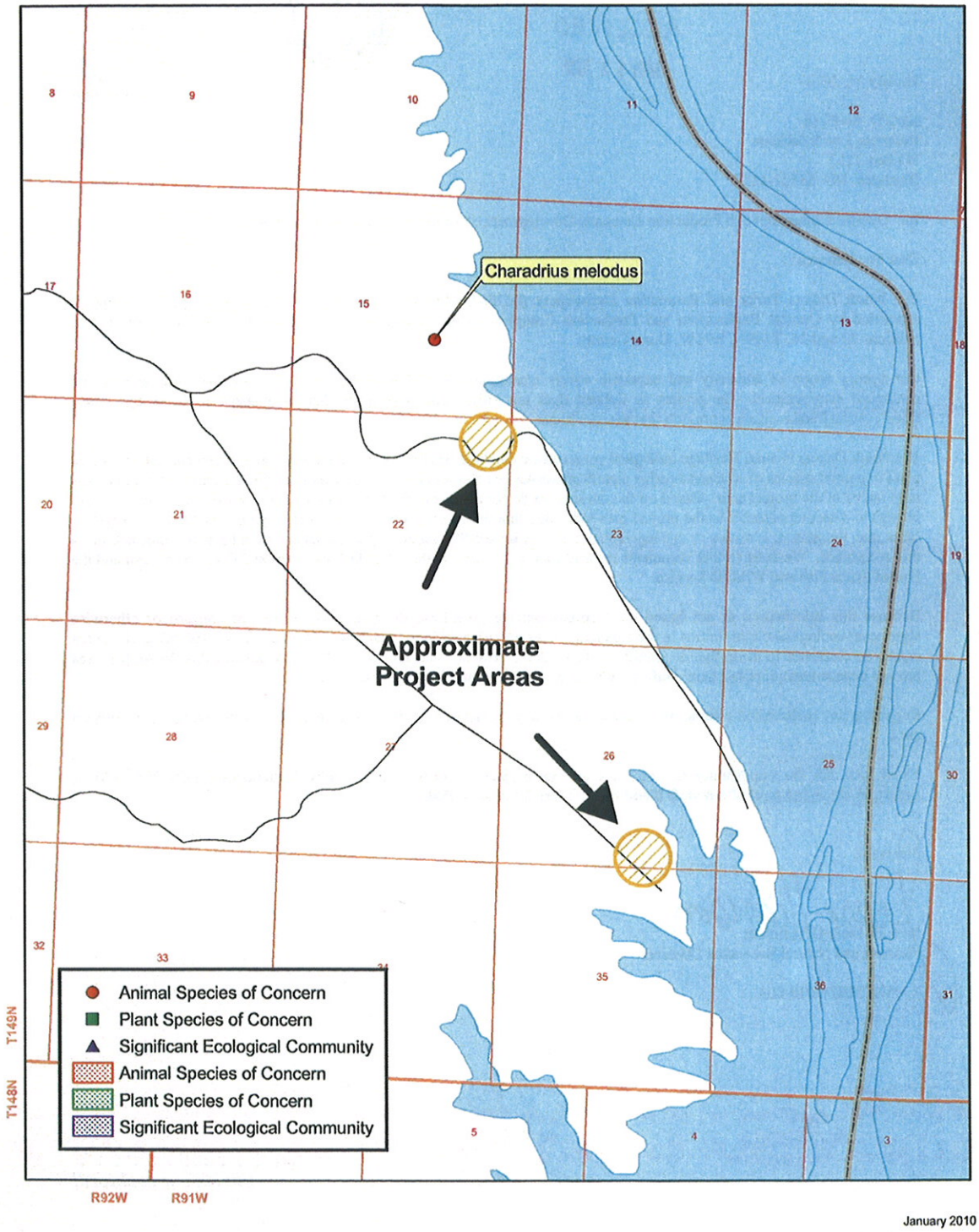
Jesse Hanson

Jesse Hanson, Coordinator
Planning and Natural Resources Division

R.USNDNHI*2010-003

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
Charadrius melodus	Piping Plover	S1S2	G3	LE, LT	149N091W - 15	Dunn	1996		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 mappalbe to map or place name precision only; 8 km from centerpoint
U - Unmappable

United States Department of the Interior

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

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
DESCRM
MC-208

FEB 0 1 2010

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

Dear Mr. Brady:

We have considered the potential effects on cultural resources of an oil well pad and access road in Dunn County, North Dakota. Approximately 95.4 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the areas depicted in the enclosed reports. No historic properties were located that appear to possess the quality of integrity and meet at least one of the criteria (36 CFR 60.4) for inclusion on the National Register of Historic Places. No properties were located that appear to qualify for protection under the American Indian Religious Freedom Act (42 USC 1996).

As the surface management agency, and as provided for in 36 CFR 800.5, we have therefore reached a determination of **no historic properties affected** for this undertaking. Catalogued as **BIA Case Number AAO-1710/FB/10,** the proposed undertaking, location, and project dimensions are described in the following report:

Ó Donnchadha, Brian
(2010) MHA 1-26-27H-149-91 Well Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for Questar Exploration and Production Company, Denver.

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

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

Sincerely,

ACTING Regional Director

Enclosure

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

United States Department of the Interior

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

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
DESCRM
MC-208

FEB 05 2010

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

Dear Mr. Brady:

We have considered the potential effects on cultural resources of six oil well pads and access roads in Dunn and McLean Counties, North Dakota. Approximately 121 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the areas depicted in the enclosed reports. One cemetery(?), 32ML1153, was located which may possess the quality of integrity and meet at least one of the criteria (36 CFR 60.4) for inclusion on the National Register of Historic Places. No properties were located that appear to qualify for protection under the American Indian Religious Freedom Act (42 USC 1996).

As the surface management agency, and as provided for in 36 CFR 800.5, we have therefore reached a determination of **no historic properties affected** for this undertaking, as site 32ML1153 is outside the project area and will be avoided. Catalogued as **BIA Case Number AAO-1710/FB/10,** the proposed undertakings, locations, and project dimensions are described in the following reports:

Leuchtmann, Amy

(2009) MHA 1-32-31H-150-90 Well Pad and Access Road: A Class III Cultural Resource Inventory, McLean County, North Dakota. KLJ Cultural Resources for Questar Exploration and Production Company, Denver.

(2009) MHA 1-30H-150-90 Well Pad and Access Road: A Class III Cultural Resource Inventory, McLean County, North Dakota. KLJ Cultural Resources for Questar Exploration and Production Company, Denver.

(2009) MHA 1-29-30H-150-90 Well Pad and Access Road: A Class III Cultural Resource Inventory, McLean County, North Dakota. KLJ Cultural Resources for Questar Exploration and Production Company, Denver.

(2010) MHA 2-06-31H-150-91 Well Pad Expansion: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for Questar Exploration and Production Company, Denver. Ms. on file (**AAO-1710/FB/10**)

Ó Donnchadha, Brian
(2009) MHA 1-23-24H-149-91Well Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for Questar Exploration and Production Company, Denver.

Ó Donnchadha, Brian, and Amy Leuchtmann
(2010) MHA 1-19H-150-90 Well Pad Expansion: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for Questar Exploration and Production Company, Denver.

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

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

Sincerely,

ACTING Regional Director

Enclosures

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

- "Bald Eagle Fact Sheet: Natural History, Ecology, and History of Recovery." U.S. Fish & Wildlife Service. 9 December 2008. U.S. Department of Interior, U.S. Fish & Wildlife Service, Midwest Region. 3 April 2009. http://www.fws.gov/midwest/eagle/recovery/biologue.html.
- "Bald Eagle Population Size." U.S. Fish & Wildlife Service. 12 November 2008. U.S. Department of Interior, U.S. Fish & Wildlife Service, Midwest Region. 3 April 2009. http://www.fws.gov/midwest/eagle/population/index.html.
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ACRONYMS

APD	Application for Permit to Drill
APE	Area of Potential Effect
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
CO	Carbon Monoxide
EA	Environmental Assessment
FBRW	Fort Berthold Rural Water
FPPA	Farmland Protection Policy Act
FONSI	Finding of No Significant Impact
MAOP	Maximum Allowable Working Pressure
NAAQS	National Ambient Air Quality Standards
NDDH	North Dakota Department of Health
NEPA	National Environmental Policy Act
NGL	Natural Gas Liquid
NO_2	Nitrogen Dioxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O_3	Ozone
Pb	Lead
PM_{10}	Particulate Matter
ROW	Right-of-way
SO_2	Sulfur Dioxide
SWPPP	Stormwater Pollution Prevention Plan
THPO	Tribal Historic Preservation Officer
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
WHP	Wellhead Processing Unit

Notice of Availability and Appeal Rights

Questar: MHA-1-23-24H-149-91, MHA-2-23-24H-149-91, MHA-1-26-27H-149-91 and MHA-2-26-27H-149-91

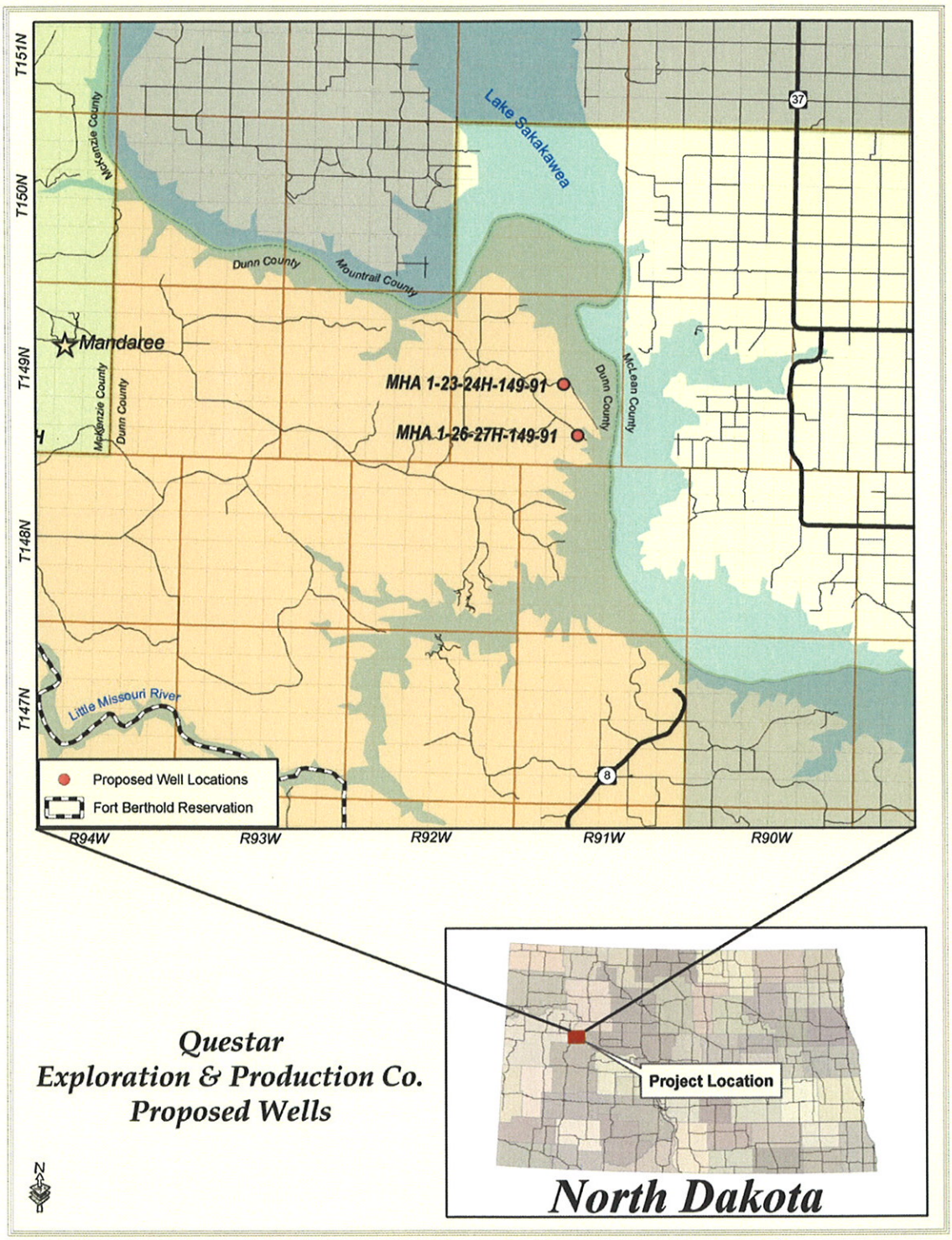
The Bureau of Indian Affairs (BIA) is planning to issue administrative approvals for the drilling of four wells and related infrastructure on MHA-1-23-24H-149-91, MHA-2-23-24H-149-91, MHA-1-26-27H-149-91 and MHA-2-26-27H-149-91 as shown on the attached map. Construction by Questar is expected to begin in the Spring of 2010.

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

The FONSI is only a finding on environmental impacts – it is not a decision to proceed with an action and *cannot* be appealed. BIA's decision to proceed with administrative actions *can* be appealed until April 15, 2010, by contacting:

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

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



Project locations.