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

JUN 2 4 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 two proposed exploratory drilling wells by Spotted Hawk Development, on Golden 22-31H and Maya 24-31H 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, Tribal Historic Preservation Officer (with attachment)
Roy Swalling, Bureau of Land Management (with attachment)
Jonathon Shelman, Corps of Engineers (with attachment)

Finding of No Significant Impact

Spotted Hawk Development (Spotted Hawk)

Environmental Assessment for
Drilling of Golden 22-31H & Maya 24-31H Exploratory Oil & Gas Wells

Fort Berthold Indian Reservation
McLean County, North Dakota

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

- Golden 22-31H located in T150N, R90W, 5th P.M., Section 31
- Maya 24-31H located in T150N, R90W, 5th P.M., Section 31

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

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

This determination is based on the following factors:

1. Agency and public involvement solicited for the preceding NEPA document was sufficient to ascertain potential environmental concerns associated with the currently proposed project.

2. Protective and prudent measures were designed to minimize impacts to air, water, soil, vegetation, wetlands, wildlife, public safety, water resources, and cultural resources. The remaining potential for impacts was disclosed for both the proposed action and the No Action alternatives.

3. Guidance from the U.S. Fish and Wildlife Service has been fully considered regarding wildlife impacts, particularly in regard to threatened or endangered species.

4. The proposed action is designed to avoid adverse effects to historic, archaeological, cultural and traditional properties, sites and practices. Compliance with the procedures of the National Historic Preservation Act is complete.

5. Environmental justice was fully considered.

6. Cumulative effects to the environment are either mitigated or minimal.

7. No regulatory requirements have been waived or require compensatory mitigation measures.

8. The proposed project will improve the socio-economic condition of the affected Indian community.

Acting Regional Director

6/24/10
Date

ENVIRONMENTAL ASSESSMENT

United States Bureau of Indian Affairs

Great Plains Regional Office
Aberdeen, South Dakota

Spotted Hawk Development

Drilling of Golden 22-31H & Maya 24-31H Exploratory Oil & Gas Wells

Fort Berthold Indian Reservation

June 2010

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

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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 Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM) for Spotted Hawk Development (Spotted Hawk) to drill and complete two exploratory oil and gas wells located on the Fort Berthold Reservation. These well sites are proposed to be positioned in the following locations:

- Golden 22-31H located in the SE ¼ of the NW ¼ of Section 31, T150N, R90W
- Maya 24-31H located in the SE ¼ of the SW ¼ of Section 31, T150N, R90W

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 two 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.

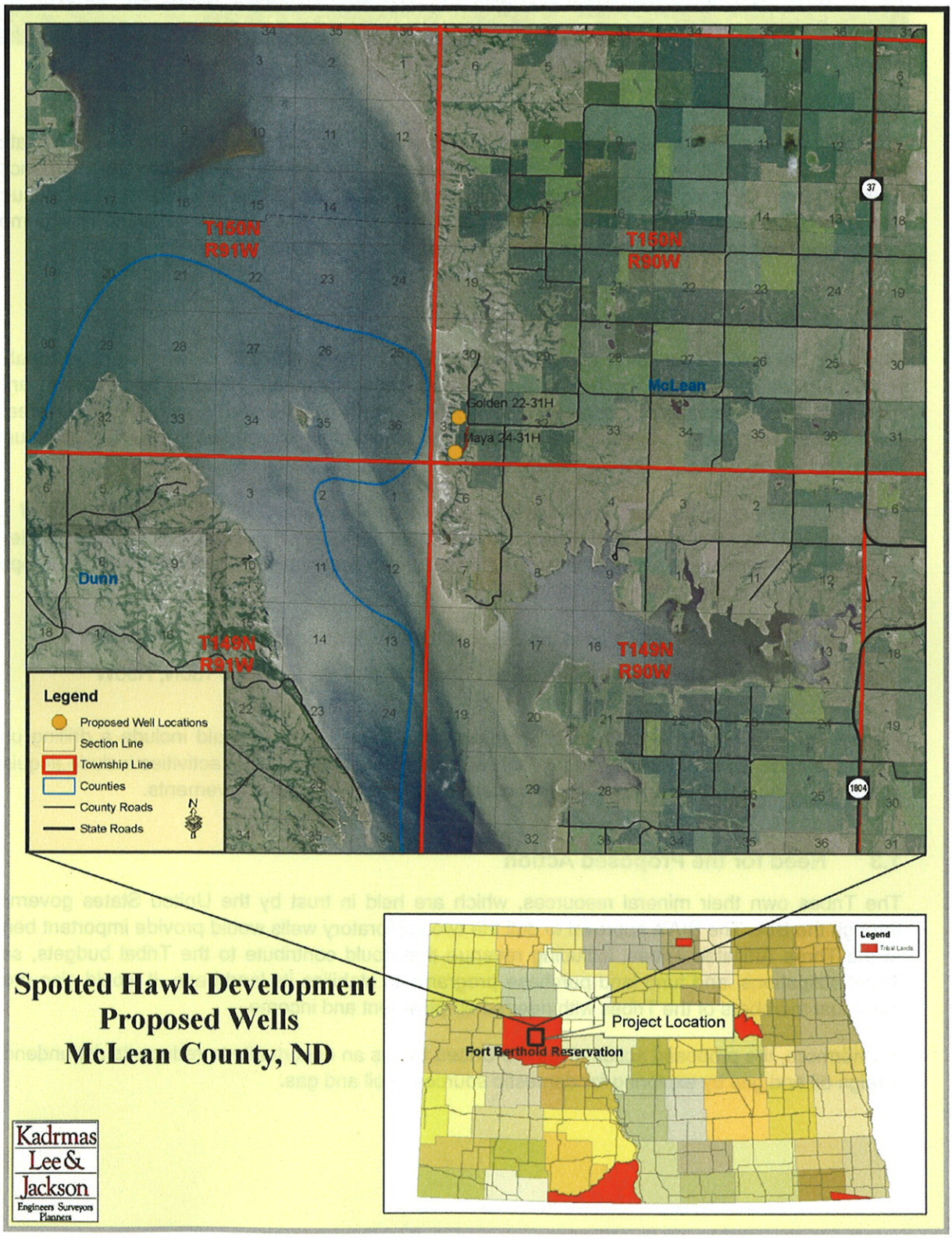

Figure 1.1 Project Location Map

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 Spotted Hawk's oil and gas lease areas by drilling two 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.

Chapter 2. Alternatives

2.1 Introduction

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

2.2 Alternative A: No Action

Under the no action alternative (Alternative A), the BIA and BLM would not authorize the development of the two 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 two exploratory wells and complete the associated right-of-way acquisitions, roadway improvements, and infrastructure for the wells.

Each exploratory well would consist of an individual pad, access road, associated infrastructure, and a spacing unit. The well pad is where the actual surface disturbance caused by drilling activities would occur. The spacing unit is the location of the minerals that are to be developed. The location of the proposed well sites, access roads, and proposed horizontal drilling techniques were chosen to minimize surface disturbance.

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

An on-site assessment and survey of the well pads and access roads were conducted on April 2, 2010. Representatives from Kadrmas, Lee & Jackson, Spotted Hawk, BIA Environmental Protection Office, and Three Affiliated Tribes Tribal Historic Preservation Office were present during this visit. Information was gathered pertaining to construction suitability with respect to topography, stockpiling, drainage, erosion control, and other surface issues. Well pad locations were adjusted, as appropriate; to avoid conflicts with identified environmental areas of concern. Those present at the on-site assessment agreed the chosen locations, along with the minimization measures Spotted Hawk plans to implement are positioned in areas which would minimize impacts to sensitive wildlife and botany resources. In addition to the onsite assessment, intensive cultural resources and biological surveys were conducted for each well pad and access road by KL&J staff. Site-specific data and photos with regards to biological, botanical, soil, and water resources were collected. A study area of 10 acres centered on the well pad center point and a 200-foot wide access road along wooded draws within ¼ mile of the study area was evaluated during these visits.

2.3.1 Golden 22-31H

The Golden well pad would be located in the SE¼ of the NW¼ of Section 31, Township 150 North, Range 90 West to access potential oil and gas resources within the spacing units consisting of Sections 35 and 36, Township 150 North, Range 91 West and Section 31, Township 150 North, Range 90 West. ***Please refer to Figure 2-1, Golden and Maya Spacing Unit Overview and Figure 2-2, Golden and Maya Well Pad Overview.***

The Golden well pad would be accessed from the east. A new access road approximately 397 feet long would be constructed to connect the Golden well pad to an existing gravel road that connects to State Highway 37. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignment. Culverts and cattle guards would be installed as needed along this new access road.

2.3.2 Maya 24-31H

The Maya well pad would be located in the SE¼ of the SW¼ of Section 31, Township 150 North, Range 90 West to access potential oil and gas resources within the spacing unit consisting of Sections 35 and 36, Township 150 North, Range 91 West and Section 31, Township 150 North, Range 90 West. ***Please refer to Figure 2-1, Golden and Maya Spacing Unit Overview and Figure 2-2, Golden and Maya Well Pad Overview.***

The Maya well pad would be accessed from the northeast on the same access roads as the Golden well pad. A new access road approximately 2,299 feet long would be constructed to connect the Maya well pad to an existing gravel road that later connects to State Highway 37. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignment. Culverts and cattle guards would be installed as needed along this new access road.

Figure 2.1 Golden and Maya Spacing Unit Overview

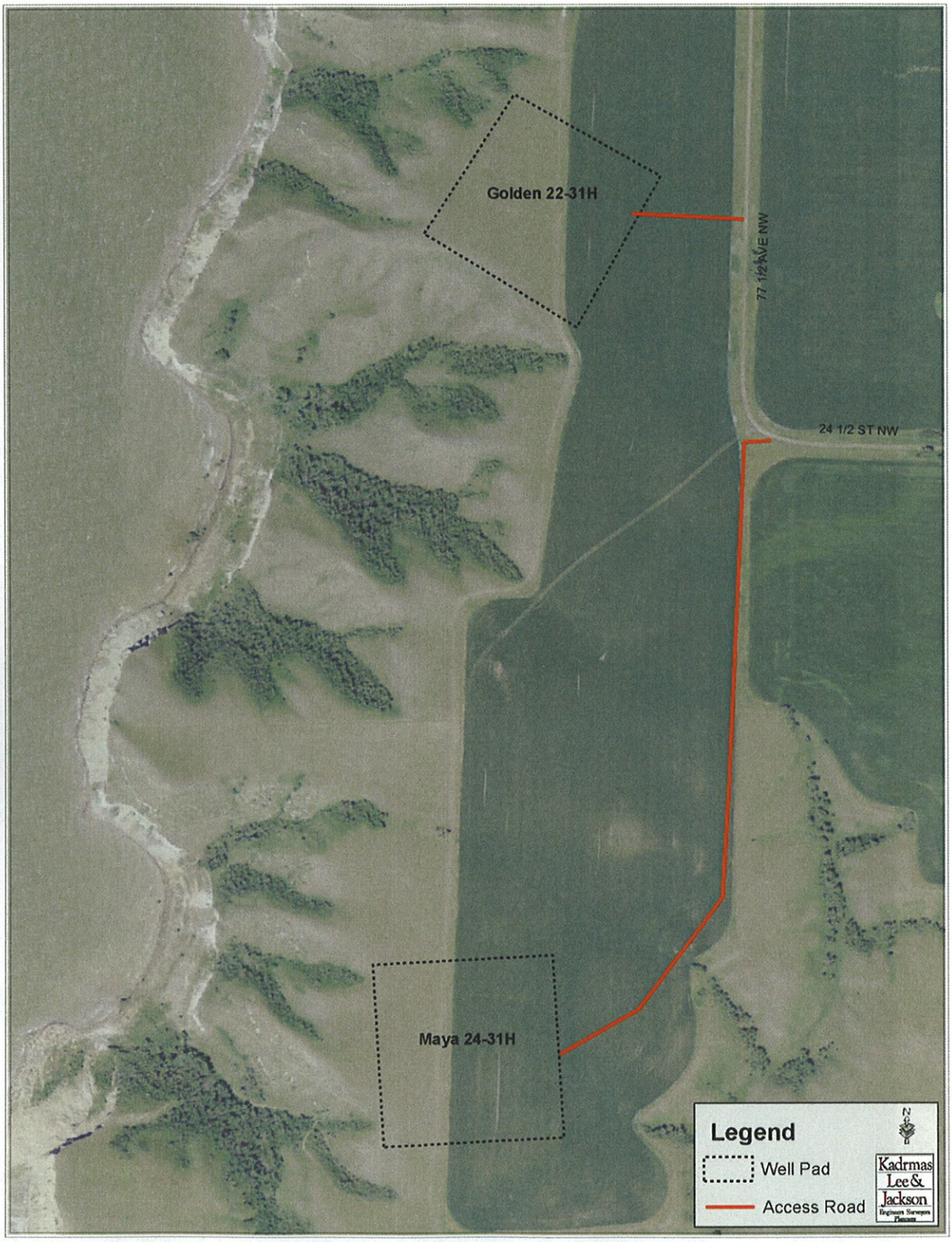

Figure 2.2 Golden and Maya Well Pad Overview

2.3.3 Activities that Apply to Development of All Wells

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

2.3.3.1 Field Camps

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

2.3.3.2 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 50 feet would be disturbed, consisting of a 16-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.

2.3.3.3 Well Pads

The proposed well pads would consist of a leveled area surfaced with approximately six inches of gravel or crushed scoria. A two-foot high berm would be constructed around the pad exterior for use as a containment measure to ensure materials are not leaked off the pad site. A four-foot high berm would be constructed around the tank battery to contain potential spills. The pads would be used for the drilling rig and related equipment, as well as an excavated, triple lined pit to store drilling fluids, drilled cuttings, and fluids processed during drilling. A semi closed loop system wil be used during drilling. All liquids from drilling will be transported off site. The level well pad areas required for drilling and completing operations (including reserve pits for dried cuttings) would each be approximately 400x400 feet (approximately Golden 3.82 acres Maya 3.97 acres). Pad corners will be rounded to minimize the disturbance area. Cut and fill slopes on the edge of the well pad would be determined on a well-by-well basis.

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

High definition security cameras will be placed on the location to monitor trucks and other activities. The presence of these cameras will encourage maintenance and production hauler personnel to abide by best management practices when working on site.

2.3.3.4 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 45 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 10,000 feet, at which it would angle to become horizontal at approximately 12,000 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 consisting of about 80% diesel fuel and 20% water would be used to drill the remainder of the hole.

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

2.3.3.5 Casing and Cementing

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

2.3.3.6 Completion and Evaluation

Once each well is drilled and cased, approximately 30 additional days would be required to complete and evaluate it. Completion and evaluation activities include cleaning out the well bore, pressure testing the casing, perforating and fracturing to stimulate the horizontal portion of the 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 gathering lines) would transport the product to market. There are current plans to install natural gas and oil gathering lines in the vicinity of these wells in late 2010.

2.3.3.7 Commercial Production

If commercially recoverable oil and gas resources are found at any of the proposed sites, the site(s) would become established as a production site(s). Each site would be reduced to less than two acres in size and refitted as an oil and gas production facility. Additional production equipment, including a well head pumping unit, vertical heater/treater, storage tanks (typically four to eight 400 barrel steel tanks), and a flare/production pit would be installed. The tanks are connected by a pipe and valve at the top of the each tank which will allow for overflow into the next tank. Typically, a two-foot berm is

placed around the tank battery to contain a spill from the largest tank plus one days production. Spotted Hawk would commit to placement of a 4-foot berm around the storage tanks and heater/treater which would provide an additional 20-30% of containment in case of a spill. All permanent above ground production facilities would be painted to blend into the surrounding landscape, as determined by the BIA, based on standard colors recommended by the BLM.

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. Oil and gas gathering lines are currently planned for construction in the general area of the proposed wells in late 2010. There is a potential that these wells could be connected to gathering lines by the end of 2010.

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.

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

2.3.3.8 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 200x300 feet (1.4 acres), with the remainder of the original well pad reclaimed. Reclamation activities would include leveling, re-contouring, treating, backfill, and re-seeding. 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 both of the proposed wells, or upon final abandonment of commercial operations, all disturbed areas would be promptly reclaimed. As part of the final reclamation process, all well facilities would be removed, well bores would be plugged with cement, and dry hole markers would be set in accordance with NDIC and BLM requirements. Both access roads and well pad areas would be re-contoured to match topography of the original landscape, and reseeded with a native grass seed mixture consistent with surrounding native species to ensure a healthy and diverse mix that is free of noxious weeds. Erosion control measures would be installed as appropriate. Maintenance and successful reclamation of the site would be consistent with the BLM Gold Book standards for well site reclamation. An exception to these reclamation measures may occur if the BIA approves assignment of an access road either to the BIA roads inventory or to concurring surface allottees.

2.3.4 Potential for Future Development

Development beyond the two 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 Climate, 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 to 2 million years ago), including the Sentinel Butte and Golden Valley Formations. The underlying Bakken Formation is a well-known source of hydrocarbons; its middle member is targeted by the proposed projects. Although earlier oil/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 Formation feasible.

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

The topography within the project areas is primarily identified as part of the River Breaks ecoregion, which is semiarid rolling plain of shale, siltstone, and sandstone punctuated by occasional buttes and badlands. 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 use consists primarily of grassland (51%) and cultivated cropland (48%). ***Please refer to Figure 3.1, Land Use.*** Land uses around the sites include deciduous hardwood draws.

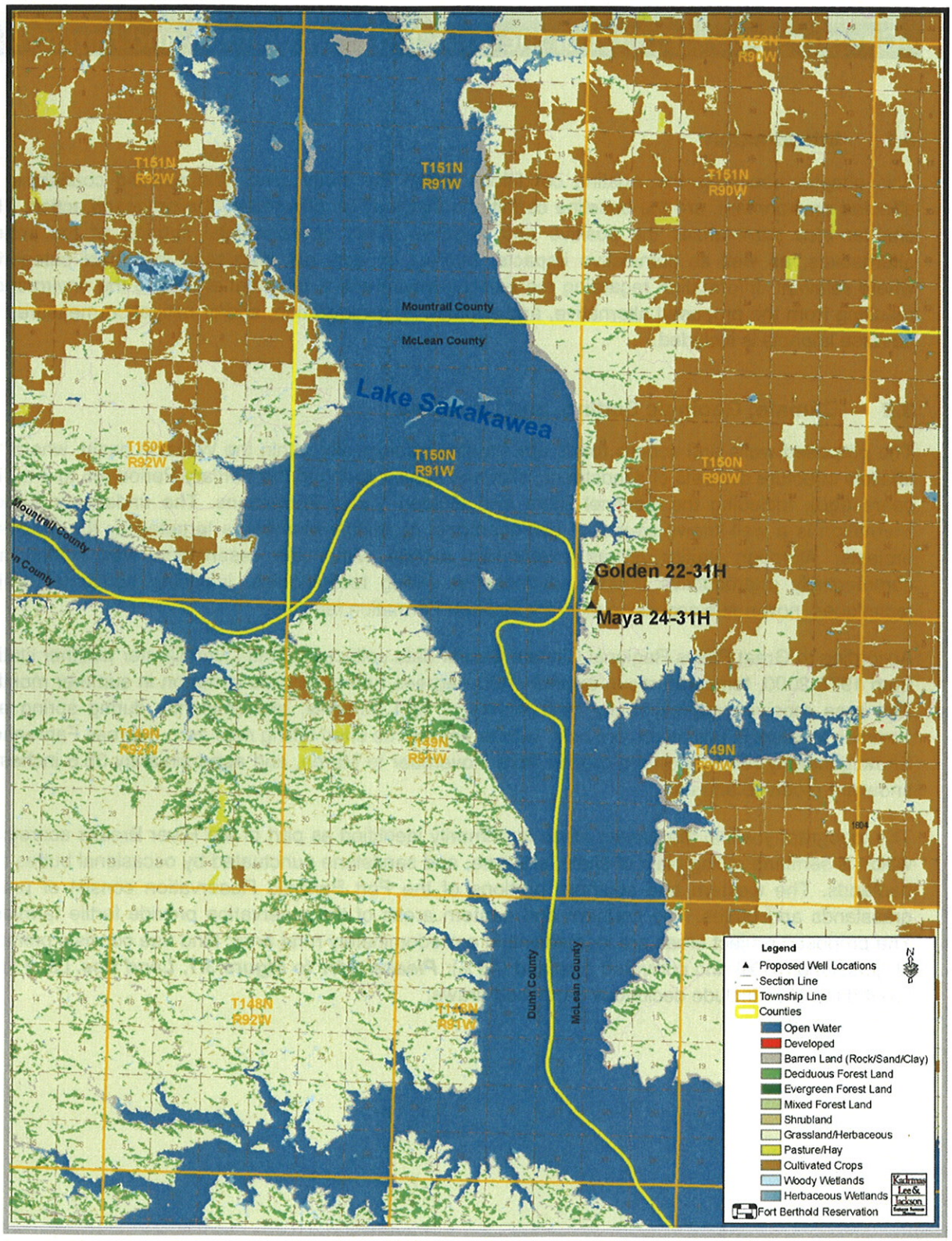

Figure 3.1 Land Use

3.2.1 Geologic Setting and Land Use Impacts/Mitigation

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

Alternative B (Proposed Action) — Alternative B would result in the conversion of approximately 10.89 acres of land from present uses 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(s)	Well Pad Acres	Access Road Acres	Total Acres
Golden	3.82	0.46	4.28
Maya	3.97	2.64	6.61
		Total	10.89

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

3.3 Soils

According to the NRCS (Natural Resource Conservation Service) Soil Survey of McLean County dates from 1979, with updated information available online through the NRCS Web Soil Survey; there are four soil types identified within the project impact areas. Location and characteristics of these soils are identified in ***Table 3.2, Soils.***

Table 3.2 Soils

Well Site(s)	Map Unit Symbol	Soil Name	Percent Slope	Composition (in upper 60 inches) % sand	% silt	% clay	Erosion Factor T	Kf	Hydrologic Soil Group
Golden	MdB	Mandan silt loam	3 to 6	20	66	14	5	.32	B
	WoA	Williams-Bowbells loams	0 to 3	35	35	30	5	.28	B
	WwC	Wilton-Williams silt loams	6 to 9	20	53	27	5	.28	B
	ZcE	Zahl-Cabba complex	15 to 35	35	34	31	5	.28	B
Maya	MdB	Mandan silt loam	3 to 6	20	66	14	5	.32	B
	WoA	Williams-Bowbells loams	0 to 3	35	35	30	5	.28	B
	WwC	Wilton-Williams silt loams	6 to 9	20	53	27	5	.28	B
	ZcE	Zahl-Cabba complex	15 to 35	35	34	31	5	.28	B

The listed soils have a low susceptibility to sheet and rill erosion and can tolerate high levels of erosion without loss of productivity. These soils have a moderate runoff potential. Depth to the water table is recorded at greater than 6 feet for each of these soil types. In addition none of the soils listed within the project impact areas are susceptible to flooding or ponding.

3.3.1 Soil Impacts/Mitigation

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

Alternative B (Proposed Action) — Construction activities associated with the proposed well sites and associated access roads would result in soil disturbances. Impacts to soils associated with the proposed action are not expected to be significant. Soil impacts would be localized, and BMPs would be implemented to minimize these impacts.

Stockpile quantities for each location were calculated using an assumed 6 inches of existing topsoil. The following identifies topsoil requirements for each site:

- *Golden* – A minimum of 3,055 cubic yards of topsoil would be stockpiled on site.
- *Maya* – A minimum of 3,160 cubic yards of topsoil would be stockpiled on site.

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

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

Topsoil stockpiles are proposed to be located on the northeast side of the Golden well and the north side of the Maya well. The stockpiles have been positioned to assist in diverting runoff away from the disturbed area, thus minimizing erosion.

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.

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 the North Dakota Department of Health, and the procedures of the surface management agency shall be followed to contain spills and leaks.

3.4 Water Resources

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

3.4.1 Surface Water

The project areas are situated in the Great Plains region of North Dakota. 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. ***Please refer to Figure 3.2, Surface Water Resources, for a summary of watersheds and sub-watersheds encompassing the project areas.*** Runoff throughout the study area is by sheetflow 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:

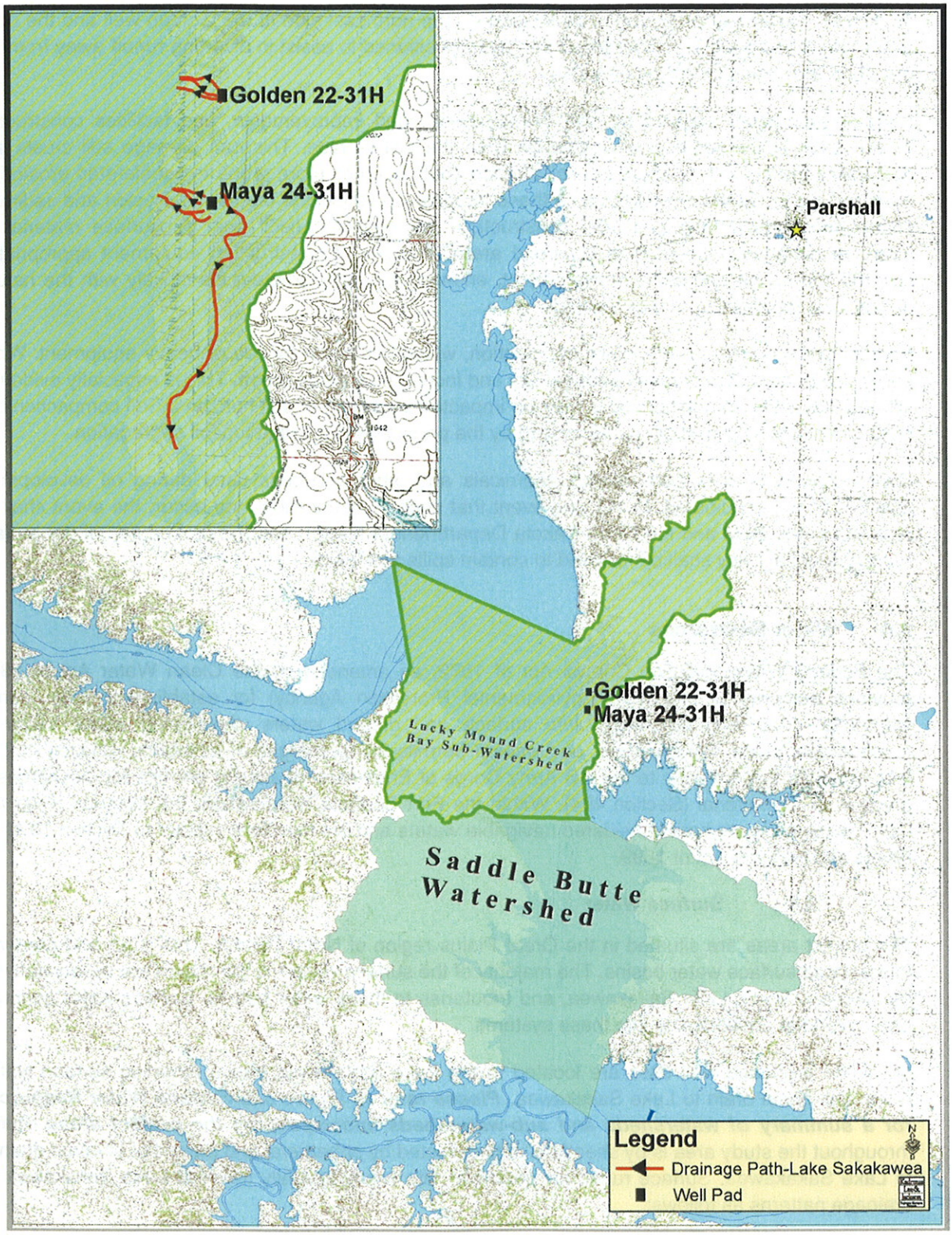

Figure 3.2 Surface Water Resources

- *Golden*—Runoff from the well pad would flow in a westerly direction off of the pad and into one of several hardwood draws. The least distance of drainage being approximately 650 feet west into the waters of Lake Sakakawea.
- *Maya*—Runoff from the well pad would flow in two directions. The runoff from the west side of the pad would flow in a westerly direction into one of several hardwood draws and into Lake Sakakawea, the closest drainage distance being approximately 725 feet to the shores of Lake Sakakawea. The runoff from the east side of the pad would flow southeast a short distance and then flow approximately 1.6 miles south through a series of drainages composed of hardwoods, flowing through Deepwater Creek State Game Management Area and eventually into Lake Sakakawea.

3.4.1.1 Surface Water Impacts/Mitigation

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

Alternative B (Proposed Action) — No significant impacts to surface water are expected to result from Alternative B. The proposed 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.

3.4.2 Ground Water

The North Dakota State Water Commission's electronic records reveal that there are no permitted stock or domestic wells within one-mile of either well pad sites. There are no additional active or permitted water wells or ground water-fed surface water impoundments immediately within the proposed well pad or access road areas. The nearest aquifer to the proposed well pads is the White Shield aquifer which is located northeast of the Golden and Maya well pads. No sole source aquifers have been identified within the state of North Dakota. ***Please refer to Figure 3.3, Aquifers and Ground Water Wells.***

3.4.2.1 Ground Water Impacts/Mitigation

Alternative A (No Action) — Alternative A would not impact ground water.

Alternative B (Proposed Action) — No significant impacts to ground water are expected to result from Alternative B. No aquifers or groundwater wells are located within the proposed spacing units. As required by applicable law, all proposed wells would be cemented and cased to isolate aquifers from potentially productive hydrocarbon and disposal/injection zones. In addition, reserve pits would be located away from areas of shallow ground water and have a double synthetic liner to prevent potential leaks.

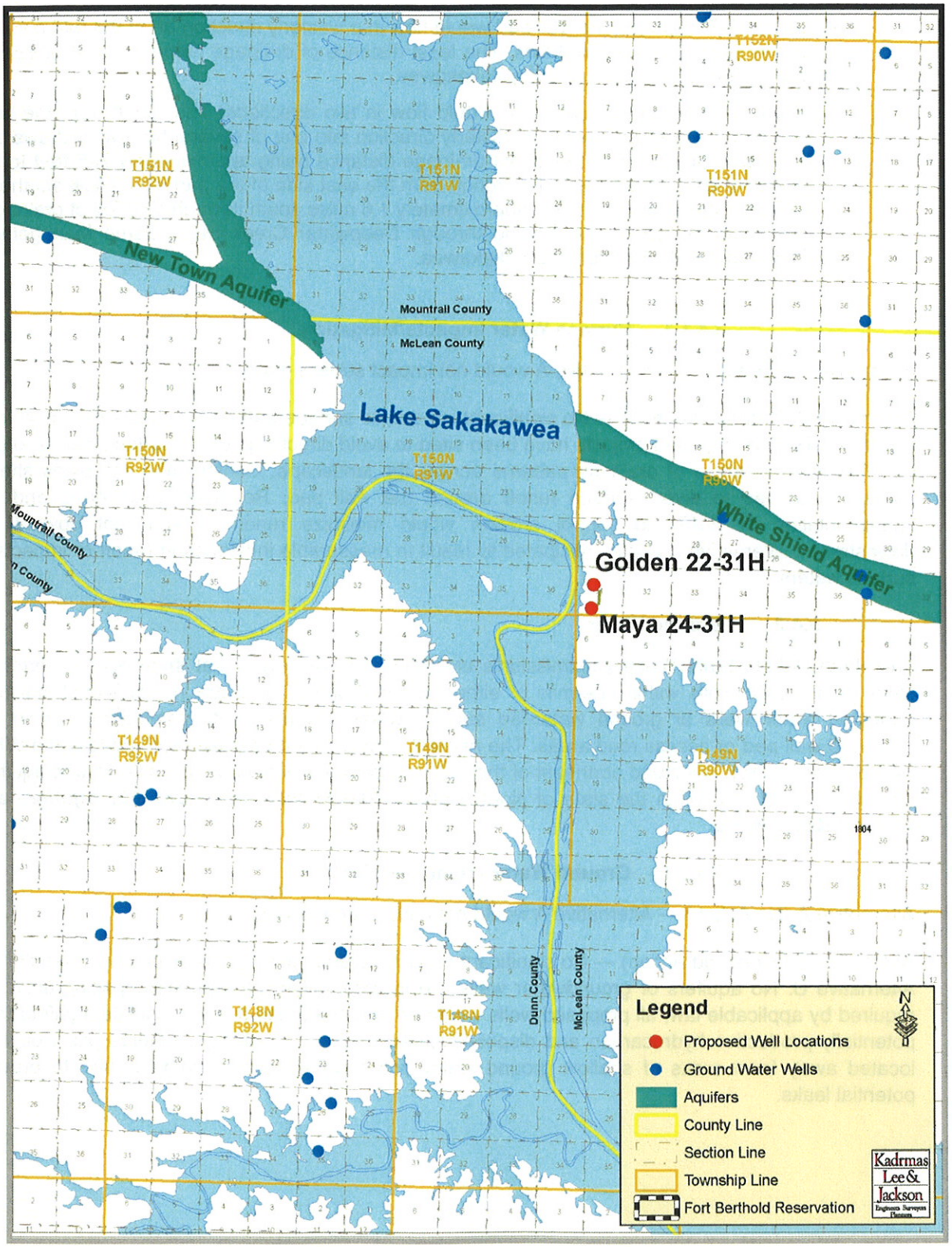

Figure 3.3 Aquifers and Ground Water Wells

3.5 Air Quality

The Clean Air Act, as amended, requires the EPA (Environmental Protection Agency) 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. No AAQM sites are located within McLean County. The closest AAQM station to the proposed well sites is located in Dunn Center, North Dakota. It is located approximately 33 miles southwest of the proposed wellsCriteria 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, and current air quality data from Dunn Center, Dunn County (the closest county AAQM), is summarized in ***Table 3.3, Federal and State Air Quality Standards and County Data (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). In addition, monitoring data from the Dunn Center AAQM shows that the station is currently well within air quality standards.

Table 3.3 Federal and State Air Quality Standards

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

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

Roosevelt National Park is the nearest Class I area, located approximately 47 miles west of the proposed wells.

3.5.1.1 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 of the project would result in temporary dust generation and minor gaseous emissions of PM, SO_2, NO_2, CO, and volatile organic compounds, as well as permanent emissions associated with gas flaring and truck traffic to and from the sites. 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.

3.6 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 one which 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) March 2010 Endangered, Threatened, and Candidate Species county list has identified the gray wolf, interior least tern, pallid sturgeon, and whooping crane as endangered species that may be found within McLean County. McLean County also includes the potential for occurrence of the threatened piping plover and candidate Dakota skipper. In addition, McLean County contains designated critical habitat for the piping plover adjacent to Lake Sakakawea and the Missouri River. None of these species were observed in the field. Habitat requirements, the potential for suitable habitat within the project areas, and other information regarding listed species for McLean County are as follows:

An on-site assessment and survey for wildlife and botany species was conducted for the well pads and access roads on April 2, 2010. Representatives from Kadrmas, Lee & Jackson, Spotted Hawk, BIA Environmental Protection Office, and Three Affiliated Tribes Tribal Historic Preservation Office were present during this visit. Well pad and access road locations were adjusted, as appropriate to best avoid impacts to environmental areas of concern including threatened and endangered species, avian nests, wetlands and any additional identified sensitive wildlife or botanical concerns identified on site. Those present at the on-site assessment agreed the chosen locations along with the implementation of minimization may minimize impacts to wildlife and botanical resources. Site-specific data and photos with regards to biological, botanical, soil, and water resources were

collected. A study area of 10 acres centered on the well pad center point and a 200-foot wide access road corridor along with the area surrounding the corridor was evaluated during these visits.

Gray Wolf (*Canis lupus*)

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

Interior Least Tern (*Sterna antillarum*)

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

There is no existing or potential habitat within the project areas. Potential habitat in the form of the sandy/gravely Lake Sakakawea shoreline exists approximately 620 feet away at the closest point. The location of the well pads and access roads are located on an upland bluff composed of native rangeland and cropland with the shoreline located below the bluffs.

Pallid Sturgeon (*Scaphirhynchus albus*)

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

Potential habitat consisting of the Lake Sakakawea is about 620 feet west of the project area.

Whooping Crane (*Grus americana*)

The whooping crane is the tallest bird in North America. In the United States, this species ranges through the Midwest and Rocky Mountain regions from North Dakota south to Texas and east into Colorado. Whooping cranes migrate through North Dakota along a band running from the south central to the northwest parts of the state. They use shallow, seasonally and semi-permanently flooded palustrine (marshy) wetlands for roosting and various cropland and emergent wetlands for feeding. During migration, whooping cranes are often recorded in riverine habitats, including the Missouri River. Currently there are three wild populations of whooping cranes, yielding a total species population of about 365. Of these flocks, only one is self-sustaining.

The proposed project is located in the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred. The proposed project sites and access roads are partially located on cropland which may be used for feeding. In addition, the sites are in close proximity to wetlands and Lake Sakakawea that could potentially be used by whooping cranes as stopover habitat during their migration.

Piping Plover (*Charadrius meoldus*)

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

There is no existing or potential habitat within the project areas. Potential habitat in the form of the sandy/gravely Lake Sakakawea shoreline exists approximately 620 feet away at the closest point. The location of the well pads and access roads are located on an upland bluff composed of native rangeland and cropland with the shoreline located below the bluffs.

Dakota Skipper (*Hesperia dacotae*)

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

The proposed project areas consist partially of native upland prairies. No Dakota Skipper's were observed during the field visit, however a timely survey when the Dakota Skipper would be most visible was not completed.

3.6.1 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) — Because potential habitat for threatened, endangered and candidate species exists within or adjacent to the proposed project sites, it was determined that the proposed project may affect, but is not likely to adversely affect the least tern, pallid sturgeon, whooping crane, piping plover and Dakota skipper. 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. On account of the potential effect of this project, Spotted Hawk Development has developed avoidance and minimization measures for the proposed project. ***Please refer to section 3.17 Environmental Commitments/Mitigation.*** In addition, pedestrian surveys of the project site took place prior to site staking to identify potential habitat in an effort to minimize impacts to these species.

During the on-site visit, it was decided that the well pads should be set back a further distance from the hardwood draws than was previously planned to minimize the potential for materials to move offsite. It was also determined that the well pad corners would be rounded to further this distance from the draws.

Per USFWS recommendations, projects located within 1/2 mile of designated piping plover habitat should be designed so that neither construction nor ongoing operations of the wells and pipelines, including potential spills, will impact critical habitat. Design considerations would include constructing a two-foot high berm around the pad exterior and a four-foot high berm around the tank batteries as a precautionary measure against spills, implementing BMPs to minimize wind and water erosion of soil resources, as well as implementing a semi closed loop system during drilling.

Also per USFWS recommendations, if a whooping crane is sighted within one-mile of a well site or associated facilities while under construction, that all work cease within one-mile of that part of the project and the USFWS be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area.

3.7 Wetlands, Wildlife, and Vegetation

An on-site assessment and survey for wildlife and botany species was conducted for the well pads and access roads on April 2, 2010. Representatives from Kadrmas, Lee & Jackson, Spotted Hawk, BIA Environmental Protection Office, and Three Affiliated Tribes Tribal Historic Preservation Office were present during this visit. Well pad and access road locations were adjusted, as appropriate to best avoid impacts to environmental areas of concern including threatened and endangered species, avian nests, wetlands and any additional identified sensitive wildlife or botanical concerns identified on site. Those present at the on-site assessment agreed the chosen locations along with the minimization measures spotted hawk was planning to implement would minimize impacts to sensitive wildlife and botany resources. Site-specific data and photos with regards to biological, botanical, soil, and water resources were collected. A study area of 10 acres centered on the well pad center point and a 200-foot wide access road corridor along with the area surrounding the study area was evaluated during these visits.

3.7.1 Wetlands

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

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

3.7.1.1 Wetland Impacts/Mitigation

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

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

3.7.2 Wildlife

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. Additionally, the Migratory Bird Treaty Act prohibits the taking, among other things, of migratory birds, their eggs, parts, and nests, except when specifically permitted by regulations. Taking is defined in the Endangered Species Act (ESA) as harass, harm, pursue, hunt, shoot, wound,

kill, trap, capture, or collect any threatened or endangered species. Harm may include significant habitat modification where it actually kills or injures a listed species through impairment of essential behavior (e.g., nesting or reproduction).

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. In addition, ND Game and Fish Department in 2009 estimated that 66 nests were occupied by bald eagles, though not all eagle nests were visited and verified[4]. Its preferred habitat includes open areas, forests, rivers, and large lakes. Bald eagles tend to use the same nest year after year, building atop the previous year's nest.

The golden eagle (*Aquila chrysaetos*) can be spotted in North Dakota throughout the badlands and along the upper reaches of the Missouri River in the western part of the state. Golden eagle pairs maintain territories that can be as large as 60 square miles and nest in high places including cliffs, trees, and human-made structures. They perch on ledges and rocky outcrops and use soaring to search for prey. Golden eagle preferred habitat includes open prairie, plains, and forested areas.

The study area lies in the prairie pothole region of North Dakota and the central flyway of North America. As such, this area is used as resting grounds for many birds on their spring and fall migrations, as well as nesting and breeding grounds for many waterfowl species. Other non-game bird species are known to fly through and inhabit this region. In total, 836 species of migratory birds are protected by the Migratory Bird Treaty Act, 58 of which are currently legally hunted.

During the pedestrian field surveys, big and small game species, non-game species, raptors, migratory birds, as well as their potential habitats and/or their nests, were identified if present. The project areas all contain suitable habitat for antelope, mule deer, whitetail deer, cottontail rabbit, pheasant, sharp-tail grouse, turkey, coyote, fox, jack rabbit, mountain lion, porcupine, prairie dog, migratory birds, song birds, and raptors.

A crow and ring-billed gull were observed at the Golden well site. An unidentified hawk and approximately eight geese were observed flying overhead at the Maya well site. In addition, a deer mouse was observed in a wheat stubble field along the Maya well site access road. No other wildlife species, including migratory birds or their nests were observed during the field surveys. ***Figure 3.4, Photo of deer mouse along Maya access road.***

Figure 3.4 Photo of deer mouse along Maya access road

3.7.2.1 Wildlife Impacts/Mitigation

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

Alternative B (Proposed Action) — Due to suitable habitat being present for many wildlife and avian species on the proposed site it is determined that ground clearing activities associated with the proposed project may impact individuals or suitable habitat for the wildlife species discussed above;

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

however, no avian nests would be impacted by the proposed construction. While wildlife may use the project areas for breeding and feeding, wildlife adapt to changing conditions and continue to thrive. Similarly, avian species that may frequent the project areas are transitory in nature and also generally adapt to changing conditions and continue to thrive. The proposed project may affect individual wildlife species, but is not likely to adversely affect populations to result in a trend towards listing of the species. No grouse leks were observed in project areas at the time of the survey; therefore, timing restrictions for construction on account of impacts to leks 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 cannot be netted during the drilling portion as they would easily be torn up during normal drilling operations, and the reserve pit would not be functional if netted. Immediately after the drilling rig leaves the location, reserve pits are netted with State and Federal approved nets. These will remain in place until closure of the reserve pits.

During the on-site visit, it was decided that the well pads should be set back a further distance from the hardwood draws than was previously planned to minimize the potential for materials to move offsite. It was also determined that the well pad corners would be rounded to further this distance from hardwood draws. In addition, design considerations would include constructing a two-foot high berm around the pad exterior, and a four-foot high berm around the tank batteries as a precautionary measure against spills, implementing BMPs to minimize wind and water erosion of soil resources, as well as implementing a semi closed loop system during drilling.

Additionally, all reasonable, prudent, and effective measures to avoid the taking of migratory bird species will be implemented during the construction and operation phases. These measures may include the use of suitable mufflers on all internal combustion engines and certain compressor components to mitigate noise, staying on approved routes, covering barrels and spigots with wire mesh, keeping oil off of open pits and ponds, and/or the development of an Avian Protection Plan, if deemed necessary.

3.7.3 Vegetation

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

The project areas consisted of numerous vegetative communities, due to the wide variation of ecological communities found surrounding the site. The local topography found within and adjacent to the project areas strongly influenced the types of vegetation found on site. The majority of the project areas occurred on upland sites dominated by cropland and mixed-grass prairie. The mixed-grass prairie consisted mainly of junegrass (*Koeleria macrantha*), Western wheatgrass (*Pascopyrum smithii*), blue grama (*Bouteloua gracilis*), and green needle grass (Stipa viridula).

Western snowberry (*Symphoricarpos occidentalis*) occurred in patches along some of the draws and along the Maya site access road. Kentucky bluegrass (*Poa pratensis*) was intermixed with the majority of the plant communities at both project areas, being more prevalent at the Maya site. Little bluestem (*Andropogon scoparius*) and prairie sand reed (*Calamovilfa longifolia*) occurred as dominant plant communities on side hills and hill tops around both project areas. The vegetation at the hilltop portion of the Golden well site had experienced severe livestock grazing with visible hoof action being noted. ***Please refer to Figure 3.5, Dominant Plant Communities.***

Figure 3.5 Dominant Plant Communities

Several hardwood draws occurred within or adjacent to the Golden and Maya well sites. Hardwood draws consisted mainly of green ash (*Frazinus pennsylvanica*), creeping juniper (*Juniperus horizontalis*), and silver buffalo berry (*Shepherdia argentea*). ***Please refer to Figures 3.6 to 3.11 for representative vegetation at each project area.***

Figure 3.6 Green Ash and Silver Buffalo Berry Vegetation in draw (Golden Site)

Figure 3.7 Mixed Grass Prairie Vegetation - Golden Site

Figure 3.8 Cropland and Mixed Grass Prairie Vegetation–Maya Site

Figure 3.9 Chokecherry Trees along Maya Site Access Road

Figure 3.10 Snowberry Vegetation along Maya Site Access Road

Figure 3.11 Hardwood draw–Maya Site

In addition, the project areas were surveyed for the presence of noxious weeds. Of the 11 species declared noxious under the North Dakota Century Code (Chapter 63-01.0), five are known to occur in McLean 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. No noxious weeds were observed during the field survey.

Table 3.4 Noxious Weed Species

Common Name	Scientific Name	2009 McLean County Reported Acres
Absinth wormwood	Artemesia absinthium L.	2,966
Canada thistle	Cirsium arvense (L.) Scop	4,581
Dalmation toadflax	Linaria genistifolia ssp. Dalmatica	—
Diffuse knapweed	Centaurea diffusa Lam	—
Leafy spurge	Euphorbia esula L.	57
Musk thistle	Carduus nutans L.	1
Purple loosestrife	Lythrum salicaria	—
Russian knapweed	Acroptilon repens (L) DC.	—
Salt cedar (tamarisk)	Tamarix ramosissima	—
Spotted knapweed	Centaurea maculosa Lam.	5
Yellow starthistle	*Centaurea solstitalis* L.	—

3.7.3.1 Vegetation Impacts/Mitigation

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

Alternative B (Proposed Action) — Ground clearing activities associated with construction of the proposed 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 accord with the BLM Gold Book standards for well reclamation. Following construction, interim reclamation measures to be implemented include reduction of cut and fill slopes, redistribution of stockpiled topsoil, and reseeding of disturbed areas with a native grass seed mixture consistent with surrounding vegetation. If commercial production equipment is installed, the well pads would be reduced in size to approximately 200x300 feet (1.4 acres), with the remainder of the original well pad reclaimed. Reclamation activities would include leveling, re-contouring, treating, backfill, and re-seeding with a native grass seed mixture. 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 both of the proposed wells, or upon final abandonment of commercial operations, all disturbed areas would be promptly reclaimed. Both access roads and well pad areas would be re-contoured to match topography of the original landscape, and reseeded with vegetation consistent with surrounding native species to ensure a healthy and diverse mix that is free of noxious weeds. Re-vegetation of the site would be consistent with the BLM Gold Book standards. Erosion control measures would be installed as appropriate. Consistent with the BLM Gold Book standards, The surface management agency will provide final inspection of the site to deem the reclamation effort complete.

3.8 Cultural Resources

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

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

Whatever the nature of the cultural resource addressed by a particular statute or tradition, implementing procedures invariably include consultation requirements at various stages of a federal undertaking. The MHA Nation has designated a Tribal Historic Preservation Officer (THPO) by Tribal

Council resolution, whose office and functions are certified by the National Park Service. The THPO operates with the same authority exercised in most of the rest of North Dakota by the State Historic Preservation Officer (SHPO). Thus, BIA consults and corresponds with the THPO regarding cultural resources on all projects proposed within the exterior boundaries of the Fort Berthold Reservation.

Cultural resource inventories of these well pads and access roads were conducted by personnel of Kadrmas, Lee & Jackson, Inc., using an intensive pedestrian methodology. For the Maya 24-31H project approximately 17.4 acres were inventoried (Harty 2010a) and for the Golden 22-33H project approximately 11 acres were inventoried (Harty 2010b). These surveys were done on April 2, 2010. 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 Maya 24-31H project on May 19, 2010, and the THPO concurred on May 19, 2010 (see Part 4). The same determination was communicated to the THPO for the Golden 22-33H project on May 27, 2010 and the THPO concurred on June 2, 2010.

3.8.1 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. 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.

3.9 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 McLean County have lower than statewide averages of per capita income and median household income. In addition, they have higher rates of unemployment and individuals living below poverty level than the state average. ***Please refer to Table 3.5, Employment and Income.***

Table 3.5 Employment and Income

Location	Per Capita Income	Median Household Income	Unemployment Rate	Individuals Living Below Poverty Level
McLean County	$16,220	$32,337	3.2%	13.5%
Fort Berthold Reservation	$10,291	$26,274	11.1%	28.1%
Statewide	$17,769	$34,604	4.6%	11.9%

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

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

Table 3.6 Demographic Trends

Location	Population in 2000	% of State Population	% Change 1990–2000	Predominant Race	Predominant Minority
McLean County	9,311	1.45%	-10.9%	White	American Indian (5.9%)
Fort Berthold Reservation	5,915	0.92%	+9.8%	American Indian[5]	White (26.9%)
Statewide	642,200	--	+0.5%	White	American Indian (5%)

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

3.9.1 Socioeconomic Impacts/Mitigation

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

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

3.10 Environmental Justice

Per Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, measures must be taken to avoid disproportionately high adverse impacts on minority or low-income communities. With 28% of its population living below the

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

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

3.10.1 Environmental Justice Impacts/Mitigation

Alternative A (No Action) — Alternative A would not result in disproportionate impacts to minority or low-income populations.

Alternative B (Proposed Action) — Alternative B is not anticipated to result in disproportionately adverse impacts to minority or low-income populations. Oil and Gas development is occurring outside the Reservation boundaries at the same rate as within the Reservation boundaries. 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.

3.11 Infrastructure and Utilities

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

Known utilities and infrastructure within the vicinity of the proposed projects include both paved and gravel roadways as well as existing and proposed rural water distribution pipelines. North Dakota State Highway 37 is located approximately 5.5 miles east of the sites. Existing or proposed water pipelines lay perpendicular along the gravel roadways that the proposed wells' access roads will connect to. The access roads will cross over the existing or proposed water pipelines. A proposed water treatment plant is currently being constructed approximately 280 feet north of the proposed Golden well pad, with the water intake being located approximately 1,600 feet north of the Golden well pad. The Parshall Water Treatment Plant will consist of a raw water intake building, a water treatment facility and waste pond, with new gravel roads and pipelines connecting all three.

3.11.1 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. The scoping letter referring to this project (dated April 9, 2010) solicited responses from McLean County, North Dakota, as there is some concern both on and off the Fort Berthold Indian Reservation regarding the movement of oversize/overweight loads across local, state and county roads in the project area. Spotted Hawk has contacted McLean County, the North Dakota Association of Counties, the North Dakota Association of Oil and Gas Producing Counties, as well as the NDDOT to obtain all rules and regulations regarding rig moves and oversize/overweight loads on state and county roads in the project area. Spotted Hawk's contractors currently permit their oversize / overweight loads through these agencies and Spotted Hawk requires that all contractors working for the company will continue to adhere to all local, county, and state regulations and ordinances regarding rig moves, oversize/overweight loads, and frost law restrictions. The NDDOT indicated there will be highway improvements planned for ND Highway 1804 for the 2010 construction season. Axle weight restrictions will be implemented prior and post construction on this highway. Through correspondence with McLean County, the county addressed concern with maintaining gravel roads in the area of the proposed well sites. For funding reasons, it is no longer cost effective to maintain roads in the vicinity of the project that were identified in the letter from McLean County. Please refer to Appendix B, Agency Scoping Responses. In response to the county no longer maintaining the identified roadways, oil and gas operators have assumed the

responsibility. It will be up to the discretion of the BIA, townships and the county to determine if they want to provide future maintenance of these roadways.

Construction of the Golden and Maya sites may encroach upon existing water distribution lines. Prior to construction, coordination would occur with the Fort Berthold Water Authority Director to ensure minimization of potential impacts to existing water distribution pipelines. Each well site may also require the installation of supporting electrical lines. 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 commercial injection wells are available. Disposal areas would be properly fenced to prevent human or animal access.

3.12 Public Health and Safety

Health and safety concerns include hydrogen sulfide (H_2S) gas[6], hazardous materials used or generated during well installation or production, and traffic hazards associated with heavy drill rigs and tankers.

3.12.1 Public Health and Safety Impacts/Mitigation

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

Alternative B (Proposed Action) — Project design and operational precautions would minimize the likelihood of impacts from 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, Spotted Hawk, would prepare H_2S Contingency Plans and submit them 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 Golden and Maya sites.

Hazardous Materials

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

The Spill Prevention, Control, and Countermeasure (SPCC) rule includes requirements for oil spill prevention, preparedness, and response to prevent oil discharges to navigable waters and adjoining

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

shorelines. The rule requires specific facilities to prepare, amend, and implement SPCC Plans. If the location is determined to be productive, an SPCC Plan would need to be submitted to the EPA.

Design considerations being implemented to contain potential spills on site include constructing a two-foot high berm around the pad exterior, and a four-foot high berm around the tank batteries as a precautionary measure against spills, implementing BMPs to minimize wind and water erosion of soil resources, as well as implementing a semi closed loop system during drilling.

Traffic

Safety hazards posed from increased traffic during the drilling phase are anticipated to be short-term and minimal. It is anticipated that approximately 30 to 40 trips, over the course of several days, would be required to transport the drilling rig and associated equipment to each proposed well site. If commercial operations are 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.[7] 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.[8] Established load restrictions for state and BIA roadways would be followed and haul permits would be acquired as appropriate.

3.13 Cumulative Considerations

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

3.13.1 Past, Present, and Reasonably Foreseeable Actions

At the time this EA was written, there were approximately 288 active and/or proposed oil and gas wells within the Fort Berthold Reservation and 545 within the 20-mile radius outside the boundaries of the Fort Berthold Reservation. ***Please refer to Figure 3.12, Existing and Proposed Oil and Gas Wells.***

[7] 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.

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

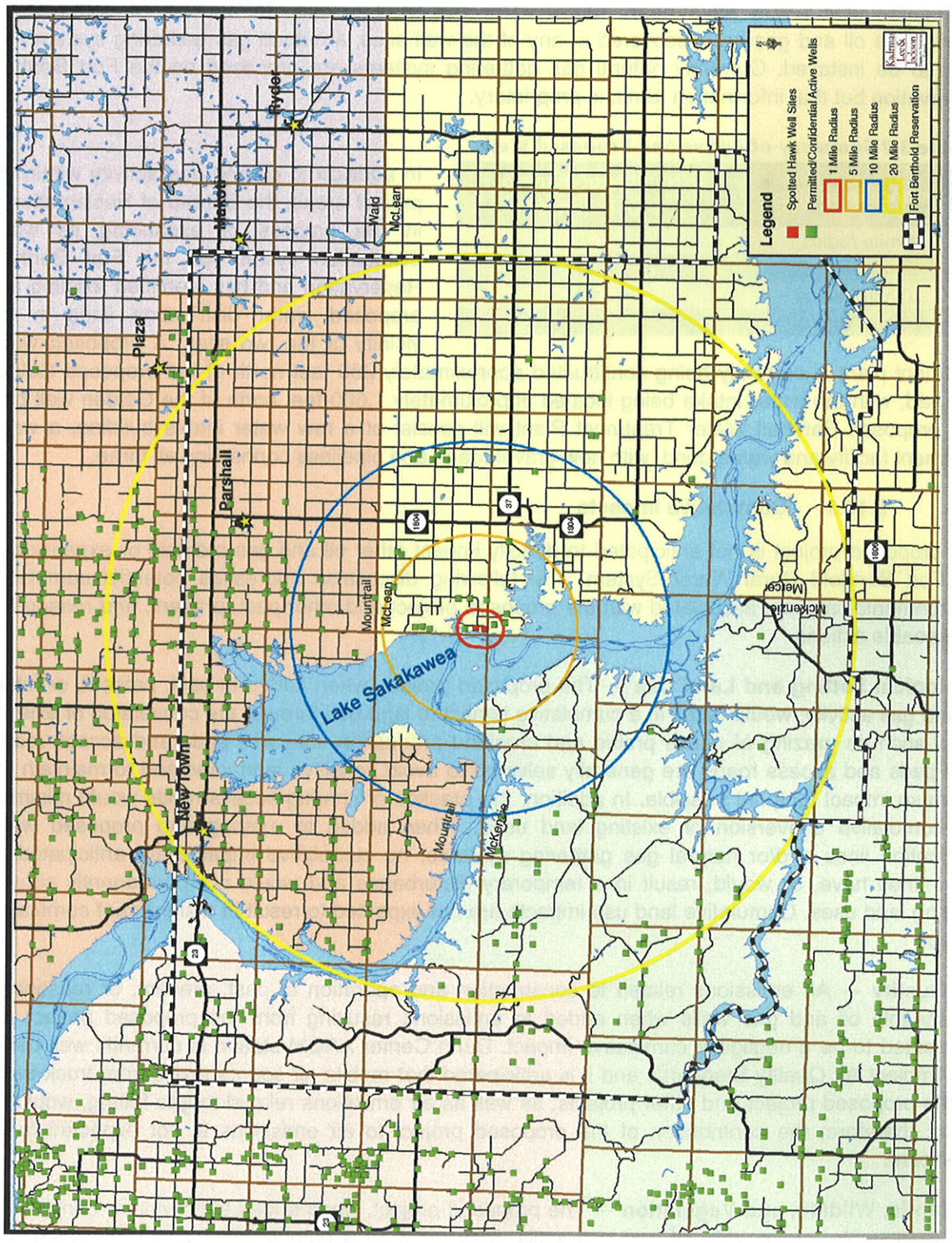

Figure 3.12 Existing and Proposed Oil and Gas Wells

Two active or proposed oil and gas wells exist within one-mile of the Golden site and Maya sites. ***Please refer to Table 3.7, Summary of Active and Proposed Wells.*** Commercial success at any new well may result in additional nearby oil/gas exploration proposals, but such developments remain speculative until APDs have been submitted to the BLM or BIA. In addition, if commercially recoverable oil and gas are discovered at any of the well sites, a natural gas gathering system may need to be installed. Currently natural gas gathering systems are proposed on the Fort Berthold Reservation but that information remains proprietary.

Table 3.7 Summary of Active and Proposed Wells

Distance from Sites	Number of Active or Proposed Wells
1 mile radius	2
5 mile radius	15
10 mile radius	40
20 mile radius	290

In addition to oil and gas activity within the project areas, the Bureau of Reclamation is in the process of expanding its water distribution system on the Fort Berthold Reservation and has identified existing and proposed water distribution lines in the vicinity of the two sites. A proposed water treatment plant is currently being constructed approximately 280 feet north of the proposed Golden well pad, with the water intake being located approximately 1,600 feet north of the Golden well pad. The proposed Parshall Water Treatment Plant will consist of a raw water intake building, a water treatment facility and waste pond, with new gravel roads and pipelines connecting all three.

3.13.2 Cumulative Impacts

The proposed project is not anticipated to directly impact other oil and gas projects or expansion of the Fort Berthold Rural Water System. 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 of native prairie and cropland production, into well pads and access roads. Well pads and access roads are generally selected to avoid sensitive land uses and to maintain the minimum impact footprint possible. In addition, the practice of sharing access roads would minimize the cumulative conversion of existing land uses. 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. Cumulative land use impacts are not expected to result in a significant cumulative impact.

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

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 and well pad construction. The practice of utilizing existing roadways to the greatest extent practicable, as well as sharing access roads, 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 best management practices and continued reclamation are anticipated to minimize and mitigate disturbed habitat. 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 to wetlands, wildlife and vegetation.

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, and cultural resources. 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.

3.14 Irreversible and Irretrievable Commitment of Resources

Removal and consumption of oil or gas from the Bakken Formation 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 Short-term Use of the Environment Versus Long-term Productivity

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

3.16 Permits

The following permits or approvals will be obtained by Spotted Hawk, prior to construction:

- *Application for Permit to Drill*—An APD will be submitted to the BLM. The APD will include this environmental document and additional information, including any other necessary federal, state, and tribal permits. The APD will be prepared and submitted according to BLM guidelines. BLM approval of the APD will be required prior to construction of the proposed exploratory wells.
- *Application for Permit to Drill*—An APD will be submitted to the North Dakota Industrial Commission (NDIC). The APD will be prepared and submitted according to NDIC guidelines. NDIC approval of the APD will be required prior to construction of the proposed exploratory wells.
- *Section 10 Permit* – United States Army Corps of Engineers

- *Spill Prevention, Control and Countermeasure (SPCC)*)—The rule requires specific facilities to prepare, amend, and implement SPCC Plans. If the location is determined to be productive, an SPCC Plan would need to be submitted to the EPA.

3.17 Environmental Commitments/Mitigation

The following commitments have been made by Spotted Hawk:

- Topsoil would be segregated and stored on-site to be used in the reclamation process. All disturbed areas would be re-contoured to original elevations as part of the reclamation process.
- BMPs will be implemented to minimize wind and water erosion of soil resources. Soil stockpiles will be positioned to help divert runoff around the well pad.
- 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 triple reinforced synthetic liner to prevent potential leaks. All spills or leaks of chemicals and other pollutants will be reported to the BLM and EPA. The procedures of the surface management agency shall be followed to contain leaks or spills.
- The proposed wells will be cemented and cased to isolate aquifers from potentially productive hydrocarbon and disposal/injection zones.
- Wetlands and riparian areas would be avoided.
- Disturbed vegetation would be re-seeded in kind with a native grass seed mixture upon completion of the project. Consistent with the BLM Gold Book standard, final site inspection will be made by the surface management agency to ensure the site is successfully reclaimed.
- Well sites and access roads would avoid impacts to cultural resources. If cultural resources are discovered during construction or operation, work shall immediately be stopped, the affected site secured, and BIA and THPO notified. In the event of a discovery, work shall not resume until written authorization to proceed has been received from the BIA.
- Access roads would be located at least fifty feet away from identified cultural resources. The boundaries of these fifty-foot "exclusion zones" would be pin-flagged as an extra measure to ensure that inadvertent impacts to cultural resources are avoided.
- All project workers are prohibited from collecting artifacts or disturbing cultural resources in any area under any circumstances.
- Spotted Hawk will require all contractors working for the company will adhere to all local, County, and State regulations and ordinances regarding rig moves, oversize/overweight loads, and frost law restrictions.
- Prior to construction, Spotted Hawk will coordinate with the Fort Berthold Water Authority Director to ensure minimization of impacts to existing water distribution pipelines.
- Utility modifications would be identified during design and coordinated with the appropriate utility company.
- Disposal areas would be properly fenced to prevent human or animal access.
- H_2S Contingency Plans for each well site will be submitted to the BLM as part of the APD.
- Established load restrictions for state and BIA roadways would be followed and haul permits would be acquired as appropriate.

- Suitable mufflers would be put on all internal combustion engines and certain compressor components to mitigate noise levels.
- Well sites and associated facilities would be painted in colors to allow them to better blend in with the natural background color of the surrounding landscape.
- A two-foot high berm will be constructed around the pad exterior and a four-foot berm will be constructed around the tank batteries as a precautionary measure against spills. Additional BMP's will be used during construction to ensure contaminants do not move off site.
- Well pad corners will be rounded where applicable to lessen disturbance impacts.
- The pits would be fenced while not actively being used.
- A semi closed loop system will be used during drilling. Liquids from drilling will be transported off site and dry cuttings will be solidified in place.
- If a whooping crane is sighted within one-mile of a well site or associated facilities while it is under construction, that all work cease within one-mile of that part of the project and the USFWS be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area.
- Open pits and ponds will be immediately cleaned if oil is present.
- Wire mesh or grate covers will be placed over barrels placed under valves and spigots to collect dripped oil.
- Netting, with a maximum mesh size of 1.5 inches will be used to keep birds and other small animals out of open pits.
- If the location is determined to be productive, an SPCC Plan would need to be submitted to the EPA.

Chapter 4. Preparers and Agency Coordination

4.1 Introduction

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

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

4.2 Preparers

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

Table 4.1 Preparers

Affiliation	Name	Title	Project Role
Bureau of Indian Affairs	Marilyn Bercier	Regional Environmental Scientist	Review of Draft EA and recommendation to Regional Director regarding FONSI or EIS
	Mark Herman	Environmental Engineer	
Spotted Hawk Development	Demarco Bell	President	Project development, document review
Kadrmas, Lee & Jackson, Inc.	Grady Wolf	Environmental Scientist	Client and agency coordination, field resources surveys
	Steve Czeczok	Environmental Scientist	Impact assessment/field resources surveys, exhibit creation
	Jennifer Harty	Principal Investigator	Cultural resources surveys

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 April 9, 2010. This scoping package included a brief description of the proposed project, as well as a location map. Pursuant to Section 102(2) (D) (IV) of the National Environmental Policy Act of 1969, a solicitation of views was requested to ensure that social, economic, and environmental effects were considered in the development of this project. ***Appendix A contains Agency Scoping Materials.***

At the conclusion of the 30-day comment period, 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.

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

MAY 19 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 McLean County, North Dakota. Approximately 17.4 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the area depicted in the enclosed report. No historic properties were located which 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-1762/FB/10,** the proposed undertaking, location, and project dimensions are described in the following report:

Harty, Jennifer L.
(2010) Maya 24-31H Well Pad and Access Road: A Class III Cultural Resource Inventory, McLean County, North Dakota. KLJ Cultural Resources for Spotted Hawk Development, Tyson's Corner, VA.

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

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

Sincerely,

Regional Director

Enclosures

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

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

Three Affiliated Tribes
MANDAN * HIDATSA * ARIKARA

May 19, 2010

Carson Murdy
Great Plains Regional Office Bureau of Indian
Affairs 115 Fourth Ave. S.E.
Aberdeen, South Dakota

RE: Recommendation and Concurrence:

As Director of the Tribal Historic Preservation Office and the Tribal Historical Preservation Officer representing the Mandan Hidatsa Arikara Nation I Concur With the Spotted Hawk Maya 24-31-H Well Pad and Access Road: A class III Cultural Resource Inventory, McLean County, North Dakota.

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

Sincerely:

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

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

MAY 27 2010

IN REPLY REFER TO:
DESCRM
MC-208

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

Dear Mr. Brady:

We have considered the potential effects on cultural resources of an oil well pad and access road in McLean County, North Dakota. Approximately 11 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the area depicted in the enclosed report. Two archaeological sites (32ML1156, 32ML1157) were located in the inventory; the latter is considered not eligible while the former 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 32ML1156 will be avoided. Catalogued as **BIA Case Number AAO-1762/FB/10,** the proposed undertaking, location, and project dimensions are described in the following report:

Harty, Jennifer L.
(2010) Golden 22-33H Well Pad and Access Road: A Class III Cultural Resource Inventory, McLean County, North Dakota. KLJ Cultural Resources for Spotted Hawk Development, Tyson's Corner, VA.

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

TRIBAL HISTORIC PRESERVATION
Mandan Hidatsa Arikara
Perry 'No Tears' Brady, Director.
404 Frontage Road,
New Town, North Dakota 58763
Ph/701-862-2474 fax/701-862-3401
pbrady@mhanation.com

June 2, 2010

Carson Murdy
Great Plains Regional Office Bureau of Indian
Affairs Fourth Ave. S.E.
Aberdeen, South Dakota 57401

Re: Recommendation and Concurrence:

As Director of the Tribal Historic Preservation Office and the Tribal Historical Preservation Officer representing the Mandan Hidatsa Arikara Nation I Concur With the BIA Case Number AAO-1762/FB/10 Well Pad, and Access Road: A class III Cultural Resource Inventory, McKenzie County, North Dakota.

Harty, Jennifer L.
(2010) Golden 22-33H Well Pad an Access Road: A Class III Cultural Resource Inventory, McLean County, North Dakota. KLJ Cultural Resource for Spotted Hawk Development, Tyson's Corner, VA

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

Sincerely:

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

Chapter 5. References

"Bald Eagle Fact Sheet: Natural History, Ecology, and History of Recovery." U.S. Fish & Wildlife Service. 9 Dec. 2008. U.S. Department of Interior, U.S. Fish & Wildlife Service, Midwest Region. 17 Aug. 2009. <http://www.fws.gov/midwest/eagle/recovery/biologue.html>.

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Appendix A

Agency Scoping Materials

April 9, 2010

Sir or Madam
Minot Air Force Base
320 Peacekeeper Place
Minot AFB, ND 58705

RE: Spotted Hawk Development
Proposed Well Sites
Fort Berthold Reservation
McLean County, ND
T150N, R90W SECTION 31

Dear Sir or Madam,

On behalf of Spotted Hawk Development, Kadrmas, Lee & Jackson, Inc. is preparing an EA (Environmental Assessment) under NEPA (the National Environmental Policy Act) for the BIA (Bureau of Indian Affairs) and BLM (Bureau of Land Management). The proposed action includes approval by the BIA and BLM of the development of two well pads and access roads in McLean County on the Fort Berthold Reservation.

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: Golden 22-31H and Maya 24-31H. Construction of the proposed well pads and access roads is proposed to begin as early as summer 2010.

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

Please provide your comments by **May 10, 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.

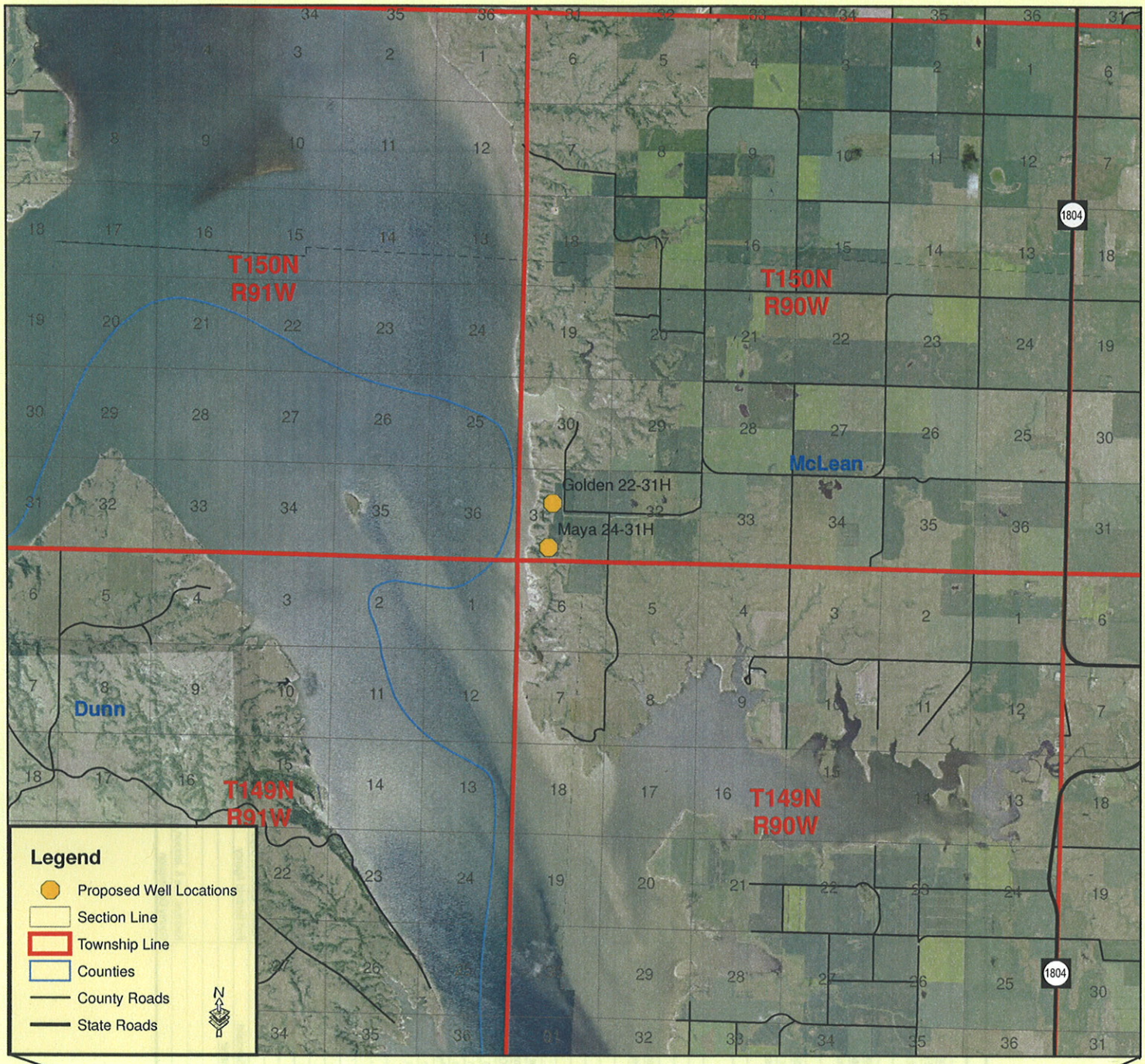
If you would like further information regarding this project, please contact me at (701) 355-8726. Thank you for your cooperation.

Sincerely,

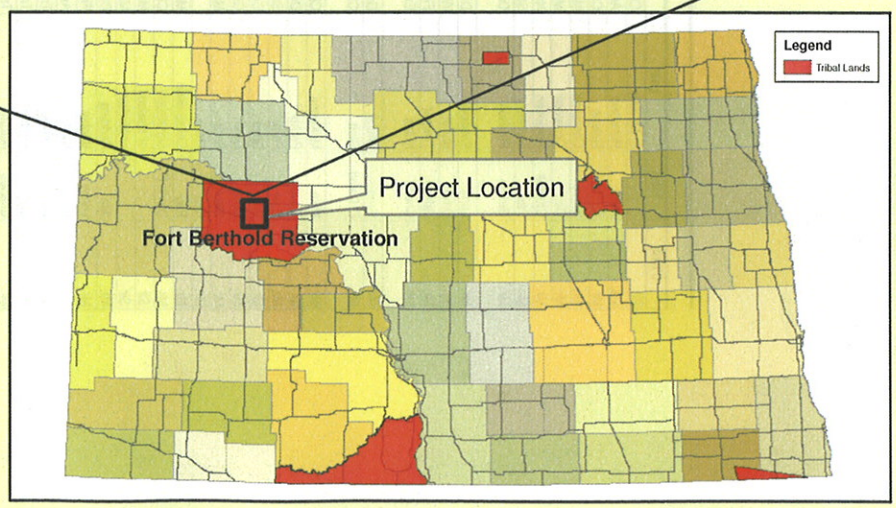
Kadrmas, Lee & Jackson, Inc.

Grady Wolf
Environmental Planner

Enclosure (Project Map)



Spotted Hawk Development
Proposed Wells
McLean County, ND



Kadrmas Lee & Jackson
Engineers Surveyors Planners

Spotted Hawk Development-Golden 22-31H and Maya 24-31H Wells
Fort Berthold Reservation
Scoping Mailing List

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
Ms.	Alice	Harwood	Acting Regional Director		Bureau of Indian Affairs	115 4th Ave. SE	Aberdeen	SD	57401
Mr.	Richard	Nelson	Chief, Resource Management	Dakotas Area Office	Bureau of Reclamation	PO Box 1017	Bismarck	ND	58502-1017
Mr.	Steve	Obenauer	Manager	Bismarck Airports District Office	Federal Aviation Administration	2301 University Drive, Bldg 23B	Bismarck	ND	58504
Mr.	Dan	Cimarosti	Manager	ND Regulatory Office	US Army Corps of Engineers	1513 S. 12th St.	Bismarck	ND	58504
Mr.	Charles	Sorensen	Natural Resource Specialist	Riverdale Field Office	US Army Corps of Engineers	PO Box 527	Riverdale	ND	58565
Mr.	Paul	Sweeney	State Conservationist		US Department of Agriculture	PO Box 1458	Bismarck	ND	58502-1458
Mr.	Gerald	Paulson	Director, Transmission Linest 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.	Dave	Ruiter	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	Boyd	Construction Manager		Midcontinent Cable Company	719 Memorial Hwy	Bismarck	ND	58501
Mr.	Doug	Dixon	General Manager	Badlands Region	Montana Dakota Utilities	PO Box 1406	Williston	ND	58802-1406
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	Christenson	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.	Lonny	Bagley	Field Office Manager	North Dakota Field Office	Bureau of Land Management	99 23rd Ave W, Suite A	Dickinson	ND	58601
Mr.	Mike	Nash	Assistant Field Office Manager	Division on Mineral Resources	Bureau of Land Management	99 23rd Ave W, Suite A	Dickinson	ND	58601
Mr.	Michael	Selvage	Tribal Chairman		Sisseton-Wahpeton Sioux Tribe	PO Box 509	Sisseton	SD	57262-0267
Ms.	Myra	Pearson	Tribal Chairman	Ft. Totten Tribal Business Office	Spirit Lake Sioux Tribe	PO Box 359	Ft. Totten	ND	58325
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 468	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	70879 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.	Jeff	Dejardais	Environmental Specialist	Fort Berthold Agency	Bureau of Indian Affairs	PO Box 370	New Town	ND	58763
Mr.	Roger	Hovda	Operations Manager		Reservation Telephone Cooperative	PO Box 68	Parshall	ND	58770-0068
Mr.	Demarco	Bell	President		SHD Oil & Gas	1650 Tysons Blvd. Suite 900	McLean	VA	22102
Ms.	Leslie	Korgel	Auditor		McLean County	PO Box 1108	Washburn	ND	58577-1108
Mr.	Jerry	Krieg		Kadrmas, Lee & Jackson, Inc.		677 27th Avenue East	Dickinson	ND	58601-7168
Mr.	Steve	Lee	Chairperson	County Commission	McLean County	PO Box 1108	Washburn	ND	58577-1108

Appendix B

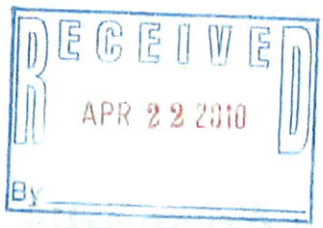
Agency Scoping Response

United States Department of Agriculture

NRCS

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

April 19, 2010



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

RE: Spotted Hawk Development Proposed Well Sites, Fort Berthold Reservation, T150N, R90W SECTION 31, McLean County, ND

Dear Mr. Wolf:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated April 9, 2010, concerning Spotted Hawk Development Proposed Well Sites on the Fort Berthold Reservation; T150N, R90W SECTION 31, McLean County, North Dakota.

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

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

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

If you have additional questions pertaining to FPPA, please contact Steve Sieler, Liaison Soil Scientist, NRCS, Bismarck, ND at 701-530-2019.

Sincerely,

PAUL J. SWEENEY
State Conservationist

cc:
Virginia Mehlhoff, DC, NRCS, Garrison, ND
Terrance Gisvold, ASTC (FO), NRCS, Dickinson, ND

Grady Wolf

From: Sorensen, Charles G NWO [Charles.G.Sorensen@usace.army.mil]
Sent: Monday, April 12, 2010 3:13 PM
To: grady.wolf@kljeng.com
Subject: COE comments and concerns relating to Spotted Hawk Developments exploration phase of the Golden 22-31H and May 23-31H well

The U.S. Army Corps of Engineers Garrison Dam/Lake Sakakawea Project requests that Spotted Hawk Development consider and if at all possible implement the following management practices during the exploration phase of the Golden 22-31H and May 23-31H

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

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

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

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

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

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

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

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

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
North Dakota Regulatory Office

April 14, 2010

[NWO-2010-0715-BIS]

Kadrmas Lee & Jackson
Attn: Grady Wolf, Environmental Planner
P.O. Box 1157
Bismarck, North Dakota 58502-1157

Dear Mr. Wolf:

This is in response to a letter received April 12, 2010 requesting Department of the Army, U.S. Army Corps of Engineers (Corps) comments regarding the construction of two (2) oil and gas well pads **(Golden 22-31H & Maya 24-31H)** with access roads, both located in Section 31, Township 150 North, Range 90 West, Fort Berthold Indian Reservation, McLean County, North Dakota by Spotted Hawk Development.

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 impacting navigable waters. Work over, in, or under navigable waters is considered to have an impact. 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 the waters of the United States.

Please submit a location map and completed Corps permit application (copy enclosed) describing all proposed work and construction methodology, to the letterhead address if a Section 10/404 permit is required.

Do not hesitate to contact this office by letter or telephone (701-255-0015) if we can be of further assistance.

Sincerely,

Daniel E. Cimarosti
Regulatory Program Manager
North Dakota

Enclosure

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
2016-715			

(ITEMS BELOW TO BE FILLED BY APPLICANT)

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

STATEMENT OF AUTHORIZATION

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

_____
APPLICANT'S SIGNATURE DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)

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

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

17 DIRECTIONS TO THE SITE

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

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

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

20. Reason(s) for Discharge

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

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

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

Acres

Or

Liner Feet

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

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

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

Address –

City – State – Zip –

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

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

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

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

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

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

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

Instructions for Preparing a Department of the Army Permit Application

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DRAWINGS AND ILLUSTRATIONS

General Information.

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

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

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

United States Department of the Interior

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

TAKE PRIDE IN AMERICA

DK-5000
ENV-6.00

APR 22 2010

RECEIVED
APR 23 2010
By

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

Subject: Solicitation for an Environmental Assessment for Development of Two Well Pads and Access Roads on the Fort Berthold Reservation in McLean County, North Dakota

Dear Mr. Wolf:

This letter is written to inform you that the letter sent on April 9 was received and the information and map have been reviewed by Bureau of Reclamation staff.

Installation of well pads and access roads in McLean County could potentially affect Reclamation facilities in the form of the rural water pipelines of the Fort Berthold Rural Water System.

From the maps you provided, the proposed well pads, Golden 22-31H and Maya 24-31H, are both located in section 31, T150N, R90W.

Since there are proposed or existing water pipelines in the project area and the access road locations have not been identified, we are providing maps depicting the water pipeline alignments in the vicinity of the proposed well pads that could potentially affect Reclamation facilities. Reclamation is the lead Federal agency for the Fort Berthold Rural Water System and 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 or Kelly McPhillips at 701-221-1287.

Sincerely,

Ronald D. Melhouse

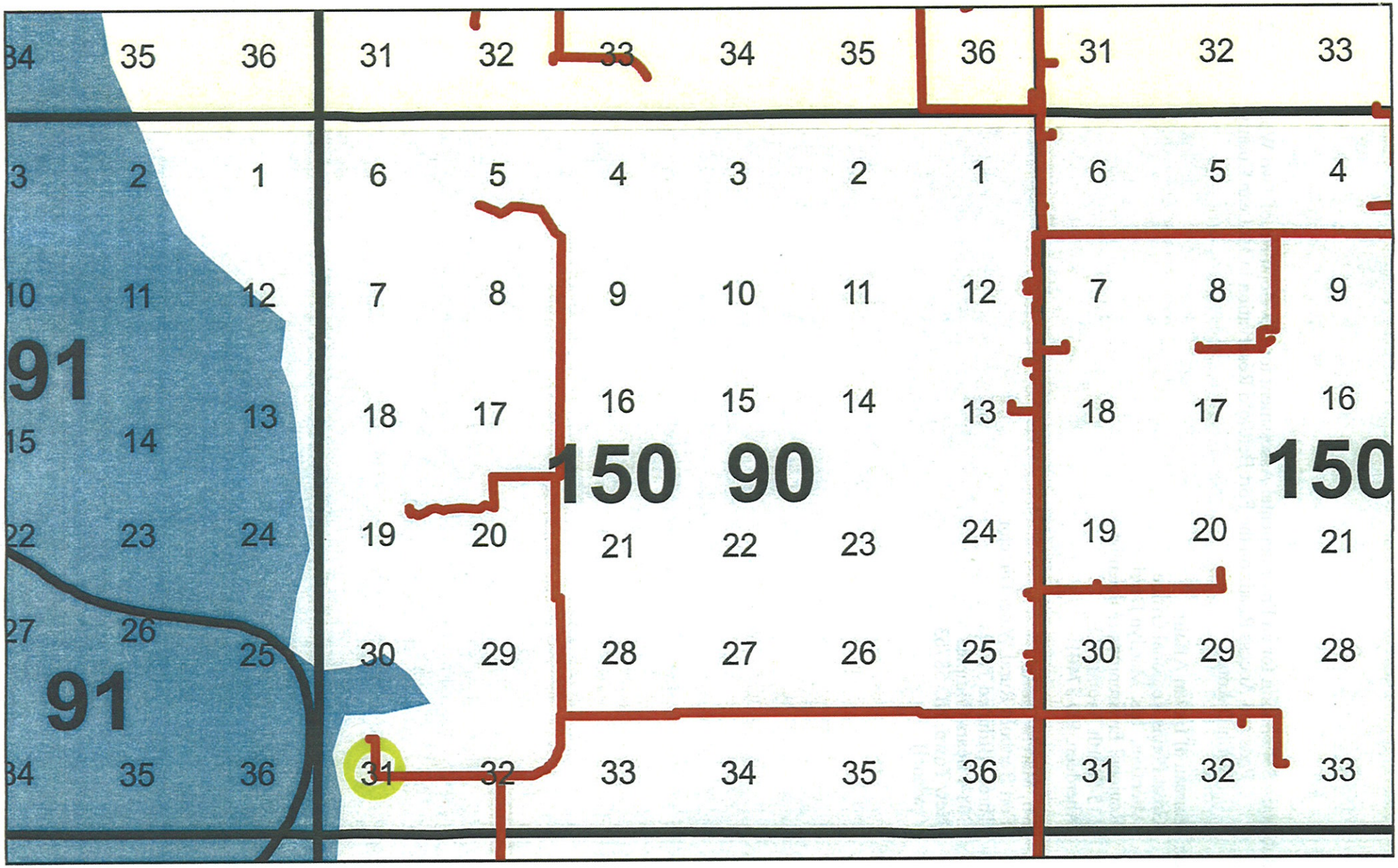
Ronald D. Melhouse
Environmental Specialist

Enclosure

cc: See next page.

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
(w/encl)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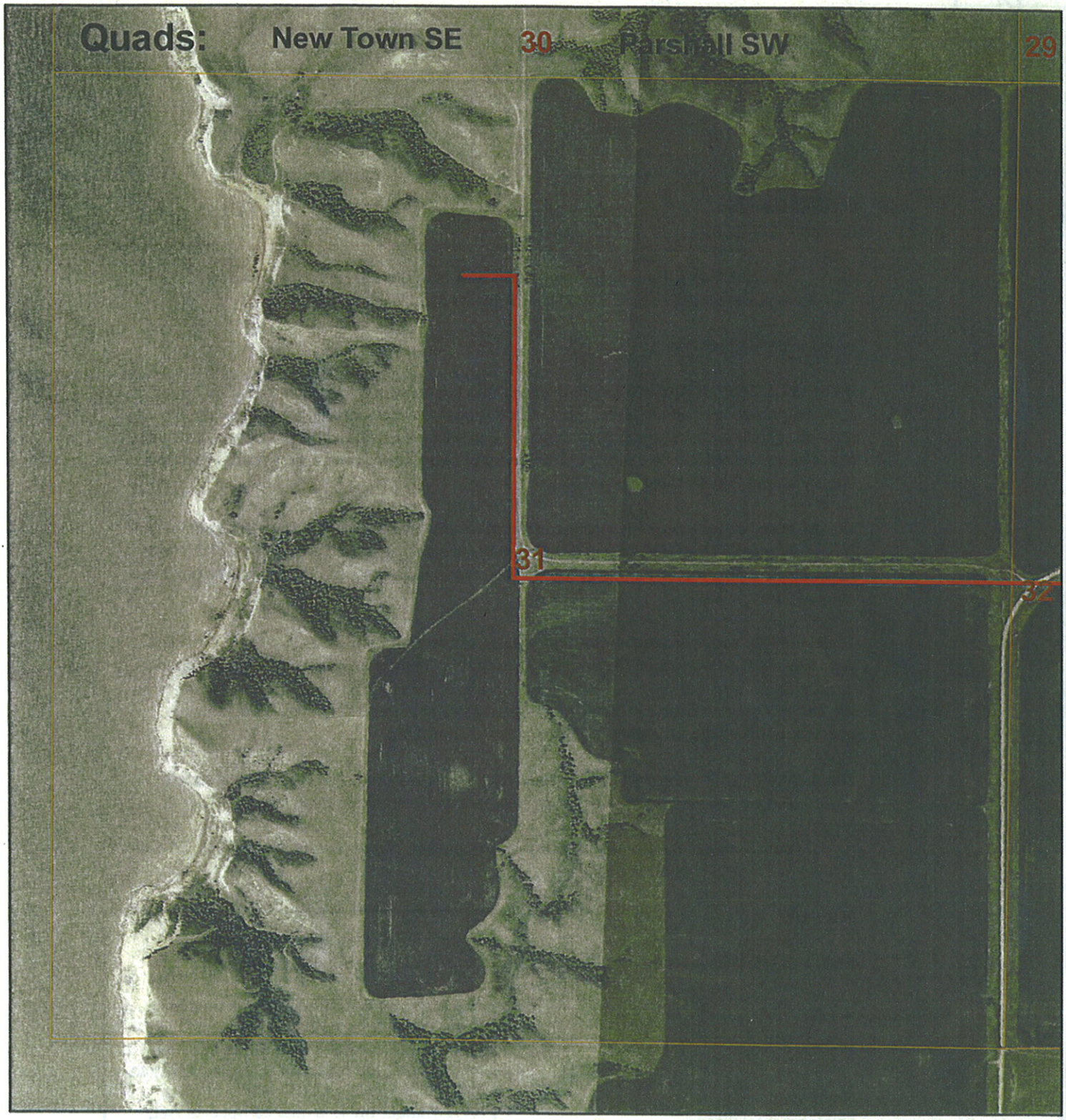

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Kadrmas
Lee &
Jackson
Engineers Surveyors
Planners

April 9, 2010

Mr. Jeffrey Towner
US Fish & Wildlife Service
3425 Miriam Ave.
Bismarck, ND 58501

RE: Spotted Hawk Development Proposed Well Sites, Fort Berthold Reservation
McLean County, ND, T150N, R90W SECTION 31

Dear Mr. Jeffrey Towner:

On behalf of Spotted Hawk Development, Kadrmas, Lee & Jackson, Inc. is preparing an EA (Environmental Assessment) under NEPA (the National Environmental Policy Act) for the BIA (Bureau of Indian Affairs) and BLM (Bureau of Land Management). The proposed action includes approval by the BIA and BLM of the development of two well pads and access roads in McLean County on the Fort Berthold Reservation.

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: Golden 22-31H and Maya 24-31H. Construction of the proposed well pads and access roads is proposed to begin as early as summer 2010.

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

Please provide your comments by **May 10, 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 me at (701) 355-8726. Thank you for your cooperation.

Sincerely,

Kadrmas, Lee & Jackson, Inc.

Grady Wolf
Environmental Planner

Enclosure (Project Map)

U.S. Fish & Wildlife Service
Ecological Services

The Fish and Wildlife Service is unable to comment on this project due to insufficient information provided to allow an adequate review. It is the requestor's responsibility to provide information sufficient to allow a review under the Endangered Species Act, Migratory Bird Treaty Act, and the Fish and Wildlife Coordination Act.

5-3-10
Date

Jeffrey K. Towner
Field Supervisor

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

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

April 14, 2010

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

Re: Spotted Hawk Development Proposed Well Sites on the Fort Berthold Reservation, McLean County

Dear Mr. Wolf:

This department has reviewed the information concerning the above-referenced project submitted under date of April 9, 2010 with respect to possible environmental impacts.

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

1. Development of the production facilities and any access roads or well pads should have a minimal effect on air quality provided measures are taken to minimize fugitive dust. However, operation of the wells has the potential to release air contaminants capable of causing or contributing to air pollution. We encourage the development and operation of the wells in a manner that is consistent with good air pollution control practices for minimizing emissions.

2. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.

3. Oil and gas related construction activities located within tribal boundaries within North Dakota may be required to obtain a permit to discharge storm water runoff from the U.S. Environmental Protection Agency. Further information may be obtained from the U.S. EPA's website or by calling the U.S. EPA – Region 8 at (303) 312-6312. Also, cities or counties may impose additional requirements and/or specific best management practices for

construction affecting their storm drainage system. Check with the local officials to be sure any local storm water management considerations are addressed.

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

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

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

Sincerely,

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.

RECEIVED
MAY - 7 2010
"VARIETY IN HUNTING AND FISHING"
NORTH DAKOTA GAME AND FISH DEPARTMENT
100 NORTH BISMARCK EXPRESSWAY BISMARCK, NORTH DAKOTA 58501-5095 PHONE 701-328-6300 FAX 701-328-6352

May 4, 2010

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

Dear Mr. Wolf:

RE: Golden 22-31H
Maya 24-31H

Spotted Hawk Development is proposing two oil and gas well pads with access roads on the Fort Berthold Reservation in McLean County, North Dakota.

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

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

Sincerely,

Steve Dyke

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

js

North Dakota Department of Transportation

Francis G. Ziegler, P.E.
Director

John Hoeven
Governor

RECEIVED
MAY 10 2010

May 8, 2010

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

SPOTTED HAWK DEVELOPMENT PROPOSED WELL SITES
FORT BERTHOLD RESERVATION
MCLEAN COUNTY T150N, R90W SECTION 31

The proposed well site information submitted has been reviewed.

The state highways shown on the map are not labeled correctly; the upper highway shown is ND 37.

The NDDOT does have a highway improvement project planned for ND 1804 in this area during the 2010 construction season. ND 1804 has year round axle weight restrictions.

When considering overweight truck movements, use of roadways off the state highway system are encouraged to minimize damage to the state system.

If you need additional information, please contact me.

James L. Redding

JAMES L. REDDING, PE, NDDOT MINOT DISTRICT ENGINEER

RECEIVED
APR 2 1 2010

Office of
McLean County State's
Attorney

McLean County

STATE OF NORTH DAKOTA

712 5th Avenue
P.O. Box 1108
Washburn, ND 58577-1108
(701) 462-8541
Fax (701) 462-8212
lrerickson@nd.gov

April 20, 2010

The Honorable Frank White Calfe
Councilman
404 Frontage Road
New Town, North Dakota 58763

The Honorable Mervin Packineau
Councilman
404 Frontage Road
New Town, North Dakota 58763

Re: Oil Roads

Dear Councilmen:

On April 19, 2010, the McLean County commissioners approved a motion to stop road maintenance on sections of roads being severely impacted by oil activity.

Attached is a color-coded map depicting the roads in question. The two roads depicted in green and pink are both now scheduled to have signs placed along them informing the public that there is "No Maintenance" and "Soft Grades".

The BIA built these roads and McLean County has voluntarily maintained them since 1955. However, the current intensity of road damage related to oil activity makes their continued maintenance by the county cost prohibited.

The road depicted on the map in yellow is part of the county road system and is designed as a non-commercial cabin-site road. The county will continue normal maintenance on this road. Weight restrictions are in place to prohibit oil trucks and the county may be issuing further restrictions if that road's condition requires them. Any oil development planning proximate to that road will need to include a route that does not involve using that road to support oil wells or water depots. Intermixing commercial activities with the intended purpose of that particular road could create a safety risk to the public. The county has established procedures when private entities seek to improve congressional section lines to facilitate commercial or other development activities. Those procedures could be employed here upon application if oil development is planned for that area.

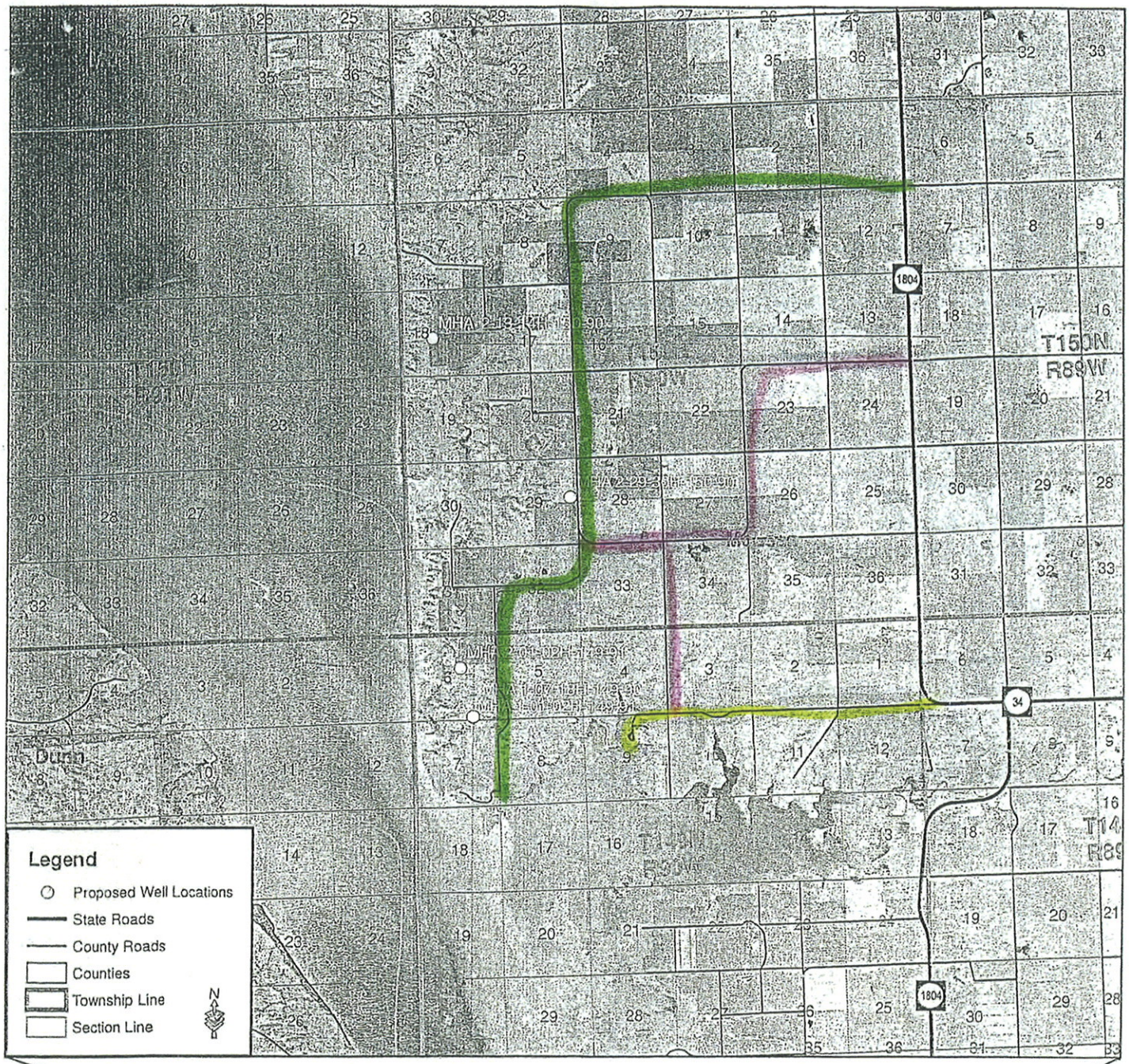
The McLean County commissioners remain committed to both the development of oil extraction within the county and maintaining our positive relationship with the Tribe. The unfortunate reality of budgeting available county resources has forced the commissioners to take this action. As always, our commissioners and other county officials welcome an open dialog with the Tribe so we can remain partners in the important endeavors facing our constituents.

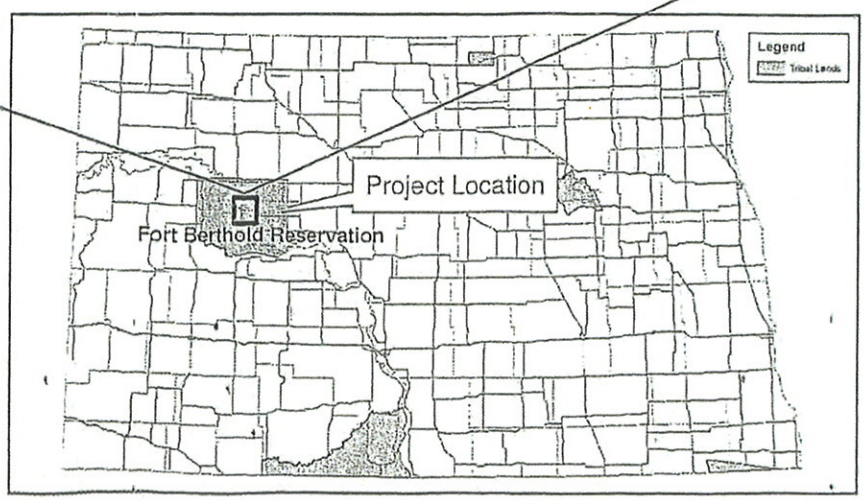
Sincerely,

Ladd R. Erickson
McLean County State's Attorney

LRE/ma

cc: Steven Lee
Julie Hudson-Schenbfisch
Ron Krebsbach
Grady Wolf, KLJ
Jerry Reinisch, KLJ





Questar Exploration & Production Company Proposed Wells McLean County, ND

Kadrmas Lee & Jackson
Engineers Surveyors Planners

United States Department of the Interior

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

JUN 10 2010

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

Re: Spotted Hawk Development Draft Environmental Assessment Golden and Maya Proposed Wells

Dear Mr. Wolf:

This is in response to your May 24, 2010, draft environmental assessment (EA) on two proposed exploratory oil and gas wells proposed to be drilled and completed by Spotted Hawk Development (Spotted Hawk) on the Fort Berthold Reservation, McLean County, North Dakota.

Specific locations for the proposed wells are:

Golden 22-31H: T. 150 N., R. 90 W., Section 31, SE¼NW¼
Maya 24-31H: T. 150 N., R. 90 W., Section 31, SE¼SW¼

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", and the Endangered Species Act (16 U.S.C. 1531 et seq.) (ESA).

Threatened and Endangered Species

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

The Service concurs with your "may affect, is not likely to adversely affect" determination for piping plovers, interior least terns, and pallid sturgeon. This concurrence is based on topographic features of the area providing sound and sight buffers which should avoid disturbing nesting birds on the shoreline of the lake. This concurrence is also predicated on Spotted Hawk's commitment to place a 2-foot berm around the pad exterior, as well as a 4-foot berm around the storage tanks and heater/treater to provide an additional 20-30 percent of containment in the event of a spill.

The Service concurs with your "may affect, is not likely to adversely affect" determination for whooping cranes. This concurrence is predicated on Spotted Hawk's commitment to stop work on the proposed site if a whooping crane is identified on the proposed project area, for the duration of the time the whooping crane is present and immediately informing the Service of the bird's presence.

The EA states that the proposed project areas consist partially of native prairie and that Dakota skipper surveys were conducted on April 2, 2010. Dakota skipper surveys should be conducted during their brief adult (flight) period in June and July. Because of the difficulty of surveying for Dakota skippers, the timing of the surveys conducted, and a short survey window, we recommend that the project avoid any impacts to potential Dakota skipper habitat.

GENERAL COMMENTS

Migratory Birds

The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, and transportation, (among other actions) of migratory birds, their eggs, parts, and nests, except when specifically permitted by regulations. While the MBTA has no provision for allowing unauthorized take, the Service realizes that some birds may be killed during well construction and operation even if all known reasonable and effective measures to protect birds are used. The Service's Office of Law Enforcement carries out its mission to protect migratory birds through investigations and enforcement, as well as by fostering relationships with individuals, companies, and industries that have taken effective steps to avoid take of migratory birds, and by encouraging others to implement measures to avoid take of migratory birds. It is not possible to absolve individuals, companies, or agencies from liability even if they implement bird mortality avoidance or other similar protective measures. However, the Office of Law Enforcement focuses its resources on investigating and prosecuting individuals and companies that take migratory birds without identifying and implementing all reasonable, prudent, and effective measures to avoid that take. Companies are encouraged to work closely with Service biologists to identify available protective measures when developing project plans and/or avian protection plans, and to implement those measures prior to/during construction or similar activities.

The BGEPA, prohibits anyone, without a permit issued by the Secretary of the Interior, from taking bald eagles, including their parts, nests, or eggs. The Act provides criminal and civil penalties for persons who take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle or any golden eagle, alive or dead, or any part, nest, or egg thereof. The Act defines take as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. "Disturb" means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagles return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering habits and causes, or is likely to cause, a loss of productivity or nest abandonment.

The EA does not provide sufficient information regarding migratory bird surveys. It is not clear whether a standard survey protocol was used or if opportunistic observations were made during a site visit. The EA states that no migratory bird nests were observed during the field surveys. However, based on the time of year that surveys were conducted, many birds may not have yet arrived on their breeding grounds, and birds detected may have been migrants passing through. It is also difficult to differentiate the survey area from the construction footprint of the proposed project. Human activities associated with the construction and operation of a well pad may cause nest abandonment if a nest is in close proximity to the actual project footprint. The survey methods and study area are not clear and, therefore, we cannot determine whether all reasonable measures have been taken to prevent take of migratory birds. The Wildlife Impacts/Mitigation Section does not provide adequate avoidance or minimization measures. The Service recommends that Spotted Hawk consider moving the pads and associated roads entirely into the adjacent cropland. The Service feels that this would provide sufficient minimization of impacts to migratory birds and would address our concerns with the wooded draws. If this is not a viable option for Spotted Hawk, then we recommend that timing restrictions be implemented to avoid the nesting season (after July 15), or that thorough surveys demonstrating specific protocols be conducted immediately prior to any construction. The Service also recommends that Spotted Hawk prepare an Avian Protection Plan (APP) for all their operations in North Dakota and submit it to the Service for review and approval to avoid and minimize impacts to migratory birds.

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. 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 whether or not they are active. 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 raptor surveys be conducted prior to any on-the-ground activities. Grady Wolf, environmental scientist with KLJ, stated in a June 4, 2010, email that no raptor nests were seen within ¼ mile of the well pad or the access road. Golden eagles are known to be sensitive to human disturbance, even when the disturbance is greater than ¼ mile from nests. We recommend that Spotted Hawk complete a ground survey for raptor nests within ½ mile of the project areas in accordance with the Service's *Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocols; and Other Recommendations in Support of Golden Eagle Management and Permit Issuance* and demonstrate how this guidance will be implemented. These guidelines can be found at: http://www.fws.gov/southwest/es/oklahoma/Documents/Wind%20Power/Documents/USFWS_Interim_GOEA_Monitoring_Protocol_10March2010.pdf.

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

- To the extent practicable, schedule construction for late summer or fall/early winter so as not to disrupt waterfowl 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 bald or golden eagles or other migratory birds, their eggs, or active nests, the Service recommends that the project proponent implement all practicable measures to avoid all take, such as suspending construction where necessary and/or maintaining adequate buffers to protect the birds until the young have fledged. The Service further recommends that if you choose to conduct field surveys for nesting birds, including eagles, with the intent of avoiding take, that you maintain any documentation of the presence of eagles or other migratory birds, eggs, and active nests, along with information regarding the qualifications of the biologist(s) performing the survey(s), and any avoidance measures implemented at the project site. Should surveys or other available information indicate a potential for take of eagles or other migratory birds, their eggs, or active nests, the Service requests that you contact this office for further coordination on the extent of the impact and the long-term implications of the intended use of the project on eagles or other migratory bird populations.

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.

According to Section 3.7.2.1 Wildlife Impacts/Mitigation, Spotted Hawk has committed to use federally approved netting during the production phase and keep nets in place until closure of the reserve pits. The company has also committed to cover barrels and spigots with wire mesh to minimize impacts to migratory birds.

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.
- Avoid construction in native prairie, if possible, and reseed disturbed native prairie with a comparable native grass/forb seed mixture immediately after construction to reduce erosion. Seed stock should preferably be collected from the adjacent native prairie. If this is not possible, the seed stock should be

obtained from sources no farther than 250 miles away to ensure the particular cultivars are well adapted to the local climate.

A list of potential mitigation measures occurs in each section of the draft "Affected Environment and Impacts." Mitigation should not be viewed an environmental consequence, but rather as an actual component of the action. We recommend that the mitigation subsection for each resource be removed from the "Affected Environment and Impacts Chapter", and included as part of the "Proposed Action and Alternatives" Chapter of the EA.

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.

The EA includes a cumulative effects analysis of the existing and proposed pads and access roads; however, the analysis lacks quantitative data and specific information about other past, present and reasonably future actions in the project vicinity. There is also much discussion about minimization measures, e.g., sharing of access roads and avoidance of wetlands, but there is no assessment of how this proposed project and all past, present, and reasonably foreseeable future actions would cumulatively impact relevant resources. We recommend ensuring that cumulative impacts be considered for all affected resources and include data and rationale to support any conclusions. For example, we know that 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 percent 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. Many prairie species require large, contiguous blocks of grasslands for their biological needs and may either avoid patchy habitat or experience reduced reproductive success. Some technical analysis quantifying the extent of habitat fragmentation associated with oil and gas development would be helpful. For example, GIS models that quantify fragmentation could be applied to existing oil and gas developed sites, and the data could also be extrapolated to predict future fragmentation.

Post-production Phase – Reclamation

The EA states that maintenance and successful reclamation of the site would be consistent with the BLM Gold Book Standards for well site reclamation. The Service

recommends that, in addition to these standards, the BIA should require that each project include a plan to restore the landscape following project completion, including a bond sufficient to reclaim the area in full. Since native prairie species take some time to establish, intensive management may be required for several years to ensure that weeds do not infest the area.

For prairie areas, the Service recommends planting a diverse mixture of native cool and warm season grasses and forbs. 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.

SPECIFIC COMMENTS

Finding of No Significant Impact (FONSI), Factor 3: The reference to Service guidance should cite all applicable authorities, including the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.) (MBTA), the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.) (NEPA), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250) (BGEPA), Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds", and the Endangered Species Act (16 U.S.C. 1531 et seq.) (ESA).

3.7.2 Wildlife, Page 3-13,14: The ESA "take" definition is provided, but BGEPA and MBTA have their own "take" definitions, which should be included instead, since this section of the EA does not pertain to Section 7, but rather to migratory bird surveys. Under ESA, the term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Take is defined by the MBTA to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing, or transporting any migratory bird, nest, egg, or part thereof. The BGEPA affords additional protection to all bald and golden eagles and take includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb, wherein "disturb" means to agitate or bother a bald or golden eagle to the degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, causing injury, death, or nest abandonment.

3.7.2 Wildlife, Page 3-14: The number of species protected under MBTA is dated; the number is currently 1,007.

3.7.2 Wildlife, Page 3-15: The document states "..measures *may* include..."; the EA should provide specific minimization and avoidance measures which the company has committed to implement. An assessment of environmental impacts can only be done based on what the company has committed to do and on the Federal agency's preferred alternative.

3.16 Permits, Page 29: If a Section 10 permit is required, the Service will provide comments through the Corps regulatory process as well.

Thank you for the opportunity to comment on this EA. We recommend submitting a revised EA which addresses our concerns, stating whether or not Spotted Hawk intends to implement our recommendations, and if not, how they intend to comply with applicable federal wildlife laws. This revision and second review will be necessary for the Service to certify that all federal wildlife laws have been complied with. If all comments are addressed satisfactorily, we commit to an expeditious review and sign-off. If you require further information or the project plans change, please contact me or Heidi Kuska 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

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

Responses to United States Fish and Wildlife Service Comments on Spotted Hawk Environmental Assessment for Golden and Maya Proposed Wells

Comment 1: The Service concurs with your "may affect, is not likely to adversely affect" determination for piping plovers, interior least terns, and pallid sturgeon.

Response 1: Comment noted.

Comment 2: The Service concurs with your "may affect, is not likely to adversely affect" determination for whooping cranes.

Response 2: Comment noted.

Comment 3: The EA states that the proposed project consists partially of native prairie and that Dakota skipper surveys were conducted on April 2, 2010. Dakota skipper surveys should be conducted during their brief adult (flight) period in June and July. Because of the difficulty of surveying for Dakota skippers, the timing of the surveys conducted, and a short survey window, we recommend that the project avoid any impacts to potential Dakota skipper habitat.

Response 3: The EA analogizes that the timing of the survey did not coincide with the timing that Dakota skippers would be most visible. Because of the difficulty in finding suitable sites for oil development which allows for consistent spacing units, ease of constructability, along with landowner constraints, it would be difficult to position the pads in a way which would eliminate all potential Dakota skipper habitat.

Comment 4: The EA does not provide sufficient information regarding migratory bird surveys. It is not clear whether a standard survey protocol was used or if opportunistic observations were made during a site visit.

Response 4: Pedestrian transects were used to conduct the migratory bird and raptor nest surveys during two separate site visits. This information has been included in the appropriate sections of the EA. All construction activities are scheduled to begin after July 15 in order to avoid impacts to migratory birds during the breeding/nesting season.

Comment 5: The EA states that no migratory bird nests were observed during the field surveys. However, based on the time of year that surveys were conducted, many birds may not have yet arrived on their breeding grounds, and birds detected may have been migrants passing through.

Response 5: All construction activities are scheduled to begin after July 15 in order to avoid impacts to migratory birds during the breeding/nesting season. This information has been included into the appropriate sections of the EA.

Comment 6: It is also difficult to differentiate the survey area from the construction footprint of the proposed project. Human activities associated with the construction and operation of a well pad may cause nest abandonment if a nest is in close proximity to the actual project footprint.

Response 6: The area that was surveyed includes a 200-foot corridor for the access road and a 10-acre site around the well pad. Disturbance from construction of the roadway would be 50-feet and disturbance around the well pads would be approximately 3.75 to 4.0 acres. All construction activities are scheduled to begin after July 15 in order to avoid impacts to migratory birds during the breeding/nesting season. A pick-up survey was completed for raptors and raptor nests within 0.5 miles of project disturbance areas by Kadrmas, Lee & Jackson on June 11, 2010. This survey consisted of pedestrian transects focusing specifically on potential nesting sites within 0.5 miles of project disturbance areas, including cliffs and wooded draws. Wooded draws were observed both from the upland areas overlooking the draws and from bottomlands within the actual draws. No raptors or their nests were observed within 0.5 miles of the project disturbance areas on the day of the survey. This information has been included into the EA.

Comment 7: The survey methods and study area are not clear and, therefore, we cannot determine whether all reasonable measures have been taken to prevent take of migratory birds.

Response 7: All construction activities are scheduled to begin after July 15 in order to avoid impacts to migratory birds during the breeding/nesting season. This information has been included in the appropriate sections of the EA.

Comment 8: The Service recommends Spotted Hawk consider moving the pads and associated roads entirely onto adjacent cropland. The Service feels that this would provide sufficient minimization of impacts to migratory birds and would address our concerns with wooded draws. If this is not a viable option for Spotted Hawk, then we recommend that timing restrictions be implemented to avoid the nesting season (after July 15), or that thorough surveys demonstrating specific protocols be conducted immediately prior to any construction.

Response 8: Spotted Hawk will implement timing restrictions with respect to construction. No construction activities shall take place before July 15 in order to avoid impacts to migratory birds during the breeding and nesting seasons.

Comment 9: The Service also recommends that Spotted Hawk prepare an Avian Protection Plan (APP) for all their operations in North Dakota and submit it to the Service for review and approval to avoid and minimize impacts to migratory birds.

Response 9: An APP will be considered for future projects associated with oil and gas development by Spotted Hawk Development. Spotted Hawk has agreed to implement numerous measures to protect avian species on and around the project site. These measures have been included described in sections 3.6, 3.7 and 3.17 of the EA.

Comment 10: A buffer of at least ½ mile should be maintained for golden and bald eagle nests.

Response 10: Ground surveys for raptor nests were performed on June 11, 2010. No raptor nests were observed within ½ mile of proposed areas of disturbance.

Comment 11: A permit is required for any take of bald or golden eagles or their nests whether or not they are active. Permits to take golden eagles or their nests are available only for legitimate emergencies and as part of a program to protect golden eagles.

Response 11: As no raptor nests were observed within ½ mile of proposed areas of disturbance during field surveys, the proposed project would not require the referenced permit.

Comment 12: We recommend that Spotted Hawk complete a ground survey for raptor nests within ½ mile of the project areas in accordance with the Service's *Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocols; and Other Recommendations in Support of Golden Eagle Management and Permit Issuance* and demonstrate how this guidance will be implemented.

Response 12: Ground surveys for raptor nests were performed on June 11, 2010. These surveys included walking the bottoms and tops of all hardwood draws within ½ mile of the area of potential disturbance along with observance of rocky outcrops suitable for golden eagle nesting. No raptor nests were observed within ½ mile of proposed areas of disturbance.

Comment 13: To the extent practicable, schedule construction for late summer or fall/early winter so as not to disrupt waterfowl or other wildlife during the breeding season (February 1 to July 15).

Response 13: Spotted Hawk will implement timing restrictions with respect to construction. No construction activities shall take place before July 15 in order to avoid impacts to migratory birds during the breeding and nesting seasons.

Comment 14: The Service strongly recommends that the pads be constructed as closed-loop systems, without a reserve pit.

Response 14: Spotted Hawk Development uses what is referred to as a semi-closed loop system in which only dry cutting are contained in open pits. Toxic 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. These methods are used to avoid and minimize to potential of contaminants to move offsite as well as minimize to potential to impact wildlife.

Comment 15: Keep oil off open pits or ponds.

Response 15: Spotted Hawk Development uses what is referred to as a semi-closed loop system in which only dry cutting are contained in open pits. Toxic 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.

Comment 16: Place covers on drip buckets/barrels located under valves and spigots.

Response 16: Spotted Hawk has committed to placing covers on drip buckets/barrels located under valves and spigots in Sections 3.7 and 3.17 of the EA.

Comment 17: Use effective and proven exclusionary devices.

Response 17: Spotted Hawk has committed to netting reserve pits using netting with a maximum mesh size of 1.5 inches in Sections 3.7 and 3.17 of the EA.

Comment 18: Make no stream channel alterations or changes in drainage patterns.

Response 18: Spotted Hawk as committed in Sections 3.4 and 3.17 of the EA that the proposed project will not result in stream channel alterations or changes in drainage patterns.

Comment 19: Install and maintain appropriate erosion control measures to reduce sediment transport to adjacent wetlands and stream channels.

Response 19: Spotted Hawk development has committed to construction of a two-foot earth berm around the pad to contain potential runoff from the site.

Comment 20: Avoid construction in native prairie, if possible, and reseed disturbed native prairie with a comparable native grass/forb seed mixture immediately after construction to reduce erosion. Seed stock should be collected from adjacent native prairie. If this is not possible, the seed stock should be obtained from sources no further than 250 miles away to ensure the particular cultivars are well adapted to the local climate.

Response 20: Spotted Hawk Development has committed to reseeding disturbed areas with a native grass seed mixture in a timely manner from a BIA/BLM approved seed source.

Comment 21: We recommend that the mitigation subsection for each resource be removed from the "Affected Environment and Impacts Chapter," and included as part of the "Proposed Action and Alternatives" Chapter of the EA.

Response 21: Revisions to the layout of the EA will be considered for all future EA's submitted by Spotted Hawk Development.

Comment 22: The EA includes a cumulative effects analysis of the existing and proposed pads and access roads; however, the analysis lacks quantitative data and specific information about other past, present, and reasonably future actions in the project vicinity. There is also much discussion about minimization measures, e.g., sharing of access roads and avoidance of wetlands, but there is no assessment of how this proposed project and all past, present, and reasonably foreseeable future actions would cumulatively impact relevant resources. We recommend ensuring that cumulative impacts be considered for all affected resources and include data and rationale to support any conclusions.

Response 22: Due to the confidential nature and the rate of developement of oil and gas exploration in the Bakken formation, cumulative impacts from the proposed construction are difficult to analyze. Available information has been used in analyzing cumulative impacts for the proposed project.

Comment 23: The EA states that maintenance and successful reclamation of the site would be consistent with the BLM Gold Book Standards for well site reclamation. The Service recommends that, in addition to these standards, the BIA should require that each project include a plan to restore the landscape following project completion, including a bond sufficient to reclaim the area in full.

Response 23: Comment noted.

Comment 24: For prairie areas, the Service recommends planting a diverse mixture of native cool and warm season grasses and forbs.

Response 24: A BIA/BLM approved seed source and revegetation plan will be used for reclamation efforts.

Comment 25: The seed source should be as local as possible, preferably collected from the nearby native prairie.

Response 25: A BIA/BLM approved seed source and revegetation plan will be used for reclamation efforts.

Comment 26: **Finding of No Significant Impact (FONSI), Factor 3:** The reference to Service guidance should cite all applicable authorities, including the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.) (MBTA), the National Environmental Policy of 1969, as amended (42 U.S.C. 4321 et seq.) (NEPA), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250)(BGEPA), Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds," and the Endangered Species Act (16 U.S.C. 1531 et seq.) (ESA).

Response 26: Revisions have been made to the FONSI statement.

Comment 27: **3.72. Wildlife, Page 3-13, 14:** The ESA "take" definition is provided, but BGEPA and MBTA have their own "take" definitions, which should be included instead, since this section of the EA does not pertain to Section 7, but rather to migratory bird surveys. Under ESA, the term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in such conduct. Take is defined by the MBTA to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing, or transporting any migratory bird, nest, egg, or part thereof. The BGEPS affords additional protection to all bald and golden eagles and take includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb, wherein "disturb" means to agitate or bother a bald or golden eagle to the degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, causing injury, death, or nest abandonment.

Response 27: Revisions have been made to the appropriate sections of the EA.

Comment 28: **3.7.2 Wildlife, Page 3-14**: The number of species protected under MBTA is dated; the number is currently 1,007.

Response 28: Comment noted.

Comment 29: **3.7.2 Wildlife, Page 3-15:** The document states "...measures *may* include..."; the EA should provide specific minimization and avoidance measures which the company has committed to implement. An assessment of environmental impacts can only be done based on what the company has committed to do and on the Federal agency's preferred alternative.

Response 29: The text has been revised from "may" to "would".

Comment 30: **3.16 Permits, Page 29:** If a Section 10 permit is required, the Service will provide comments through the Corps regulatory process as well.

Response 30: Comment noted.

Notice of Availability and Appeal Rights

Spotted Hawk: Golden 22-31H and Maya 24-31H

THE BUREAU OF INDIAN AFFAIRS (BIA) IS PLANNING TO ISSUE ADMINISTRATIVE APPROVALS RELATED TO INSTALLATION OF TWO OIL/GAS WELLS AND RELATED INFRASTRUCTURE FOR GOLDEN 22-31H AND MAYA 24-31H AS SHOWN ON THE ATTACHED MAP. CONSTRUCTION BY SPOTTED HAWK IS EXPECTED TO BEGIN IN THE SUMMER 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 JULY 23, 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.

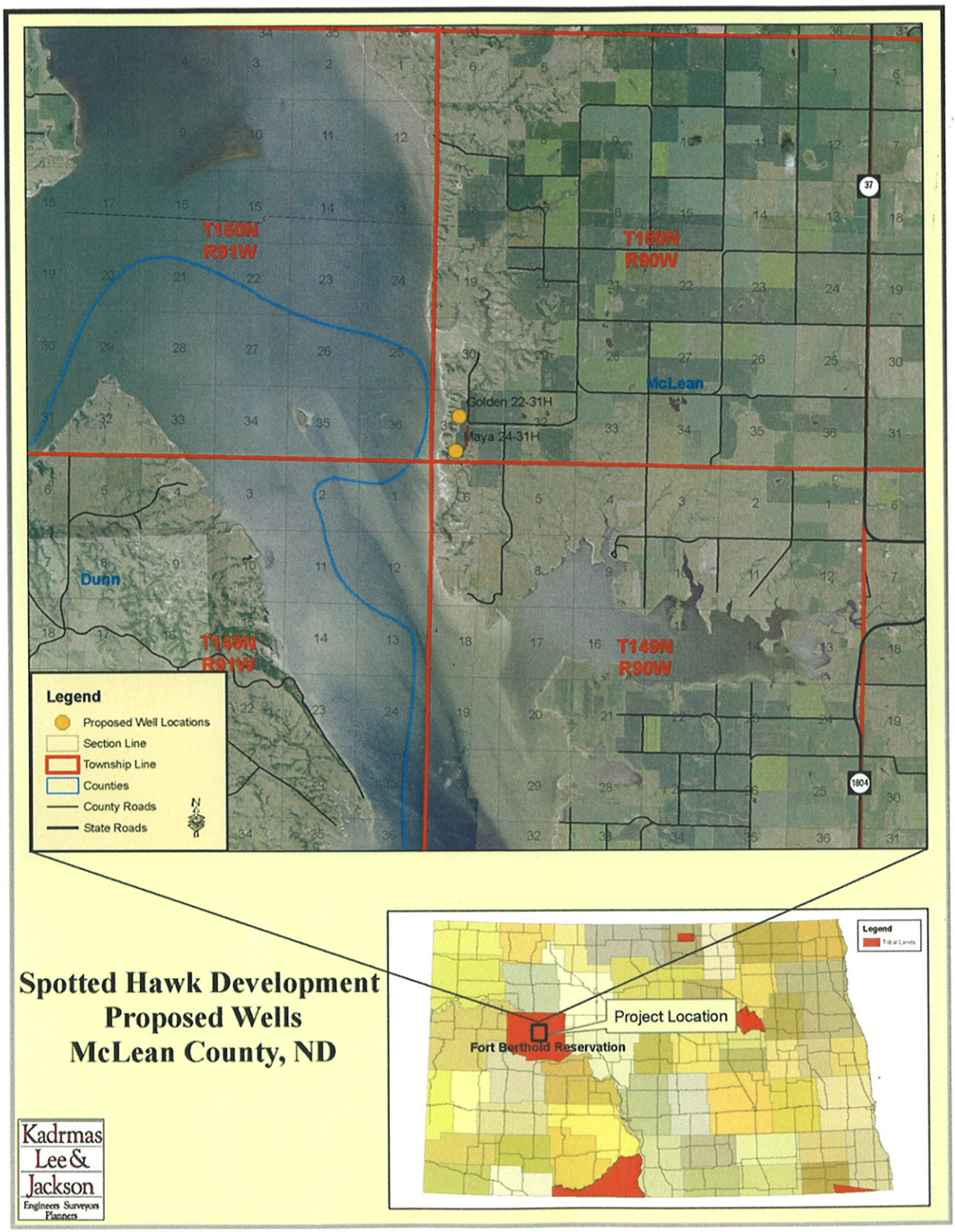


Figure Error! No text of specified style in document..**1 Project Location Map**