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

JUN 04 2010

IN REPLY REFER TO:
DESCRM
MC-208

MEMORANDUM

TO: Superintendent, Fort Berthold Agency

FROM: Regional Director, Great Plains Region

SUBJECT: Environmental Assessment and Finding of No Significant Impact

In compliance with the regulations of the National Environmental Policy Act (NEPA) of 1969, as amended, for access roads across Tribal trust land to two exploratory oil and gas wells 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)
Dawn Charging, Virtual One Stop Shop, Fort Berthold Agency

Finding of No Significant Impact

Marathon Oil Company (Marathon)

Environmental Assessment for
Access Road to Goodall – USA #11-29H and Quale – USA #31-20
Oil and Gas Wells

Fort Berthold Indian Reservation
McKenzie County, North Dakota

The U.S. Bureau of Indian Affairs (BIA) has received a proposal to provide access across Tribal trust land to two exploratory oil and gas wells. Though the wells that these roadways would provide access to are located on fee lands and, as such, would not require BIA authorization to drill, they are considered a connected action and are proposed to be positioned in the following locations:

- Goodall – USA #11-29H[1] located in T152N, R93W, 5th P.M., Section 20
- Quale – USA #31-20H located in T152N, R93W, 5th P.M., Section 20

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.

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[1] Please note that this well was formerly named the Goodall – USA #21-29H well in the public scoping letter.

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

5. Environmental justice was fully considered.

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

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

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

Regional Director

6/4/10
Date

ENVIRONMENTAL ASSESSMENT

United States Bureau of Indian Affairs

Great Plains Regional Office
Aberdeen, South Dakota

Marathon Oil Company

Access Road to Goodall – USA #11-29H and Quale – USA #31-20 Oil and 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

Chapter 1 Purpose and Need for Action

1.1 Introduction

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

1.2 Description of the Proposed Action

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

The proposed action includes approval by the BIA (United States Bureau of Indian Affairs) to develop/improve approximately 0.69 miles of access road on Tribal lands that are required to access the proposed Goodall and Quale exploratory wells. Though the wells that these roadways would provide access to are located on fee lands and, as such, would not require BIA authorization to drill, they are considered a connected action and are proposed to be positioned in the following locations:

- Goodall – USA #11-29H[1] located in T152N, R93W, 5th P.M., Section 20
- Quale – USA #31-20H located in T152N, R93W, 5th P.M., Section 20

Please refer to Figure 1-1, Project Location Map. Both proposed well sites are located on fee land. However, portions of their proposed access roads in the W½NW¼ of T152N, R93W, 5th P.M., Section 20 would cross Tribal trust property.

[1] Please note that this well was formerly named the Goodall – USA #21-29H well in the public scoping letter.

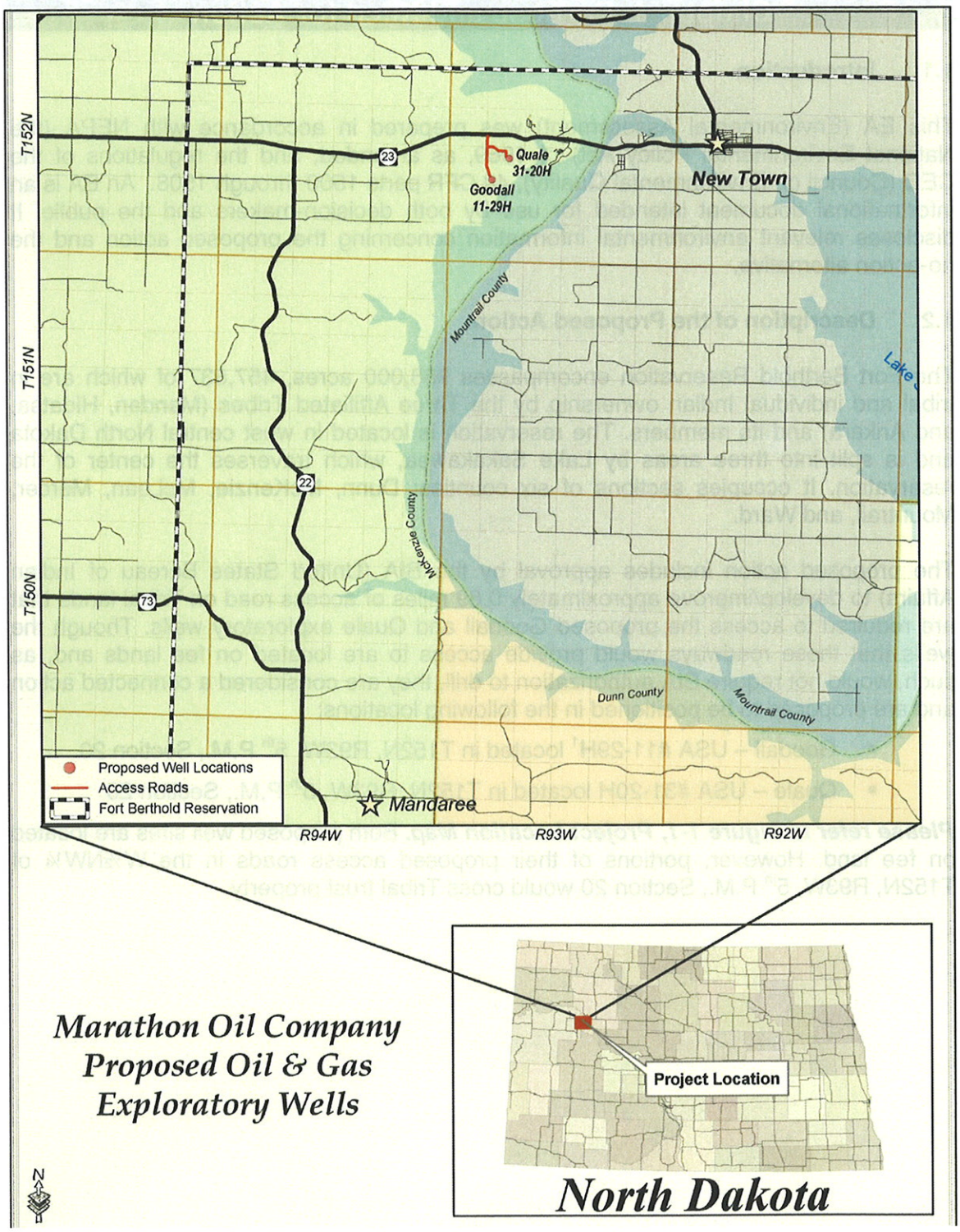

Figure 1-1, Project Location Map

1.3 Need for the Proposed Action

The Tribes own their mineral resources, which are held in trust by the United States government through the BIA. The BIA's approval of access road construction needed to drill the two exploratory wells would help provide important benefits to The Three Affiliated Tribes. If productive, the exploratory wells would provide 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. These benefits would not be realized without the reliable access the proposed project would provide.

1.4 Purpose of the Proposed Action

The purpose of the proposed action is to allow the Three Affiliated Tribes to provide access to two proposed oil and gas wells on the Fort Berthold Reservation.

1.5 Regulations that Apply to Oil and Gas Development Activities

The BIA must comply with NEPA before it authorizes the construction of new roadways on Tribal lands. Therefore, an EA for the proposed action is necessary to analyze the direct, indirect, and cumulative impacts of the BIA's approval of the access road.

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. 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 would not authorize the development of the portions of new access road on Tribal lands that are required to access the proposed exploratory wells. These access roads have been positioned to best utilize existing infrastructure, thus minimizing the extent of impact associated with the construction of a new roadway network. There would be no environmental impacts associated with Alternative A. However, it is anticipated that if Alternative A were selected, alternate access routes to the wells would need to be developed, which may result in greater levels of environmental impact.

2.3 Alternative B: Proposed Action

The proposed action (Alternative B) includes authorization by the BIA to develop/improve approximately 0.69 miles of access road on Tribal lands that are required to access the proposed Goodall and Quale well locations.

An intensive resource survey of the access road portions located on Tribal lands were conducted on April 23, 2010 with the BIA Environmental Protection Specialist and representatives from Marathon and Kadrmas, Lee & Jackson present. The purpose of the on-site visits was to gather site-specific data and photos with regards to biological, botanical, and water resources. Access road corridors 200-feet wide were considered in the on-site analysis. During this visit, the proposed access road locations were finalized, and the BIA determined site-specific BMPs as appropriate.

The running surface of improved and new access roads would be surfaced with crushed gravel or scoria from a previously approved location, and erosion control measures would be installed as necessary. A maximum right-of-way width of 66 feet would be disturbed, consisting of a 20 to 28-foot wide roadway with the remainder of the disturbed area due to borrow ditches and construction slopes. 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.

2.3.1 Related Development Activities

Though the wells that these roadways would provide access to are located on fee lands and, as such, would not require BIA authorization to drill, they are considered a connected action.

Each well would consist of a well pad, access road, associated infrastructure, and a spacing unit. The well pad is where the actual surface disturbance caused by drilling activities would occur. 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.

2.3.1.1 Goodall Well

The Goodall – USA #11-29H well would be located in the SW¼SW¼ of Section 20, Township 152 North, Range 93 West, 5th P.M. to access potential oil and gas resources within the spacing unit consisting of Sections 29 and 32 Township 152 North, Range 93 West, 5th P.M. ***Please refer to Figure 2-1, Goodall Well Overview.***

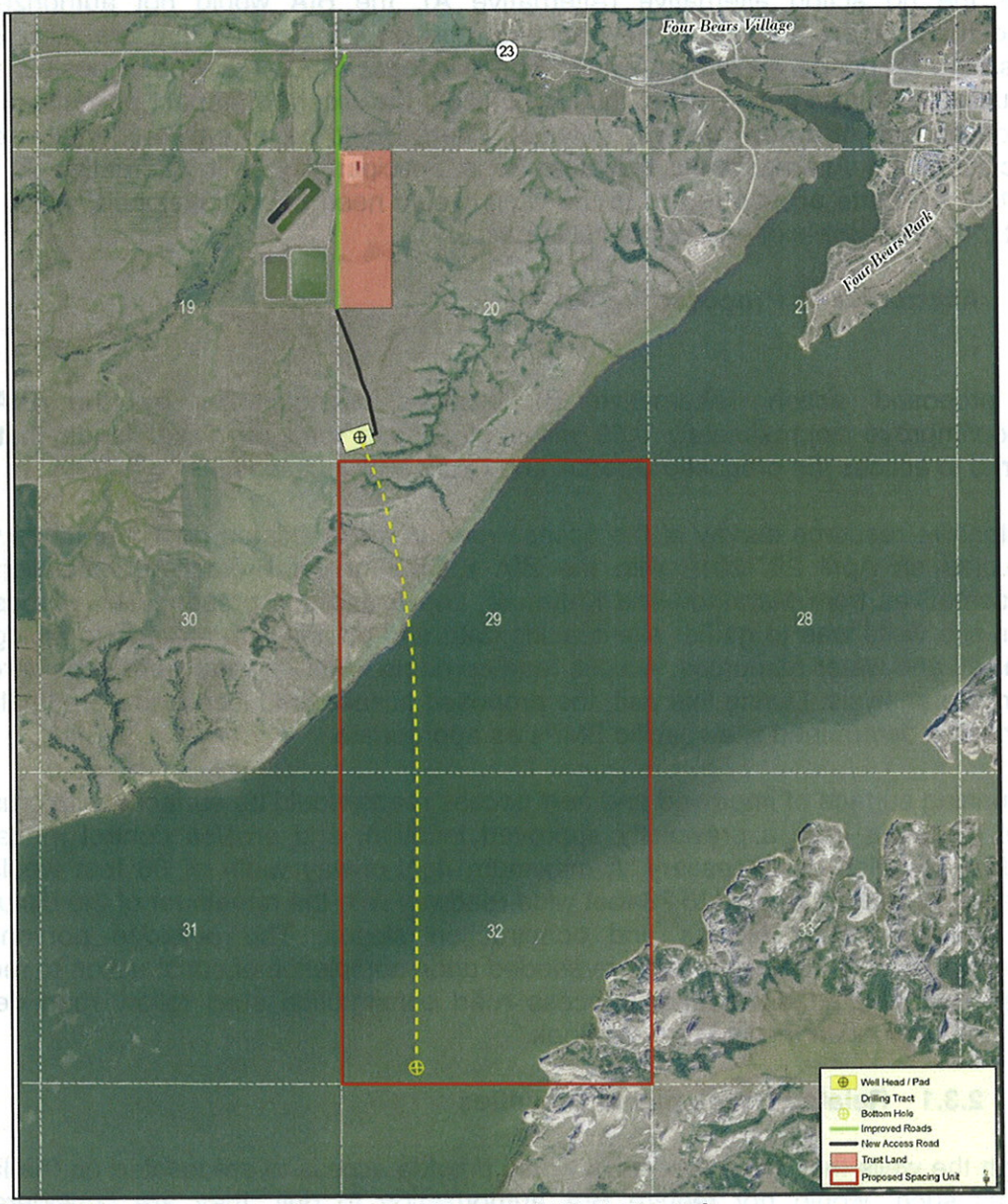

Figure 2-1, Goodall Well Overview

The Goodall well would be accessed from the north. Approximately 0.80 miles of existing access road would be improved to connect the Goodall well to North Dakota Highway 23. Of this, 0.50 miles would be located on Tribal trust land. In addition, a new roadway extension on fee lands approximately 0.42 miles long would be constructed to connect to the well pad. Portions of the improved roadway would be shared by the proposed Quale well. 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.

2.3.1.2 Quale Well

The Quale – USA #31-20 well would be located in the SW¼NE¼ of Section 20, Township 152 North, Range 93 West, 5th P.M. to access potential oil and gas resources within the spacing unit consisting of the east ½ of Section 20 and all of Sections 21 and 22 Township 152 North, Range 93 West, 5th P.M. ***Please refer to Figure 2-2, Quale Well Overview.***

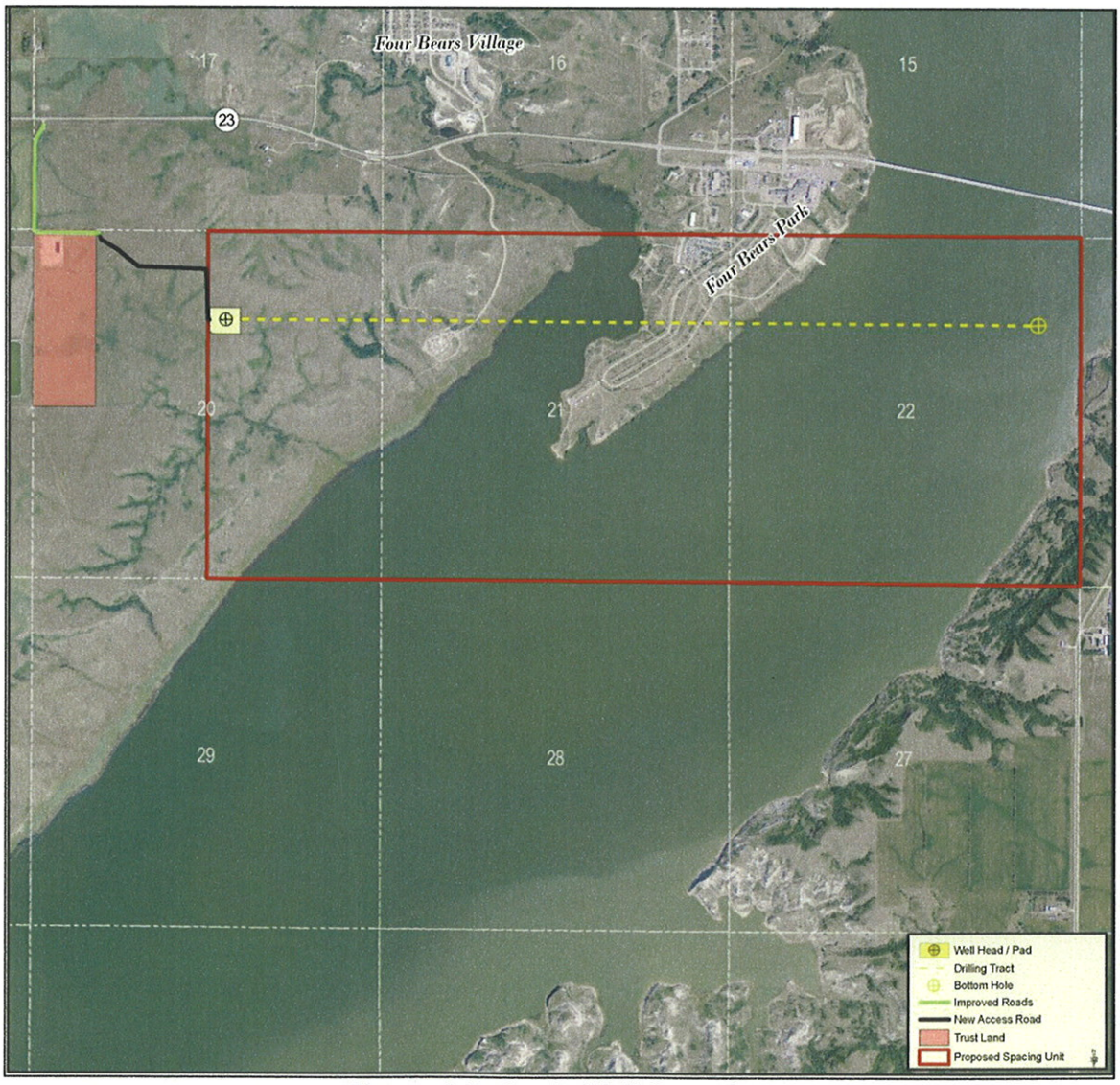

Figure 2-2, Quale Well Overview

The Quale well would be accessed from the west. Approximately 0.50 miles of existing access road would be improved to connect the Quale well to North Dakota Highway 23. Of this, 0.19 miles would be located on Tribal trust land. In addition, a new roadway extension on fee lands approximately 0.51 miles long would be constructed to connect to the well pad. Portions of the improved roadway would be shared by the proposed Goodall well. 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.

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

According to Great Plains Regional Climate Center data collected at the Keene weather station from 1971-2000, temperatures in excess of 80 degrees Fahrenheit are common in summer months. The area receives approximately 16.0 inches of rain annually, predominantly during spring and summer. Winters in this region are cold, with temperatures often falling near zero degrees Fahrenheit. Snow generally remains on the ground from November to March, and about 32.4 inches of snow are received annually.

The topography within the project areas is characterized by the EPA (Environmental Protection Agency) as part of the Missouri Coteau ecoregion, which consists of glaciated uplands, river breaks, valley wall side and footslopes, coulees, alluvial terraces and floodplains. The floodplains are primarily located in the bottomlands of the Missouri River.

The western and southern portions of the Fort Berthold Reservation consist of prairie grasslands and buttes. The northern and eastern areas of the Reservation provide fertile farmland. The proposed project areas are located within a predominately rural area. Land within the cumulative project areas (improved roads, new roads, and well pads) is predominantly grassland (65%) and cropland (35%). The affected Tribal trust land use is primarily cropland (61%) and grassland (36%). ***Please refer to Figure 3-1, Land Use.*** Small amounts of shrubland are also located in the proposed project areas.

Figure 3-1, Land Use

3.2.1 Climate, Geologic Setting, and Land Use Impacts/Mitigation

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

Alternative B (Proposed Action) – Alternative B would result in the conversion of approximately 20.85 acres of land from present use to part of an exploratory oil and gas network. Of this, approximately 2.69 acres are Tribal trust lands. ***Please refer to Table 3.1, Summary of Land Use Conversion.***

Table 3.1 Summary of Land Use Conversion			
Location	**Well Pad Acres**	**Access Road Acres**	**Total Acres**
Tribal Trust Lands	--	2.69	2.69
Goodall	5.48	3.49	8.97
Quale	6.16	3.03	9.19
		Total	**20.85**

Though not located on Tribal trust lands, mineral resources would be impacted through the development of oil and gas resources at the proposed well sites, as is the nature of this project. Impacts to the geologic setting and paleontological resources are not anticipated.

3.3 Soils

The NRCS (Natural Resource Conservation Service) Soil Survey of McKenzie County dates from 2006, with updated information available online through the NRCS Web Soil Survey. There are six soil types identified within the cumulative project impact areas, two of which are located on Tribal trust lands. Location and characteristics of these soils are identified in ***Table 3.2, Soils.***

Table 3.2 Soils								
Map Unit Symbol	**Soil Name**	**Percent Slope**	**Composition (in upper 60 inches)**			**Erosion Factor[1]**		**Hydrologic Soil Group[2]**
			% sand	**% silt**	**% clay**	**T**	**Kf**	
41*	Williams-Bowbells loams	0 to 3	34.8	35.2	30.0	5	.28	B
41B*	Williams-Bowbells loams	3 to 6	34.8	35.2	30.0	5	.28	B
42C	Williams loam	6 to 9	34.8	35.2	30.0	5	.28	B
43C	Williams-Zahl loams	6 to 9	35.0	35.2	29.8	5	.28	B
44D	Zahl-Williams loams	9 to 15	35.0	34.3	30.7	5	.32	B
442F	Zahl-Williams loams, dissected	15 to 45	35.0	34.3	30.7	5	.28	B

* Denotes soil type is also found within Tribal trust land area.

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

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[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).

3.3.1 Soil Impacts/Mitigation

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

Alternative B (Proposed Action) – Construction activities associated with the proposed well sites and associated access roads would result in soil disturbances, though impacts to soils associated with the proposed action are not anticipated to be significant. Based on soil data, topsoil exists in excess of 12 inches across project disturbance areas, yielding sufficient quantity of topsoil for construction and reclamation activities. Topsoil stockpiles are proposed to be located on the north side of the Goodall well and the east side of the Quale well. The stockpiles have been positioned to assist in diverting runoff away from the disturbed area, thus minimizing erosion.

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

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

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

3.4 Water Resources

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

3.4.1 Surface Water

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

The cumulative project areas are located in the Lake Sakakawea basin, meaning surface waters within this basin drain to Lake Sakakawea. The majority of the access road, including the portions on Tribal Trust lands, are located in the Sanish Bay watershed and the Four Bears Bay sub-watershed. Both proposed well sites are located in the Sanish Bay watershed and the 101101011902 sub-watershed. ***Please refer to Figure 3-2, Surface Water Resources.*** Runoff throughout the study area is by sheetflow until collected by ephemeral and perennial streams draining to Lake Sakakawea. Surface runoff from each location would typically travel to Lake Sakakawea via drainage patterns as follows:

- *Tribal Trust Lands* – Runoff from the Tribal trust portion of the project area would flow 0.21 miles northeast. Then, it would converge into a drainage channel and travel east approximately 0.65 miles to Four Bears Bay of Lake Sakakawea, for a total traveled distance of 0.86 miles.
- *Goodall Well* – Runoff from the well pad would flow in a northeasterly direction through an unnamed coulee approximately 1.23 miles to Lake Sakakawea.
- *Quale Well* – Runoff from the well pad would flow in a southeasterly direction through an unnamed coulee approximately 0.89 miles to Lake Sakakawea.

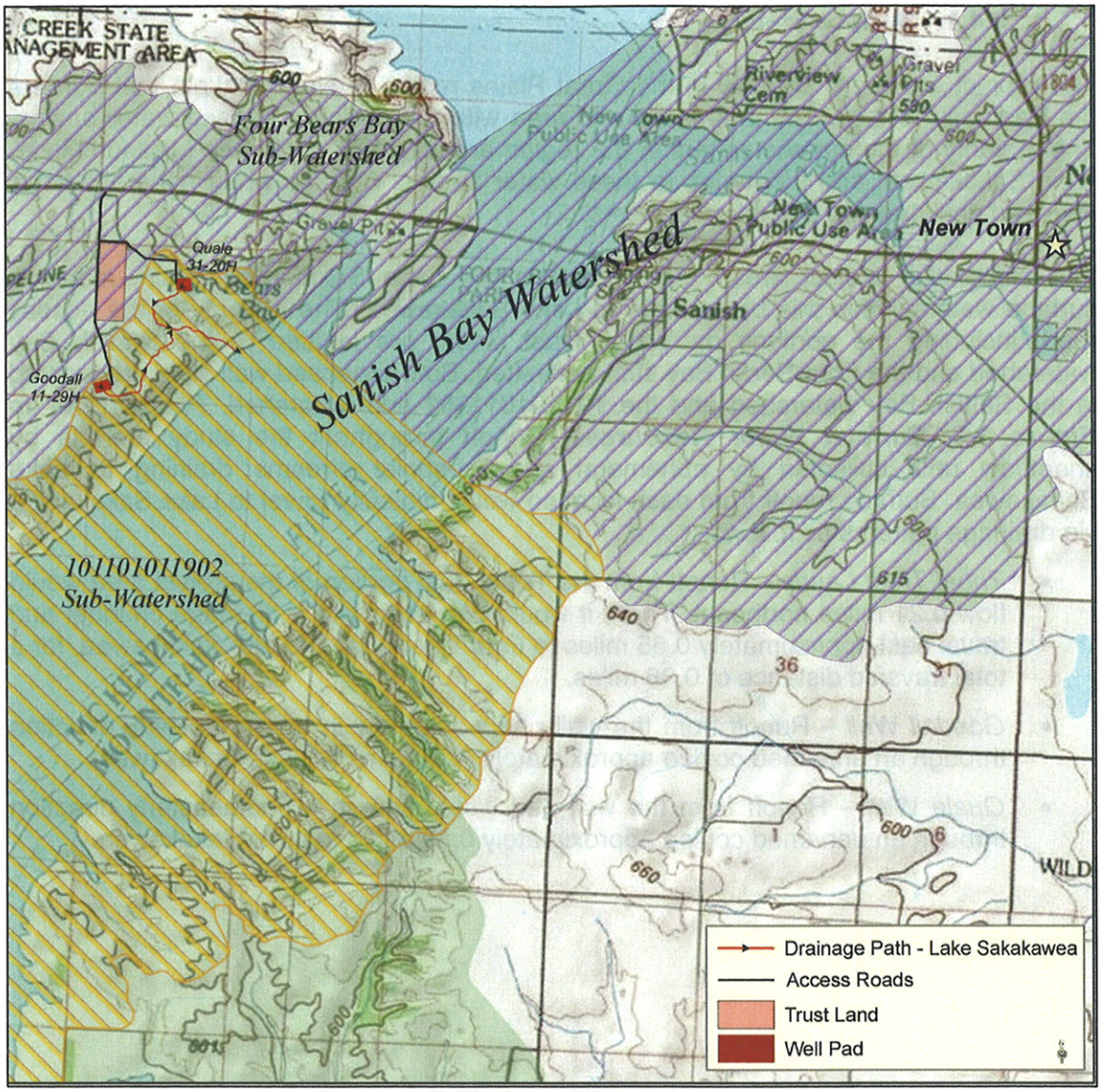

Figure 3-2, Surface Water Resources

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 is one active or permitted groundwater well within one-mile of the Goodall well. There are no active or permitted groundwater wells within one-mile of any of the Quale well or access road areas. The New Town aquifer is located both east and south of the proposed project areas; however, no sole source aquifers have been identified within the state of North Dakota. ***Please refer to Figure 3-3, Aquifers and Groundwater Wells.***

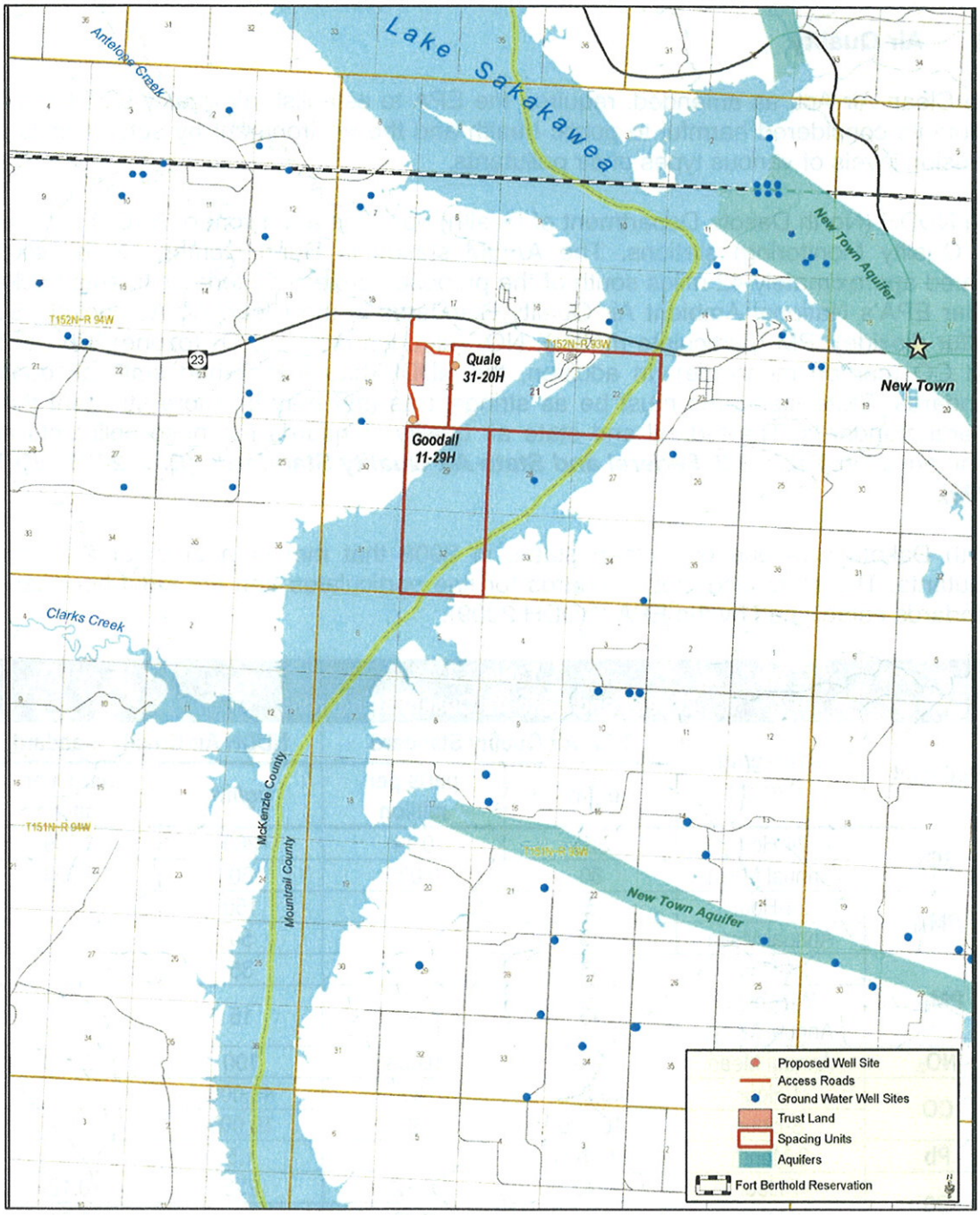

Figure 3-3, Aquifers and Groundwater Wells

3.4.2.1 Ground Water Impacts/Mitigation

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

Alternative B (Proposed Action) – No significant impacts to groundwater are expected to result from Alternative B. Though not located on Tribal trust lands, the proposed wells would be cemented and cased, as required by applicable law, to isolate aquifers from potentially productive hydrocarbon and disposal/injection zones.

3.5 Air Quality

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

The NDDH (North Dakota Department of Health) operates a network of AAQM (Ambient Air Quality Monitoring) stations. The AAQM station in Dunn Center, North Dakota located approximately 42 miles south of the proposed project. Criteria pollutants tracked under EPA's National Ambient Air Quality Standards in the Clean Air Act include SO_2 (sulfur dioxide), PM (particulate matter), NO_2 (nitrogen dioxide), O_3 (ozone), Pb (lead), and CO (carbon monoxide). In addition, the NDDH has established state air quality standards. State standards must be as stringent as (but may be more stringent than) federal standards. The federal and state air quality standards for these pollutants are summarized in ***Table 3.3, Federal and State Air Quality Standards (EPA 2006, NDDH 2009).***

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

Table 3.3
Federal 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 Roosevelt National Park is the nearest Class I area, located approximately 38 miles west of the proposed project.

3.5.1 Air Quality Impacts/Mitigation

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

Alternative B (Proposed Action) – The Fort Berthold Reservation complies with North Dakota National Ambient Air Quality Standards and visibility protection. Alternative B would not include any major sources of air pollutants. Construction activities would temporarily generate minor amounts of dust and gaseous emissions of PM, SO_2, NO_2, CO, and volatile organic compounds. Emission levels 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 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 that may warrant listing as an endangered or threatened species, but the data are inconclusive. While candidate species are not legally protected under the Endangered Species Act, it is within the spirit of the Endangered Species Act to consider these species as having significant value and worth protecting.

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

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

Interior Least Tern (*Sterna antillarum*)

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

There is no existing or potential habitat within or near the project area. Lake Sakakawea and the Little Missouri River are located outside of the project areas, approximately 0.5 miles away at the nearest point.

Whooping Crane (*Grus americana*)

The whooping crane is the tallest bird in North America. In the United States, this species ranges through the Midwest and Rocky Mountain regions from North Dakota south to Texas and east into Colorado. Whooping cranes migrate through North Dakota along a band running from the south central to the northwest parts of the state. They use shallow, seasonally and semi-permanently flooded palustrine (marshy) wetlands for roosting and various cropland and emergent wetlands for feeding. During migration, whooping cranes are often recorded in riverine habitats, including the Missouri River. Currently there are three wild populations of whooping cranes, yielding a total species population of about 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. However, there is no existing or potential stopover habitat within or near the project area. Lake Sakakawea and the Little Missouri River are located outside of the project area, approximately 0.5 miles away at the nearest point.

Black-footed Ferret (*Mustela nigripes*)

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

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

Pallid Sturgeon (*Scaphirhynchus albus*)

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

pounds, pallid sturgeons are long lived, with individuals possibly reaching 50 years of age.

There is no existing or potential habitat within or near the project area. Habitat where the pallid sturgeon may occur, such as Lake Sakakawea, is located approximately 0.5 miles away at the nearest point.

Gray Wolf (*Canis lupus*)

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

The project area is located far from other known wolf populations and does not contain preferred habitat for suitable prey to sustain a population.

Piping Plover (*Charadrius melodus*)

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

There is no existing or potential habitat within or near the project area. Critical habitat for the piping plover along Lake Sakakawea is located approximately 0.5 miles away at the nearest point.

Dakota Skipper (*Hesperia dacotae*)

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

The proposed project area consists predominantly of actively cultivated lands and grasslands adjacent to areas of disturbance and is void of the high quality prairie habitat necessary for the Dakota skipper.

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) – Lake Sakakawea and associated Missouri River habitat is located approximately 0.5 miles away from the project areas at the nearest point. There is no existing or potential habitat for the listed species within or near the project area, and none of these species were observed during field visits by Kadrmas, Lee & Jackson in April 2010.

Due to a lack of potential habitat and species observances within the project area, the proposed project may affect, but is unlikely to adversely affect, any of the listed species. The proposed project is not likely to jeopardize the continued existence of these species and is not likely to destroy or adversely modify critical habitat.

3.7 Wetlands, Wildlife and Vegetation

Intensive biological and botanical surveys at each site were conducted by Kadrmas, Lee & Jackson on April 6, 2010[4]. The study area surveyed consisted of a 10-acre area centered on the center point of each well pad and a 200-foot wide access road corridor. Data gathered from these surveys, as well as through coordination with the USFWS, North Dakota Parks and Recreation Department, and North Dakota Game and Fish Department, are summarized below. The Three Affiliated Tribes Game and Fish Department was also contacted as part of project scoping; however, a response from the agency was not received.

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 pad 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.

[4] The information contained in this section is accurate as of the date of the site inventory. It is acknowledged that wildlife and vegetation characteristics may vary seasonally across the study area.

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

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

- *Tribal Trust Lands* – Sharp-tailed grouse
- *Goodall* – Two Canada geese (*Branta canadensis*), two song sparrows (*Melospiza melodia*), Western meadowlark (*Sturnella neglecta*), ring-necked pheasant feathers, and a hawk. ***Please refer to Figure 3-4 Western Meadowlark and Figure 3-5, Ring-necked Pheasant Feathers.***

Figure 3-4, Western Meadowlark

Figure 3-5, Ring-necked Pheasant Feathers

- *Quale* – Two sharp-tailed grouse, one ring-necked pheasant, and unidentified canine tracks. ***Please refer to Figure 3-6, Unidentified Canine Track.***

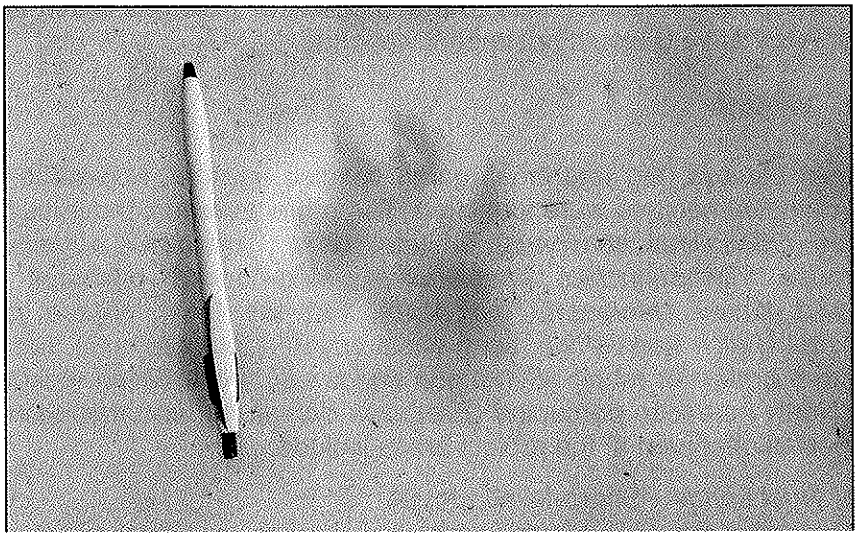

Figure 3-6, Unidentified Canine Track

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

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

The golden eagle (*Aquila chrysaetos*) can be spotted in North Dakota throughout the badlands and along the upper reaches of the Missouri River in the western part of the state. 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.

3.7.2.1 Wildlife Impacts/Mitigation

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

Alternative B (Proposed Action) – No evidence of eagle nests or potential nesting habitat was found in project areas. Ground clearing activities associated with the proposed project may impact individuals or suitable habitat for the wildlife species discussed above. While wildlife may use the project areas for breeding and feeding, wildlife are

generally expected to adapt to changing conditions and continue to thrive. In addition, avian species that may frequent the project areas are transitory in nature and are also generally expected to adapt to changing conditions and continue to thrive. Therefore, the proposed project may affect individuals within these wildlife species, but is not likely to adversely affect any populations or to result in a trend towards listing of any of the species identified. Though two individual grouse were observed in the field, no grouse leks were observed in project areas; therefore, timing restrictions for construction are not required.

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

3.7.3 Vegetation

Botanical resources were evaluated using visual inspection. The project areas were also investigated for the presence of invasive plant species. Project areas were located on farmland or upland sites dominated by mixed-grass prairie. Areas of mixed-grass prairie consisted mainly of Smooth brome (*Bromus inermis*), Kentucky bluegrass (*Bouteloua gracilis*), Junegrass (*Koeleria macrantha*), blue grama (*Bouteloua gracilis*), crested wheatgrass (*Agropyron cristatum*), and Western wheatgrass (*Pascopyrum smithii*). Dominant forbs found in the project areas include Western snowberry (*Symphoricarpos occidentalis*), sageworts (*Artemisia sp.*), Western yarrow (*Achillea millefolium*), and yellow sweet clover (*Melilotus officinalis*). Wooded draws were noted near the project areas; however, they were outside project construction limits. ***Please refer to Figure 3-7, Mixed-Grass Prairie Vegetation*** and ***Figure 3-8, Western Snowberry.***

Figure 3-7, Mixed-Grass Prairie Vegetation

Figure 3-8, Western Snowberry

In addition, the project areas were surveyed for the presence of noxious weeds. Of the 12 species declared noxious under the North Dakota Century Code (Chapter 63-01.0), eight are known to occur in McKenzie 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. McKenzie County has added black henbane, hoary cress, houndstongue, and yellow toadflax. No noxious weeds were observed during the field surveys.

Table 3.4
Noxious Weed Species

Common Name	Scientific Name	2009 McKenzie County Reported Acres
Absinth wormwood	*Artemesia abinthium* L.	15
Black henbane	*Hyoscyamus niger*	—
Canada thistle	*Cirsium arvense* (L.) Scop	33,600
Dalmation toadflax	*Linaria genistifolia* ssp. *Dalmatica*	1
Diffuse knapweed	*Centaurea diffusa* Lam	1
Field bindweed	*Convolvulus arvensis* L.	1,300
Hoary cress	*Cardaria draba*	—
Houndstongue	*Cynoglossum officinale*	—
Leafy spurge	*Euphorbia esula* L.	26,200
Musk thistle	*Carduus nutans* L.	—
Purple loosestrife	*Lythrum salicaria*	—
Russian knapweed	*Acroptilon repens* (L.) DC.	—
Saltcedar (tamarisk)	*Tamarix ramosissima*	2,400
Spotted knapweed	*Centaurea maculosa* Lam.	5
Yellow starthistle	*Centaurea solstitalis* L.	—
Yellow toadflax	*Linaria vulgaris*	—

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 Gold Book and other requirements. Following construction, disturbed vegetation would be reseeded, and a noxious weed management plan would be implemented to prevent the spread of noxious weeds and non-native species.

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 access roads were conducted by personnel of Kadrmas, Lee & Jackson, Inc., using a pedestrian methodology. For the Quale USA #31-20H project approximately 11.2 acres were intensively inventoried (Ó Donnchadha 2010); for the Goodall USA #21-29H project approximately 33 acres were inventoried (Ó Donnchadha 2010). These surveys were done on March 31, 2010. Four previously unrecorded archaeological sites were encountered and recorded, only one falls within the area of potential effect and will be avoided. As the lead federal agency, and as provided for in 36 CFR 800.5, on the basis of the information provided, BIA reached a determination of **no historic properties affected** for these undertakings, as the archaeological sites will be avoided. This determination was communicated to the THPO on May 5, 2010 (see Chapter 4); the THPO concurred with the proposed action in correspondence dated 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 using setbacks to avoid impacts to cultural resources. As such, cultural

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

3.9 Socioeconomic Conditions

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

The Fort Berthold Reservation is home to six major communities, consisting of New Town, White Shield, Mandaree, Four Bears, Twin Buttes, and Parshall. These communities provide small business amenities such as restaurants, grocery stores, and gas stations; however, they lack the larger shopping centers that are typically found in larger cities of the region such as Minot and Bismarck. According to 2000 US Census data, educational/health/social services is the largest industry on the Reservation, followed by the entertainment/recreation/accommodation/food industry[5]. The Four Bears Casino, Convenience Store, and Recreation Park are also major employers with over 320 employees, 90% of whom are tribal members. In addition, several industries are located on the Reservation, including Northrop Manufacturing, Mandaree Electrical Cooperative, Three Affiliated Tribes Lumber Construction Manufacturing Corporation, and Uniband.

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

3.9.1 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 access to the proposed oil and gas resources, the development of 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.

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

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

3.10 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.

Generally, members of the Three Affiliated Tribes qualify for environmental justice consideration as both a minority and low-income population. The population of North Dakota is predominantly Caucasian. Tribal members compromise only 5% of North Dakota residents and 21% of the population of McKenzie County. Even in a state with relatively low per capita and household income, Native American individuals and households are distinctly disadvantaged.

The Fort Berthold Reservation and McKenzie 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
McKenzie County	$14,732	$29,342	6.6%	17.2%
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 McKenzie County's population has been slowly declining, the Fort Berthold Reservation has witnessed a steady increase in population. American Indians are the majority population on the Fort Berthold Reservation but are the minority population in

McKenzie 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
McKenzie County	5,737	0.89%	-10.1%	White	American Indian (21%)
Fort Berthold Reservation	5,915	0.92%	+9.8%	American Indian[6]	White (26.9%)
Statewide	**642,200**	**--**	**+0.5%**	**White**	**American Indian (5%)**

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

3.10.1 Environmental Justice Impacts/Mitigation

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

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

3.11 Infrastructure and Utilities

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

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

Known utilities and infrastructure within the vicinity of the proposed projects include paved and gravel roadways.

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. All haul routes used would either be private roads or roads that are approved for this type of transportation use by the local governing tribal, township, county, and/or state entities. Marathon will follow McKenzie County, BIA, and North Dakota Department of Transportation rules and regulations regarding rig moves and oversize/overweight loads on state and county roads used as haul roads. All contractors are required to permit their oversize/overweight roads through these entities. Marathon's contractors will be required to adhere to all local, county, tribal, and state regulations regarding rig moves, oversize/overweight loads, and frost restrictions.

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

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

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

[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.

daily water production[8]. Established load restrictions for state and BIA roadways would be followed and haul permits would be acquired as appropriate.

3.12 Public Health and Safety

Health and safety concerns include hydrogen sulfide (H_2S) gas[9], 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, Marathon will submit H_2S Contingency Plans to the BLM as part of the site APDs. These plans establish safety measures to be implemented throughout the drilling process to prevent accidental release of H_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 that there are no residences within 3,000 feet of any of the proposed well sites.

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

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

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[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.

[9] 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.

According to the NDIC, at the time this EA was written, there were approximately 289 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 3-9, Existing and Proposed Oil and Gas Wells.*** There are two known oil and gas wells within one mile of the proposed Goodall and Quale sites. ***Please refer to Table 3.7, Summary of Active and Proposed Wells.***

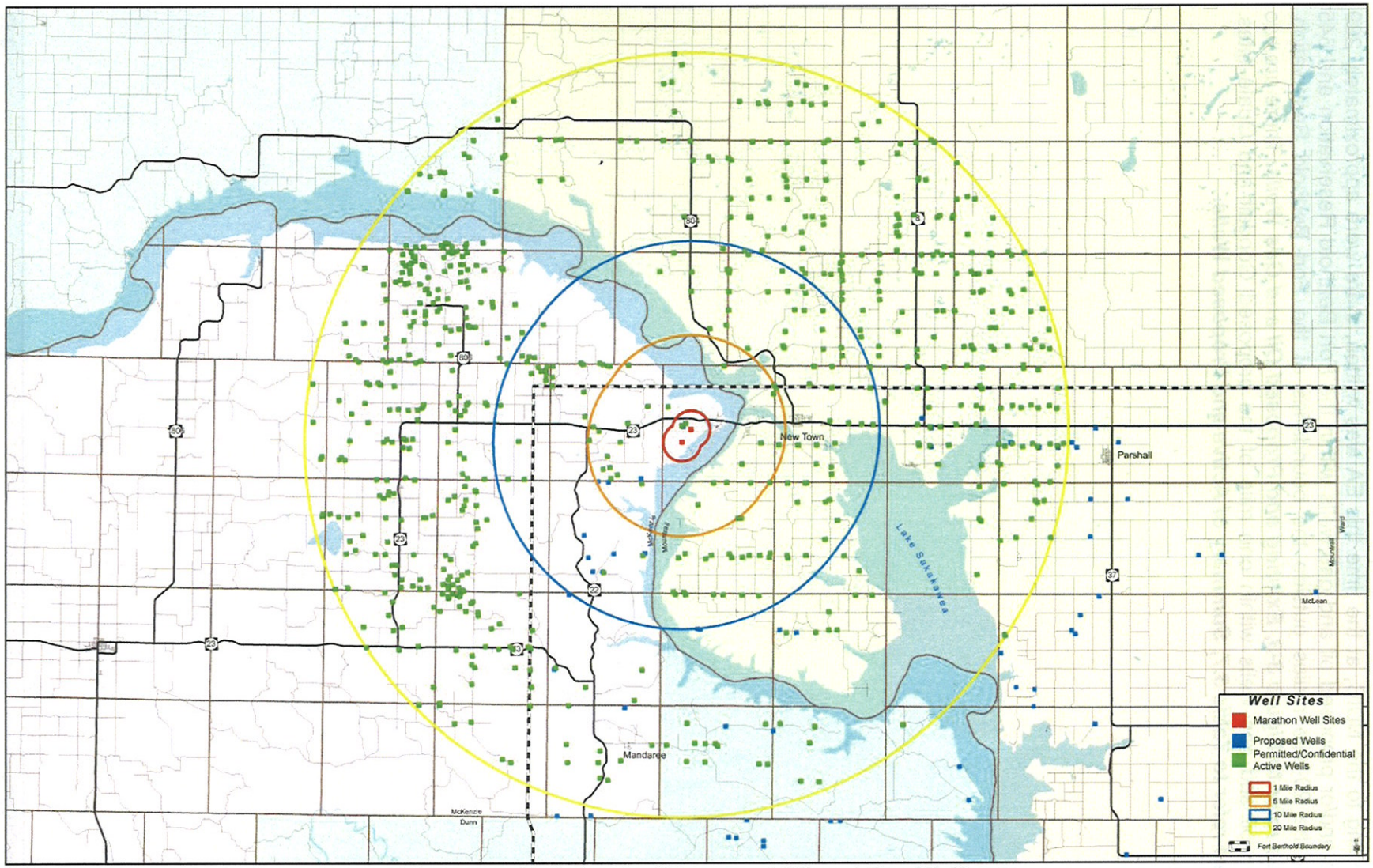


Figure 3-9, Existing and Proposed Oil and Gas Wells

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	31
10 mile radius	148
20 mile radius	738

BMPs would be implemented to minimize impacts of the proposed project. The improved portions of access road would be shared by the proposed Goodall and Quale sites to minimize the extent of access road impacts associated with the proposed project. Commercial success at either well might result in additional nearby oil/gas exploration proposals, but such developments remain speculative until APDs have been submitted to the BLM or BIA. If commercially recoverable oil and gas are discovered at the well site, a natural gas gathering system may need to be installed. Currently natural gas gathering systems have been both approved and proposed on the Fort Berthold Reservation but that information remains proprietary.

3.13.2 Cumulative Impact Assessment

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

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

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

Wetlands, Wildlife, and Vegetation — The proposed project, when added to previously constructed and reasonably foreseeable oil and gas wells, may result in a cumulative impact associated with habitat fragmentation due to access road construction. However, the practice of utilizing existing roadways to the greatest extent practicable, as well as

sharing access roads, would minimize the potential impacts. The proposed exploratory wells have also been sited to avoid sensitive areas such as surface water, wetlands, and riparian areas. In addition, the use of BMPs and continued reclamation are anticipated to minimize and mitigate disturbed habitat. Therefore, it is not anticipated that the proposed project, when added to past, present, and reasonably foreseeable oil and gas activity, would result in a significant cumulative impact.

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

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

3.14 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

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

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

3.17 Environmental Commitments/Mitigation

The following commitments have been made by Marathon Oil Company:

- Topsoil will be segregated and stored on-site to be used in the reclamation process.
- BMPs will be implemented to minimize wind and water erosion of soil resources. Soil stockpiles will be positioned to help divert runoff around the well pad.
- Well sites and access roads will avoid surface waters.
- Wetlands and riparian areas will be avoided.
- Disturbed vegetation will be re-seeded upon completion of the project. Additionally, a noxious weed management plan would be implemented.
- Well sites and access roads will avoid impacts to cultural resources. If cultural resources are discovered during construction or operation, work shall immediately be stopped, the affected site secured, and BIA and THPO notified. In the event of a discovery, work shall not resume until written authorization to proceed has been received from the BIA.
- Access roads will 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.
- Marathon will ensure all contractors working for the company will adhere to all local, county, tribal, and state regulations and ordinances regarding rig moves, oversize/overweight loads, and frost law restrictions.
- Utility modifications will be identified during design and coordinated with the appropriate utility company
- 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 will be followed and haul permits would be acquired as appropriate.
- Suitable mufflers will be put on all internal combustion engines and certain compressor components to mitigate noise levels.

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 Marathon Oil Company and Kadrmas, Lee & Jackson, Inc. A list of individuals with the primary responsibility for conducting this study, preparing the documentation, and providing technical reviews is contained in ***Table 4.1, Preparers.***

Table 4.1
Preparers

Affiliation	Name	Title	Project Role
Bureau of Indian Affairs	Marilyn Bercier	Regional Environmental Scientist	Review of Draft EA and recommendation to Regional Director regarding FONSI or EIS
	Mark Herman	Environmental Engineer	
Marathon Oil Company	Luke Franklin	Senior HES Professional	Project development, alternatives, document review
	Darrell Nodland	Coordinator	Project development, alternatives, document review
Kadrmas, Lee & Jackson, Inc.	Shanna Braun	Environmental Scientist	Client and agency coordination, field resources surveys, impact assessment, principal author
	Charlotte Brett	Environmental Planner	Senior review
	Steve Czeczok	Environmental Scientist	Field resources surveys
	Brian O'Donnchadha	Archaeologist	Cultural resources surveys
	Skip Skattum	GIS Analyst	Impact assessment, exhibit creation
	Grady Wolf	Environmental Planner	Field 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 March 17, 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.

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

4.4 Public Involvement

Provided the BIA approves this document, 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

MAY 05 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 project in McKenzie County, North Dakota. Approximately 32.9 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the area depicted in the enclosed report. Four archaeological sites (32MZ2057, 32MZ2058, 32MZ2059, 32MZ2060) were located which may possess the quality of integrity and meet at least one of the criteria (36 CFR 60.4) for inclusion on the National Register of Historic Places. No properties were located that appear to qualify for protection under the American Indian Religious Freedom Act (42 USC 1996).

As the surface management Agency, and as provided for in 36 CFR 800.5, we have therefore reached a determination of **no historic properties affected** for this undertaking, as the archaeological sites will be avoided. Catalogued as **BIA Case Number AAO-1767/FB/10,** the proposed undertaking, location, and project dimensions are described in the following report:

Leuchtmann, Amy, and Brian Ó Donnchadha
(2010) Goodall USA 21-29H Well Pad and Access Road: A Class III Cultural Resource Inventory, McKenzie County, North Dakota. KLJ Cultural Resources for Marathon Oil Company, Dickinson, ND.

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

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

Sincerely,

ACTING
Regional Director

Enclosure

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

United States Department of the Interior

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

TAKE PRIDE IN AMERICA

MAY 05 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 two oil well pads and access roads in McKenzie County, North Dakota. Approximately 37.7 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the areas depicted in the enclosed reports. No historic properties were located 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 these undertakings. Catalogued as **BIA Case Number AAO-1707/FB/10,** the proposed undertakings, locations, and project dimensions are described in the following reports:

Ó Donnchadha, Brian
(2010) Jones USA 13-14H Well Pad and Access Road: A Class III Cultural Resource Investigation in McKenzie County, North Dakota. KLJ Cultural Resources for Marathon Oil Company, Dickinson, ND.

Ó Donnchadha, Brian, and Miguel Espinoza
(2010) Quale USA 31-20H Well Pad and Access Road: A Class III Cultural Resource Investigation in McKenzie County, North Dakota. KLJ Cultural Resources for Marathon Oil Company, Dickinson, ND.

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

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

Sincerely,

ACTING
Regional Director

Enclosures

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

Three Affiliated Tribes

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

Brian O Donnchadha
128 Soo Line Drive
PO Box Bismarck, ND 58502-1157

RE: RECOMMENDATION AND CONCURRENCE

As Director of the Tribal Historic Preservation Offic and the Tribal Historical Preservtion Officer representing the Mandan Hidatsa Arikara Nation I concur with the Quale USA 31-20H Well Pad and Access Road A Class III Cultural Resource Investigation In McKenzie County, North Dakota and also with Goodall, USA 21-29 h Well Pad and Access Road: A Class III Cultural Resource Inventory McKenzie County, North Dakota.

We look forward to further opportunities to participate in any future Section 106 consultations. If you have, any more questions please feel free to call us at (701) 862-2474 or 862-2475 or # number (701) 421-0547

Sincerely:

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

Appendix A

Agency Scoping Materials

March 17, 2010

<<NAME>>
<<ADDRESS>>
<<CITY>><<STATE>><<ZIP>>

Re: Two Proposed Oil and Gas Exploratory Wells
Fort Berthold Reservation
McKenzie County, North Dakota

Dear <<NAME>>,

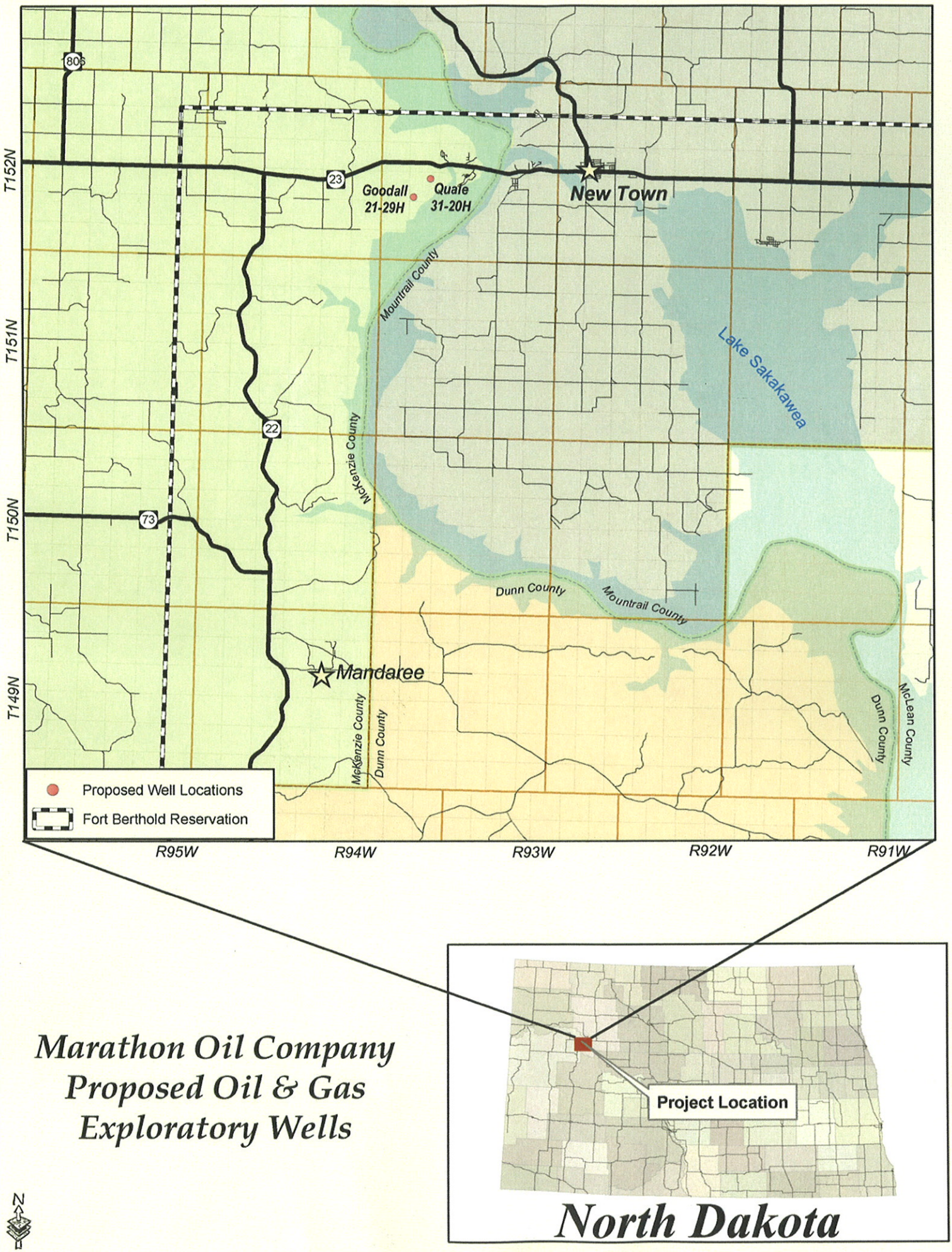
On behalf of Marathon Oil Company, Kadrmas, Lee & Jackson, Inc. is preparing an EA (Environmental Assessment) under NEPA (the National Environmental Policy Act) for the BIA (Bureau of Indian Affairs) and BLM (Bureau of Land Management). The proposed action includes approval by the BIA and BLM of the drilling and completion of two exploratory oil and gas wells on the Fort Berthold Reservation. These well sites are proposed to be positioned in the following locations:

- Goodall – USA #21-29H located in SW¼SW¼ T152N, R93W, 5th P.M., Section 20
- Quale – USA #31-20H located in NW¼NE¼ T152N, R93W, 5th P.M., Section 20

Please refer to the enclosed project location map.

The well sites have been positioned to utilize existing roadways for access to the extent possible. The drilling of these well sites is proposed to begin as early as summer 2010.

To ensure that social, economic, and environmental effects are considered in the development of this project, we are soliciting your views and comments on the proposed development of this project, pursuant to Section 102(2) (D) (IV) of the National Environmental Policy Act of 1969, as amended. We are particularly interested in any property that your department may own, or have an interest in, located within the project area. We would also appreciate being made aware of any proposed development your department may be contemplating in the area of the proposed project. Any information that might help us in our study would be appreciated.



Marathon Oil Company Proposed Oil & Gas Exploratory Wells

It is requested that any comments or information be forwarded to our office on or before **April 19, 2010**. We request your comments by that date to ensure that we will have ample time to review them and incorporate them into the necessary environmental documentation.

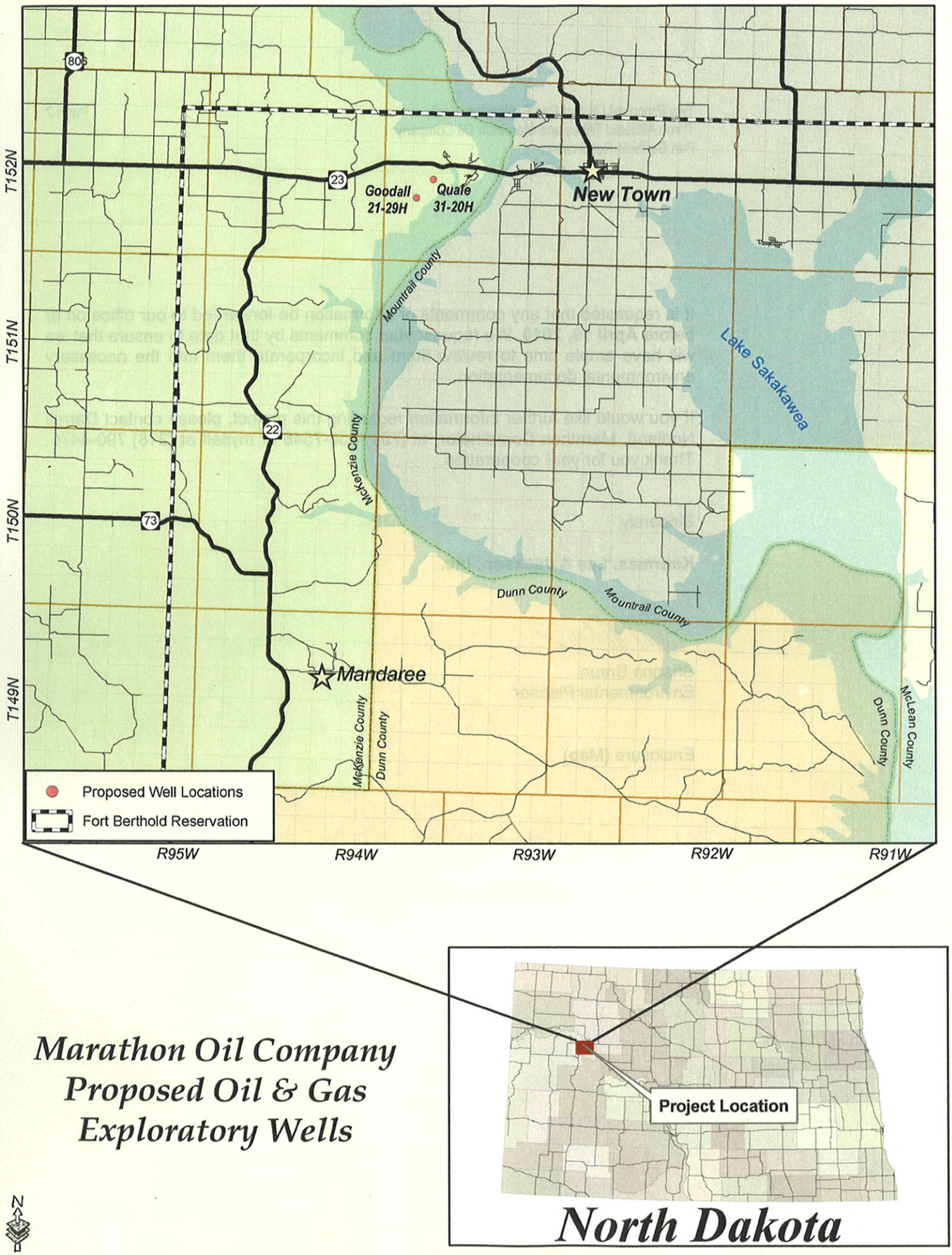
If you would like further information regarding this project, please contact Darrell Nodland, Marathon Coordinator, at (701) 456-7546 or myself at (218) 790-4476. Thank you for your cooperation.

Sincerely,

Kadrmas, Lee & Jackson, Inc.

Shanna Braun
Environmental Planner

Enclosure (Map)



Marathon Oil Company Proposed Oil & Gas Exploratory Wells

SOV MASTER LIST

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

CTitle	First	Last	Title	Department	Agency	Address	City	State	Zip
Mr.	Mike	Black	Acting Regional Director		Bureau of Indian Affairs	115 4th Ave. SE	Aberdeen	SD	57401
Mr.	Darryl	Turcotte	Environmental Specialist		Bureau of Indian Affairs	202 Main Street	New Town	ND	58763
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
Ms.	Candace	Gorton	Chief, Env., Economics, & Cultural Resource Section	Omaha District	US Army Corps of Engineers	106 S. 15th St.	Omaha	NE	68102-1618
Mr.	John	Glover	Acting 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.	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.	Walt	Peterson	District Engineer	Williston District	ND Department of Transportation	605 Dakota Parkway West	Williston	ND	58802-0698
Mr.	Lonny	Bagley	Field Office Manager	North Dakota Field Office	Bureau of Land Management	99 23rd Ave W, Suite A	Dickinson	ND	58601
Mr.	Mike	Nash	Assistant Field Office Manager	Division on Mineral Resources	Bureau of Land Management	99 23rd Ave W, Suite A	Dickinson	ND	58601
Mr.	Michael	Selvage	Tribal Chairman		Sisseton-Wahpeton Sioux Tribe	PO Box 509	Sisseton	SD	57262-0267
Mr.	Myra	Pearson	Tribal Chairman	Ft. Totten Tribal Business Office	Spirit Lake Sioux Tribe	PO Box 359	Ft. Totten	ND	58325
Mr.	Ron	His Horse Is Thunder	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
Mr.	Todd	Hall		Natural Resources Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Roger	Hovda	Operations Manager		Reservation Telephone Cooperative	PO Box 68	Parshall	ND	58770-0068
Mr.	Luke	Franklin	Senior HES Professional		Marathon Oil Company	3172 Highway 22 N	Dickinson	ND	58601
Mr.	Darrell	Nodland	Coordinator		Marathon Oil Company	3172 Highway 22 N	Dickinson	ND	58601
Ms.	Francis	Olson	Auditor		McKenzie County	201 5th Street NW	Watford City	ND	58854
Mr.	Rick	Lawlar	Chair	County Commission	McKenzie County	201 5th Street NW	Watford City	ND	58854

Appendix B

Agency Scoping Response

List of Scoping Responses
Marathon Oil Company
EA for Access Road to Goodall and Quale Wells

Federal

US Department of the Army – Corps of Engineers, Omaha District Office
US Department of the Army – Corps of Engineers, Riverdale Field Office
US Department of Interior – Bureau of Reclamation
US Department of Interior – Fish and Wildlife Service

State

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

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

REPLY TO
ATTENTION OF

April 2, 2010

Planning, Programs, and Project Management Division

Ms. Shanna Braun
Kadrmas, Lee & Jackson
1505 S 30th Avenue
Moorhead, Minnesota 56561

Dear Ms. Braun:

The U.S. Army Corps of Engineers, Omaha District (Corps) has reviewed your letter dated March 17, 2010, regarding the proposed drilling and completion of up to two exploratory oil and gas wells on the Fort Berthold Reservation in McKenzie County, North Dakota. The Corps offers the following comments:

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

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

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

Any proposed placement of dredged or fill material into waters of the United States (including jurisdictional wetlands) requires Department of the Army authorization under Section 404 of the Clean Water Act. You can visit the Omaha District's Regulatory website for permit applications and related information. Please review the information on the provided web site (https://www.nwo.usace.army.mil/html/od-r/district.htm) to determine if this project requires a 404 permit. For a detailed review of permit requirements, preliminary and final project plans should be sent to:

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

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

Sincerely,

for Brad Thompson
Chief, Environmental Resources and Missouri Recovery
Program and Plan Formulation, Planning Branch
Planning, Programs and Project Management Division

From: Sorensen, Charles G NWO
To: shanna.braun@kljeng.com;
Subject: FW: Comments regarding the Quale USA # 31 and the Goodall USA # 21 Wells
Date: Monday, March 22, 2010 12:53:02 PM
Attachments: Non COE land well condition.doc

Trying one more time

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

-----Original Message-----
From: Sorensen, Charles G NWO
Sent: Monday, March 22, 2010 1:01 PM
To: 'shanna.braun@klgeng.com'
Subject: Comments regarding the Quale USA # 31 and the Goodall USA # 21 Wells

Shana
As per your letter the following concerns and management practices are recommended by the U.S. Army Corps of Engineers in regards to the drilling of the Quale USA # 31-20H and the Goodall USA # 21-29H Wells. Please be advised that the comments and <<Non COE land well condition.doc>> or BMP's are only recommendations that the USACE would like to see Marathon incorporate into their drilling of the aforementioned wells.

If you have any other questions regarding the conditions or BMP 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

The U.S. Army Corps of Engineers Garrison Dam/Lake Sakakawea Project requests that Marathon Oil consider and if at all possible implement the following management practices during the exploration phase of the Quale USA # 31-20 H and the Goodall USA # 21-29H wells

Due to the close proximity of the well location to lands managed by the U.S. Army Corps of Engineers (USACE) there is a high risk that any storm water runoff from the well location will enter the Missouri River/Lake Sakakawea. As such the USACE would request that Marathon 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

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

MAR 23 2010

Ms. Shanna Braun
Environmental Planner
Kadrmas, Lee & Jackson, Inc.
P.O. Box 96
Moorhead, MN 56561-0096

Subject: Solicitation for Environmental Assessment for Drilling and Completion of Four Proposed Oil and Gas Exploratory Wells on the Fort Berthold Reservation in McKenzie and Mountrail Counties, North Dakota

Dear Ms. Braun:

This letter is written to inform you that the letters sent on March 15 and 17 were received and the information and maps have been reviewed by Bureau of Reclamation staff.

Oil and gas exploratory well sites located in McKenzie and Mountrail Counties could potentially affect Reclamation facilities in the form of the rural water pipelines of the Fort Berthold Rural Water System. Depending on the extent of access road construction, well site development, and other disturbances, the following proposed well sites are located in the vicinity and could potentially impact existing or proposed water pipelines:

McKenzie County
Goodall - USA #21-29H, SW¼ SW¼ section 20, T152N, R93W
Quale - USA #31-20H, NW¼ NE¼ section 20, T152N, R93W

Mountrail County
Red Feather - USA #41-17H, SE¼ SE¼ section 8, T150N, R93W
Luther - USA #11-16H, SW¼ SW¼ section 9, T150N, R93W

We are providing a segment of the pipeline project key depicting existing or proposed water pipeline alignments in the vicinity of well site locations which could potentially affect Reclamation facilities. Should you require more detailed maps for more specific locations, please notify us. Since Reclamation is the lead Federal agency for the Fort Berthold Rural Water System, we request that any work planned on the reservation be coordinated with Mr. Marvin Danks, Fort Berthold Rural Water Director, Three Affiliated Tribes, 308 4 Bears Complex, New Town, North Dakota 58763.

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

Sincerely,

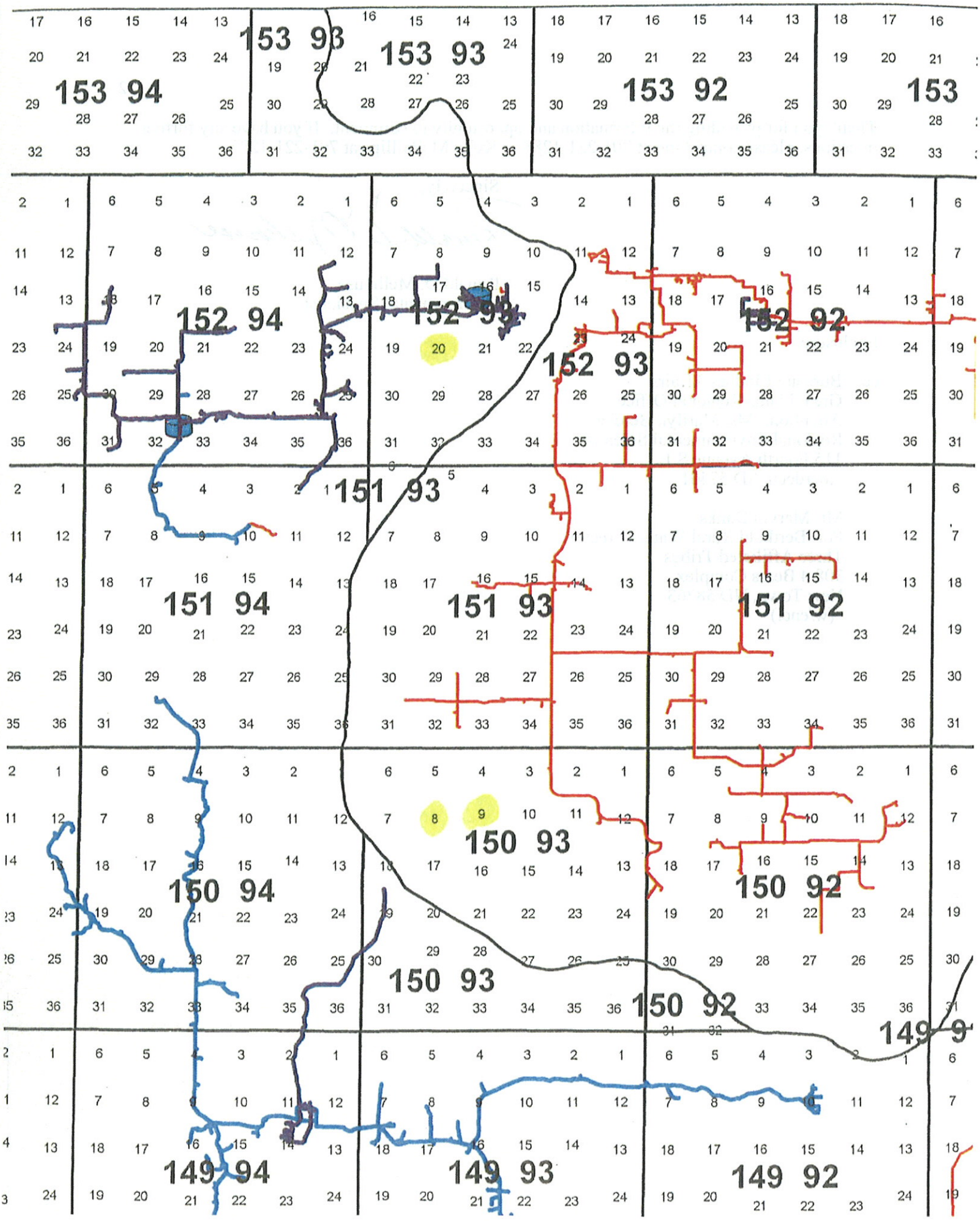
Ronald D. Melhouse

Ronald D. Melhouse
Environmental Specialist

Enclosure

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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United States Department of the Interior

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

APR 22 2010

Ms. Shanna Braun
Environmental Planner
Kadrmas, Lee & Jackson, Inc.
1505 South 30th Avenue
P.O. Box 96
Moorhead, Minnesota 56561-0096

Re: Four exploratory oil and gas wells,
Fort Berthold Reservation, Mountrail
and McKenzie Counties, North Dakota

Dear Ms. Braun:

This is in response to your March 15, 2010, and March 17, 2010, letters regarding proposed exploratory oil and gas wells on the Fort Berthold Reservation. Marathon Oil Company has proposed four exploratory oil and gas wells on the Fort Berthold Reservation, Mountrail and McKenzie Counties, North Dakota.

Specific locations in Mountrail County are:

Red Feather – USA #41-17H: T. 150 N., R. 93 W., Section 8, SE1/4SE1/4
Luther – USA #11-16H: T. 150 N., R. 93 W., Section 9, SW1/4SW1/4

Specific locations in McKenzie County are:

Goodall – USA #21H: T. 152 N., R. 93 W., Section 20, SW1/4SW1/4
Quale – USA #31-21H: T. 152 N., R. 93 W., Section 20, NE1/4NE1/4

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

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

Threatened and Endangered Species

If a Federal agency authorizes, funds, or carries out a proposed action, the responsible Federal agency, or its designated agent, is required to evaluate whether the action "may affect" listed species. If the Federal agency determines the action "may affect, is likely to adversely affect" listed species, then the responsible Federal agency shall request formal section 7 consultation with this office, or work with this office to remove the likely adverse effects before proceeding. If the evaluation shows a "no effect" determination on listed species, further consultation is not necessary. If a non-Federal entity receives Federal funding for an activity, or if a Federal permit or license is required, the Federal funding, licensing, or permitting agency may designate the fund recipient or permittee as its agent for purposes of informal section 7 consultation. The funding, permitting, or licensing Federal agency is responsible to ensure that its actions comply with the ESA, including obtaining concurrence from the Service for any action that may affect a threatened or endangered species or designated critical habitat prior to carrying out the activity.

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

All four of the proposed wells are within one-half mile of designated critical habitat for the piping plover. Critical habitat can be viewed on the Service website: (http://www.fws.gov/northdakotafieldoffice/endspecies/species/piping_plover.htm). GIS layers of critical habitat can be obtained by contacting our office at the letterhead address. The Service suggests that Marathon Oil relocate the proposed project to maintain a one-half mile buffer from Lake Sakakawea reservoir. If Marathon Oil does not relocate the wells, the Service requests that you inform us of how the proposed projects will be designed so that neither construction nor ongoing operations of the wells and pipelines, including any potential spills, will impact critical habitat.

The Aransas Wood Buffalo Population (AWBP) of endangered whooping cranes is the only self-sustaining migratory population of whooping cranes remaining in the wild. These birds breed in the wetlands of Wood Buffalo National Park in Alberta and the Northwest Territories of northern Canada, and overwinter on the Texas coast. Whooping cranes in the AWBP annually migrate through North Dakota during their spring and fall migrations. They make numerous stops along their migration route to feed and roost before moving on. The proposed project lies within a 90 mile corridor that includes approximately 75 percent of all reported whooping crane sightings in the State (enclosure).

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

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

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

Migratory Birds

The Migratory Bird Treaty Act 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 U.S Fish & Wildlife Service (USFWS) realizes that some birds may be killed during well construction even if all known reasonable and effective measures to protect birds are used. The USFWS 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.

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.

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

The Service recommends that aerial raptor surveys be conducted prior to any on-the-ground activities. The Service recommends that an aerial nest survey (preferably by helicopter) be conducted within one mile of any proposed ground disturbances to identify

active and inactive nest sites near the proposed well pad and associated facilities, including proposed new roads. Aerial surveys should be conducted between March 1 and May 15, before leaf-out so that nests are visible.

Aerial surveys should include the following:

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

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

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

High Value Habitat Avoidance

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

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

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

- 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. Obtain seed stock from nurseries within 250 miles of the project area to insure the particular cultivars are well adapted to the local climate.

Cumulative Effects Analysis

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

existing and proposed pads, roads, electrical transmission lines, and preferably pipelines to transport the products.

Habitat Fragmentation

Prairie habitat is increasingly being lost or fragmented because of the large number of wells and associated roads that are being constructed in areas of the State that were formerly relatively undeveloped. Only about 30 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. The Service recommends placing as few well pads as possible on the landscape and locating pads so as to avoid or minimize the construction of new roads. Many prairie species require large, contiguous blocks of grasslands for their biological needs and may either avoid patchy habitat or experience reduced reproductive success.

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

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

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

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

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

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

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

Post-production Phase – Reclamation

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

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

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

Sincerely,

Jeffrey K. Towner
Field Supervisor
North Dakota Field Office

Enclosures

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

Literature Cited

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

ENDANGERED SPECIES

Birds

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

Whooping crane (Grus Americana): Aransas-Wood Buffalo Population (264 birds) occurs in North Dakota counties during spring and fall migration between breeding and wintering areas. Whooping cranes prefer to roost overnight in shallow open water wetland habitat with good visibility during migration stopovers.

Fish

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

Mammals

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

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

THREATENED SPECIES

Birds

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

CANDIDATE SPECIES

Invertebrates

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

DESIGNATED CRITICAL HABITAT

Birds

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

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

ENDANGERED SPECIES

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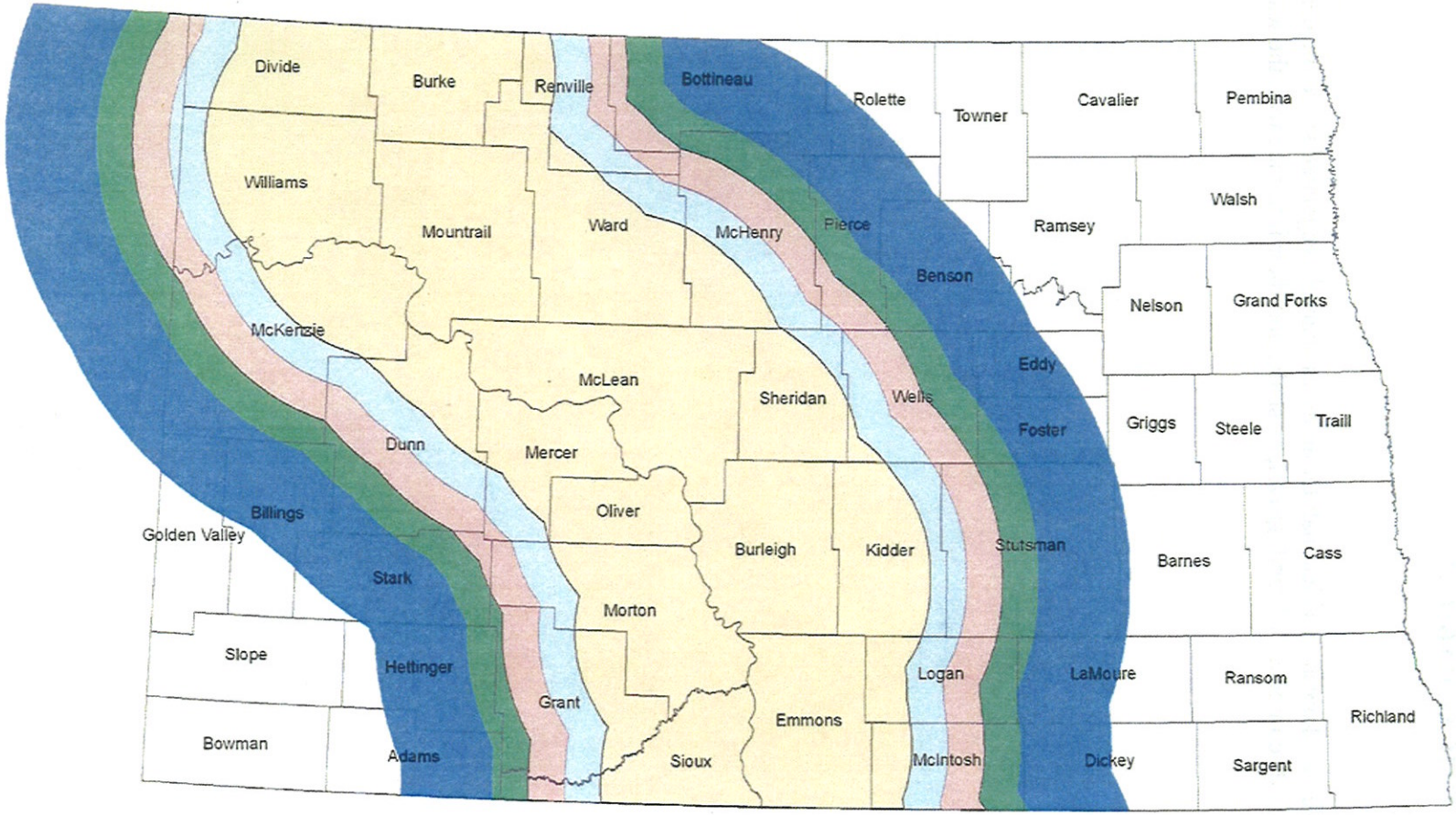
U.S. Fish and Wildlife Service

North Dakota and Montana Whooping Crane Migration Corridor

Central Flyway of the United States



Legend
Percent of Central Flyway Confirmed Sightings

- 75%
- 80%
- 85%
- 90%
- 95%

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W E
S

Produced for Ecological Services
Grand Island, NE
Current to: 2007

0 10 20 40 60 80 Miles

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

March 29, 2010

Ms. Shanna Braun
Environmental Planner
Kadrmas, Lee & Jackson, Inc.
P.O. Box 96
Moorhead, MN 56561-0096

Re: Two Proposed Oil & Gas Exploratory Wells: Goodall – USA #21-29H and Quale – USA #31-20H on the Fort Berthold Reservation, McKenzie County, ND

Dear Ms. Braun:

This department has reviewed the information concerning the above-referenced project submitted under date of March 17, 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.

"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

April 13, 2010

Shanna Braun
Environmental Planner
Kadrmas, Lee & Jackson, Inc.
PO Box 96
Moorhead, MN 56561-0096

Dear Ms. Braun:

RE: Exploratory Oil & Gas Wells
Fort Berthold Reservation

Marathon Oil Company has proposed two exploratory oil and gas wells on the Fort Berthold Reservation in section 20, T152N, R93W, of McKenzie 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

John Hoeven, Governor
Douglass A. Prchal, Director

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

April 8, 2010

Shanna Braun
Kadrmas, Lee & Jackson
2750 Gateway Drive, Suite F
Grand Forks, ND 58203-0811

Re: Two Proposed Oil and Gas Exploratory Wells Project

Dear Ms. Braun:

The North Dakota Parks and Recreation Department has reviewed the above referenced project proposal submitted by Marathon Oil Company to drill and complete two exploratory oil and gas wells on the Fort Berthold Reservation located in Section 20, T152N, R93W, McKenzie County.

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

The North Dakota Parks and Recreation Department is responsible for coordinating North Dakota's Scenic Byway and Backway Program. This proposed project is in proximity to the Killdeer Mountain Four Bears Scenic Byway and as such we recommend any project development be completed with the least amount of or no visual impact to the immediate and distant views from that Byway. North Dakota Parks and Recreation Department staff should be contacted at 701-328-5355 to assist in mitigation of any potential impacts.

The North Dakota Natural Heritage biological conservation database has been reviewed to determine if any current or historic plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, there are no known occurrences within or adjacent to the project area.

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

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

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

Sincerely,

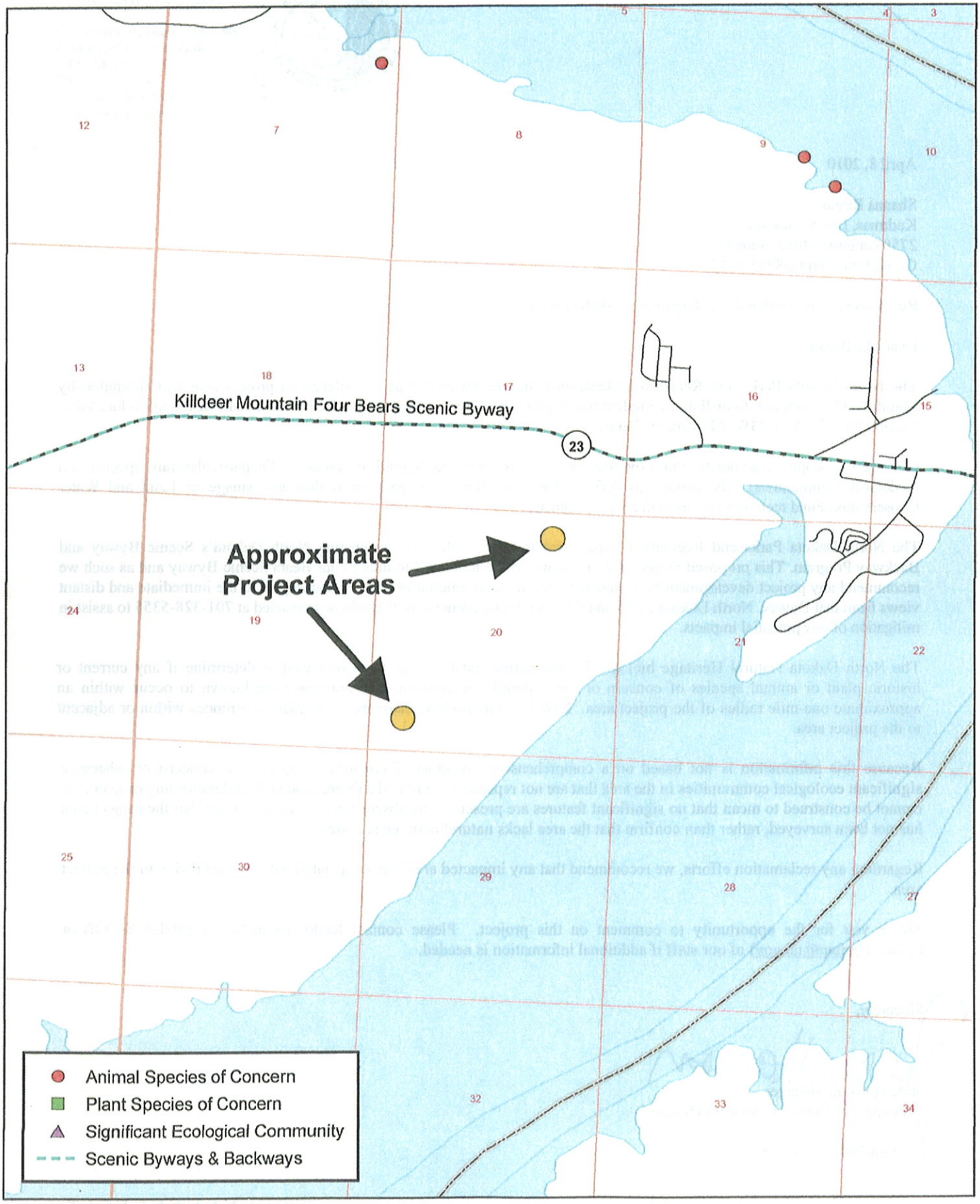
Jesse Hanson

Jesse Hanson, Manager
Planning and Natural Resources Division

R.USNDNHI*2010-088

Play in our backyard!

North Dakota Parks and Recreation Department
North Dakota Natural Heritage Inventory



April 2010

North Dakota State Water Commission

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

April 1, 2010

Shanna Braun
Kadrmas, Lee and Jackson
PO Box 96
Moorhead, MN 56561-0096

Dear Ms. Braun:

This is in response to your request for review of environmental impacts associated with the Two Proposed Oil and Gas Exploratory Wells, Fort Berthold Reservation, McKenzie County, ND.

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

- The property is not located in an identified floodplain and it is believed the project will not affect an identified floodplain.

- All waste material associated with the project must be disposed of properly and not placed in identified floodway areas.

- No sole-source aquifers have been designated in ND.

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

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

Sincerely,

Larry Knudtson
Research Analyst

Notice of Availability and Appeal Rights

Marathon: Access Road to Goodall – USA #11-29H and Quale – USA #31-20

The Bureau of Indian Affairs (BIA) is planning to issue administrative approvals related to access roads across Tribal trust land to two exploratory oil/gas wells as shown on the attached map. Construction by Marathon Oil and Gas 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 4, 2010 by contacting:

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

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

Project location.