



United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Great Plains Regional Office
115 Fourth Avenue S.E., Suite 400
Aberdeen, South Dakota 57401

IN REPLY REFER TO:
DESCRM
MC-208

JUL 10 2012

MEMORANDUM

TO: Superintendent, Fort Berthold Agency

FROM: ^{Acting} Regional Director, Great Plains Region

SUBJECT: Environmental Assessment and Finding of No Significant Impact

In compliance with the regulations of the National Environmental Policy Act (NEPA) of 1969, as amended, an Environmental Assessment has been completed and a Finding of No Significant Impact (FONSI) has been issued. The EA authorizes land use for three Bakken oil and gas wells located atop one well pad on the Fort Berthold Indian Reservation.

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 (40 C.F.R. Section 1506.6(b)) Please post the attached notice of availability at the Agency and Tribal buildings for 30 days.

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

Attachment

cc: Tex Hall, Chairman, Three Affiliated Tribes (with attachment)
Elgin Crows Breast, Tribal Historic Preservation Officer (with attachment)
Derek Enderud, BLM, Bureau of Land Management (with attachment)
Grady Wolf, KLJ (with attachment)
Eric Wortman, EPA (with attachment)
Carson Hood/Fred Fox, MHA Energy Dept. (with attachment)
Jonathon Shelman, Corps of Engineers
Jeff Hunt, Fort Berthold Agency

ENVIRONMENTAL ASSESSMENT

United States Bureau of Indian Affairs

Great Plains Regional Office
Aberdeen, South Dakota



Marathon Oil Company

Drilling of Cummings 41-6H/Cummings 41-6TFH/Cummings 44-31TFH Oil & Gas Wells

Fort Berthold Indian Reservation

June 2012

For information contact:

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Finding of No Significant Impact

Marathon Oil Company (Marathon)

Environmental Assessment for Drilling of Cummings 41-6H/Cummings 41-6TFH/Cummings 44-31TFH Oil & Gas Wells

Fort Berthold Indian Reservation Mountrail County, North Dakota

The U.S. Bureau of Indian Affairs (BIA) has received a proposal to drill three oil and gas wells located atop a single well pad located in the NE¼NE¼ of Section 6, Township 150 North, Range 92 West, 5th P.M as follows:

- Cummings 41-6H
- Cummings 41-6TFH
- Cummings 44-31 TFH

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

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

This determination is based on the following factors:

1. Agency and public involvement solicited for the preceding NEPA document was sufficient to ascertain potential environmental concerns associated with the currently proposed project.
2. Protective and prudent measures were designed to minimize impacts to air, water, soil, vegetation, wetlands, wildlife, public safety, water resources, and cultural resources. The remaining potential for impacts was disclosed for both the proposed action and the no action alternatives.
3. Guidance from the U.S. Fish and Wildlife Service has been fully considered regarding wildlife impacts, particularly in regard to threatened or endangered species. This guidance includes the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.), the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250), Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds", and the Endangered Species Act (16 U.S.C. 1531 et seq.).
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.

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CHAPTER 1 PURPOSE AND NEED FOR ACTION

1.1 Introduction

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

1.2 Description of the Proposed Action

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

The Fort Berthold Reservation lies atop the Bakken Formation, a geologic formation rich in oil and gas deposits that extends approximately 25,000 square miles beneath North Dakota and Montana, United States and Saskatchewan, and Manitoba, Canada. Approximately two-thirds of the Bakken Formation is beneath North Dakota. The Three Forks Formation lies beneath the Bakken. The North Dakota Department of Mineral Resources estimates that there are approximately two billion barrels of recoverable oil in each of these formations¹. The Department's director estimates that 30 to 40 years or more of production remain, or more if technology improves.

The proposed action includes a positive recommendation by the Bureau of Indian Affairs (BIA) and approval by the Bureau of Land Management (BLM) for Marathon Oil Company (Marathon) to construct one well pad on the Fort Berthold Reservation, resulting in the drilling and completion of three oil and gas wells. The following well sites are proposed to be positioned on the same well pad in the NE¼NE¼ of Section 6, Township 150 North, Range 92 West, 5th P.M. and as shown on *Figure 1.1, Project Location Map*:

- Cummings 41-6H
- Cummings 41-6TFH
- Cummings 44-31 TFH

¹ The Bakken contains about 169 billion barrels of oil and the Three Forks contains about 20 billion barrels; however, most of this is not expected to be recoverable.

Each of the three wells would have an associated drilling unit in which the minerals to be developed by that well are located. Completion activities include acquisition of rights-of-way, infrastructure (including gathering lines and buried electric lines) for the proposed wells and roadway improvements.

1.3 Need for the Proposed Action

The Tribes own their mineral resources, which are held in trust by the United States government through the BIA. The BIA's positive recommendation to the BLM for approval of the Applications for Permit to Drill (APDs) for the three wells would provide important benefits to the Three Affiliated Tribes, including revenue that could contribute to the Tribal budgets, satisfy Tribal obligations and fund land purchase programs to stabilize its land base. It would also provide individual members of the Tribes with needed employment and income. Furthermore, the proposed action gives the United States an opportunity to reduce its dependence on foreign oil and gas by developing domestic sources of oil and gas.

1.4 Purpose of the Proposed Action

The purpose of the proposed action is to allow the Three Affiliated Tribes to provide for oil and gas development on the identified lands on the Fort Berthold Reservation. Additionally, the purpose is to access commercially recoverable oil and gas resources on the lands subject to Marathon's lease areas by drilling three wells at the identified location.

1.5 Regulations that Apply to Oil and Gas Development Activities

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

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

CHAPTER 2 ALTERNATIVES

2.1 Introduction

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

2.2 Alternative A: No Action

Under the no action alternative (Alternative A), the BIA would not provide a positive recommendation and the BLM would not authorize the development of the three proposed wells atop one pad. There would be no environmental impacts associated with Alternative A. However, the Three Affiliated Tribes would not receive potential royalties on production, or other economic benefits from oil and gas development on the reservation. Further, the oil and gas resources targeted by the proposed action would not be explored for commercial production or recovered and made available for domestic energy use.

2.3 Alternative B: Proposed Action

The proposed action (Alternative B) includes a positive recommendation by the BIA and authorization by the BLM to drill three wells on one pad and complete the associated rights-of-way acquisition, roadway improvements and infrastructure for the wells. Infrastructure may include subsurface oil and gas gathering pipelines and buried electrical lines, both of which would be located within the access road right-of-way.

The well site would consist of a well pad, access road, associated infrastructure and spacing units. 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 pad, access road, and proposed horizontal drilling techniques were chosen to minimize surface disturbance.

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

A pedestrian resource survey of the proposed well pad and access road was conducted on July 26, 2011 by Kadrmas, Lee & Jackson (KL&J). The purpose of this survey was to gather site-specific data and photos with regard to botanical, biological, threatened and endangered species, eagles and water resources. A study area of 10 acres centered on the well pad center point and a 200-foot wide access road corridor was evaluated at the site. Resources were evaluated using visual inspection and pedestrian transects across the site. In addition, a survey for eagles and eagle nests within 0.50 miles of all project disturbance areas was conducted. This survey consisted of pedestrian transects focusing specifically on potential nesting sites within 0.5 miles of the project disturbance areas, where survey permission allowed, including cliffs and wooded draws.

The BIA EA on-site assessment of the well pad and access road was also conducted on July 26, 2011. The BIA Environmental Protection Specialist, as well as representatives from Marathon and KL&J participated in this assessment. During this assessment, construction suitability with respect to topography, stockpiling, drainage, erosion control and other surface issues were considered. Well pad and access road locations were finalized, and the BIA gathered information needed to develop site-specific mitigation measures and best management practices (BMPs) to be incorporated into the final APDs. Those present at the on-site assessment agreed that the chosen locations, along with the minimization measures Marathon plans to implement, are positioned to minimize impacts to sensitive wildlife and botanical resources. In addition, comments received from the United States Fish and Wildlife Service (USFWS) have been considered in the development of this project.

2.3.1 Cummings Site

The Cummings site would consist of a triple well pad located in the NE¼NE¼ of Section 6, Township 150 North, Range 92 West, 5th P.M. to access potential oil and gas resources within the spacing unit consisting of Sections 6 and 7, Township 150 North, Range 92 West, 5th P.M. and Sections 30 and 31, Township 151 North, Range 92 West, 5th P.M. Please Refer to *Figure 2-1, Cummings Site Overview*.

The Cummings site would be accessed from the north. A new access road approximately 0.1 miles long would be constructed to connect the Cummings Site to an existing road, then to 29th Street NW. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignment. Culverts and cattle guards would be installed as needed along this new access road.

2.3.2 Field Camps

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

2.3.3 Access Road

Existing roadways would be used to the extent possible to access the proposed well pad; however, the construction of a new access road would also be required. The running surface of the access road would be surfaced with crushed gravel or scoria from a previously approved location, and erosion control measures including seeding of disturbed areas would be implemented. A right-of-way width of 100 feet would be required for access road construction, consisting of a 20- to 28-foot wide roadway with the remainder of the disturbed area due to ditches and construction slopes. The right-of-way would be wide enough to accommodate future utility installation and snow removal/storage efforts. The outslope portions of the constructed access road would be re-seeded upon completion of construction to reduce access road related disturbance. Access road construction shall follow road design standards outlined in the BLM's *Gold Book*.

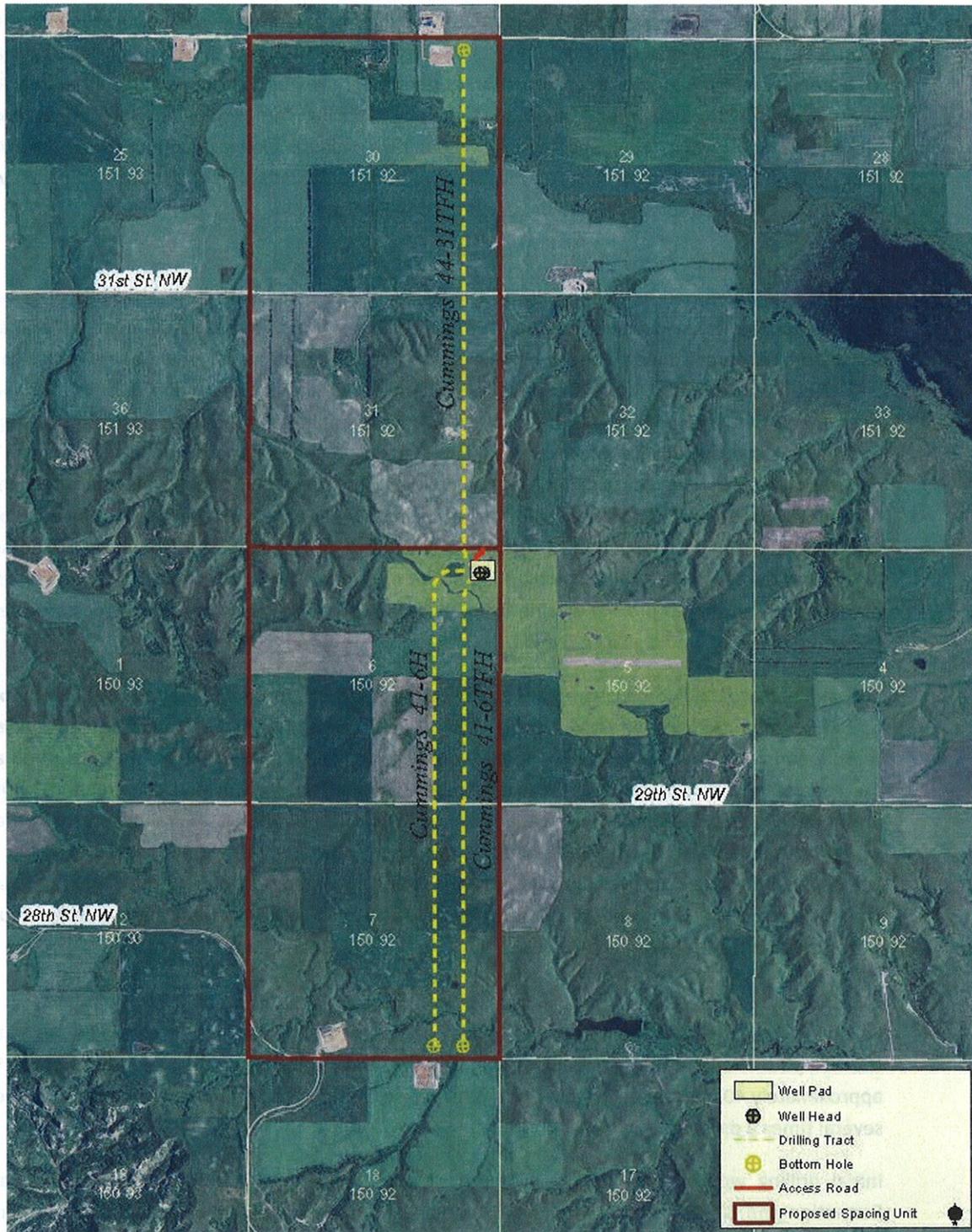


Figure 2.1, Cummings Site Overview

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

2.3.4 Well Pad

The proposed well pad would consist of a leveled area surfaced with several inches of gravel or crushed scoria. The pad would be used for the drilling rig and related equipment, as well as an excavated, reinforced lined pit to store drill cuttings.² The drill cuttings pit would be reclaimed to BLM and North Dakota Industrial Commission (NDIC) standards immediately upon finishing completion operations. The level well pad required for drilling and completing operations (including cuttings pit for drill cuttings) would be approximately 350 feet by 460 feet (approximately 3.7 acres). Total disturbed area including cut and fill slopes would be approximately 5.6 acres, while the total quantity of land within the well pad fence would be approximately 9.3 acres. All fill slopes on the edge of the well pad would be designed with 3:1 slopes. All cut slopes on the edge of the well pad would be 2:1 where less than eight feet and 3:1 where eight feet or greater. The cuttings pit would be fenced and covered with netting to protect wildlife from hazardous areas. In areas where livestock are present, the entire well pad would also be fenced.

The well pad area would be cleared of vegetation, stripped of topsoil and graded to specifications in the APDs submitted to the BLM. Construction would comply with the standards and guidelines prescribed in the BLM's *Gold Book*. Topsoil would be stockpiled and stabilized until disturbed areas are reclaimed and re-vegetated. Excavated subsoils would be used in pad construction, with the finished well pad graded to ensure water drains away from the drill sites. Erosion control at the site would be maintained through the use of BMPs, which may include, but are not limited to, water bars, bar ditches, diversion ditches, bio-logs, silt fences and re-vegetation of disturbed areas. Marathon would construct an 18-inch berm on the cut sides of the well pad to prevent any naturally occurring water to run onto the pad.

2.3.5 Drilling

Following the access road construction and well pad preparation, a drilling rig would be rigged up at the well pad. The time for rigging up, drilling the well, and rigging down the well is anticipated to be approximately 40 days for each well. During this phase, vehicles and equipment would access the site several times a day.

Initial drilling would be vertical to a depth of approximately 10400 feet to reach the Bakken Formation and 10500 feet to reach the Three Forks Formation, at which it would angle to become horizontal. The laterals along the horizontal plane would extend approximately 10,000 feet. This horizontal drilling technique would minimize surface disturbance.

For the first 2,000 feet drilled at each well (commonly referred to as a "surface hole"), a fresh water based mud system with non-hazardous additives would be used to minimize contaminant concerns.

² The lining would have a minimum thickness of 20 mils.

Water would be obtained from a commercial source for this drilling stage. About eight gallons of water would be used per foot of hole drilled, for a total of about 40,000 gallons (20,000 gallons in the hole and 20,000 gallons as working volume at the surface). Upon drilling the "surface hole" 9-5/8-inch diameter surface casing would then be run and cemented from the casing shoe back to the surface to ensure protection of all known freshwater zones as required by BLM and NDIC regulations. An oil-based mud system consisting of about 80 percent diesel fuel and 20 percent saltwater would be used to drill the remainder of the vertical hole and curve. Seven-inch production casing would be set and cemented from the production casing shoe to a cement top depth that reaches above the Dakota Group at approximately 4,600 feet ensuring that any zones known to contain oil, gas and other fluids are adequately isolated. A saltwater based drilling mud would then be utilized for the horizontal portion of the wellbore. Upon completion of the drilling of the horizontal lateral a 4.5-inch production liner/packer assembly will be run in the lateral, tying back to the 7-inch casing to allow a staged fracture stimulation to be completed on the well.

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

2.3.6 Casing and Cementing

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

2.3.7 Completion and Evaluation

Once each well is drilled and cased, approximately 60 additional days would be required to complete and evaluate it. Completion and evaluation activities include cleaning out the well bores, pressure testing the casings, perforating and fracturing to stimulate the horizontal portion of the wells and running production tubing for potential future commercial production. Fluids utilized in the completion process would be captured in tanks and would be disposed of in accordance with BLM and NDIC rules and regulations. Once each well is completed, site activity and vehicle access would be reduced. If the well is determined to be successful, tank trucks (and, if appropriate, natural gas gathering lines) would transport the product to market.

2.3.8 Commercial Production

If commercially recoverable oil and gas resources are found at any of the proposed wells, the well pad would become established as a production facility. Production equipment, including well pumping units, vertical heater/treaters, storage tanks (typically four 400 barrel steel oil tanks and one 400 barrel fiberglass saltwater tanks per well) and flare systems with associated piping would be installed. The storage tanks and heater/treater would be surrounded by an impermeable berm that

would act as secondary containment to guard against possible spills. The berm would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. The cut side of the pad would be bermed to prevent run-on. All permanent above ground production facilities would be painted to blend into the surrounding landscape, as determined by the BIA, based on standard colors recommended by the BLM.

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

Marathon has chosen ONEOK as their pipeline provider for the wells proposed in this EA, should pipeline facilities be constructed. As current estimates expect the Bakken field to remain active for 30 to 40 years, it is important that pipeline systems are designed to perform for this period of time. Pipeline, if designed effectively and if well maintained, may have an indefinite life expectancy.

ONEOK would use high density poly ethylene pipe that is anticipated to have a design life extending beyond 40 years. No maintenance of the pipeline segments due to deterioration during the life of the field would be expected.

Quality control procedures for the new pipeline segments would include pressure testing each line to 1¼ times the actual maximum pressure of the proposed line. This series of pressure tests would occur for eight straight hours and would then be recorded and documented for each new gathering line segment.

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

Marathon would mitigate the effects of this well pad by incorporating applicable conditions, mitigation measures and BMPs from the BLM's regulations, BLM's *Gold Book* (4th Edition, 2007) and applicable BLM Onshore Oil and Gas Orders, including Numbers 1, 2 and 7.

2.3.9 Reclamation

The drill cuttings would be dried during drilling operations and placed into a cuttings pit. Additional treatment of the cuttings, including stabilization with Class C fly ash, would be completed, and then the pit would be backfilled and buried as soon as possible upon well completion. Interim reclamation measures to be implemented include reduction of cut and fill slopes, redistribution of stockpiled topsoil and re-seeding of disturbed areas with a native grass seed mixture consistent with

surrounding vegetation. Per BIA guidance, interim reclamation measures will occur within six months of well completion; however, if winter weather conditions or Marathon's drilling schedule prevent interim reclamation from occurring within this timeframe, Marathon will contact the BIA and the BLM to request an extension. If commercial production equipment is installed, the site would be reduced in size to accommodate the production facilities, while leaving adequate room to conduct normal well maintenance and potential recompletions operations, with the remainder of the well pad reclaimed. Reclamation activities would include leveling, re-contouring, treating, backfilling and re-seeding with a native grass seed mixture from a BIA/BLM-approved source. Erosion control measures including placement of straw wattles and reseeded would be utilized to prevent soil loss. Stockpiled topsoil would be redistributed and re-seeded as recommended by the BIA.

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

2.4 Potential for Future Development

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

CHAPTER 3 DESCRIPTION OF THE AFFECTED ENVIRONMENT AND IMPACTS

3.1 Introduction

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

3.2 Climate, Geologic Setting, and Land Use

The proposed wells and access road are situated geologically within the Williston Basin, where the shallow stratigraphy consists of sandstones, silts and shales dating to the Tertiary Period (65 to 2 million years ago), including the Sentinel Butte and Golden Valley Formations. The underlying Bakken and Three Forks Formations, which are targeted by the proposed project, are well-known sources of hydrocarbons; the middle member of the Bakken Formation is targeted by the proposed project. 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 and Three Forks Formations feasible.

According to High Plains Regional Climate Center data collected at the Keene weather station from 1950-2010, average temperatures range from 70 to 80 degrees Fahrenheit during the summer months. The area receives approximately 15.8 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 34.7 inches of snow are received annually.

The topography within the project area is primarily identified as part of the United States Geological Survey's (USGS's) 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. According to National Agricultural Statistics Services (NASS) data, land within the proposed project area is a mix of cultivated (90 percent) and grassland (10 percent). *Please refer to Figure 3-1, Land Use.*

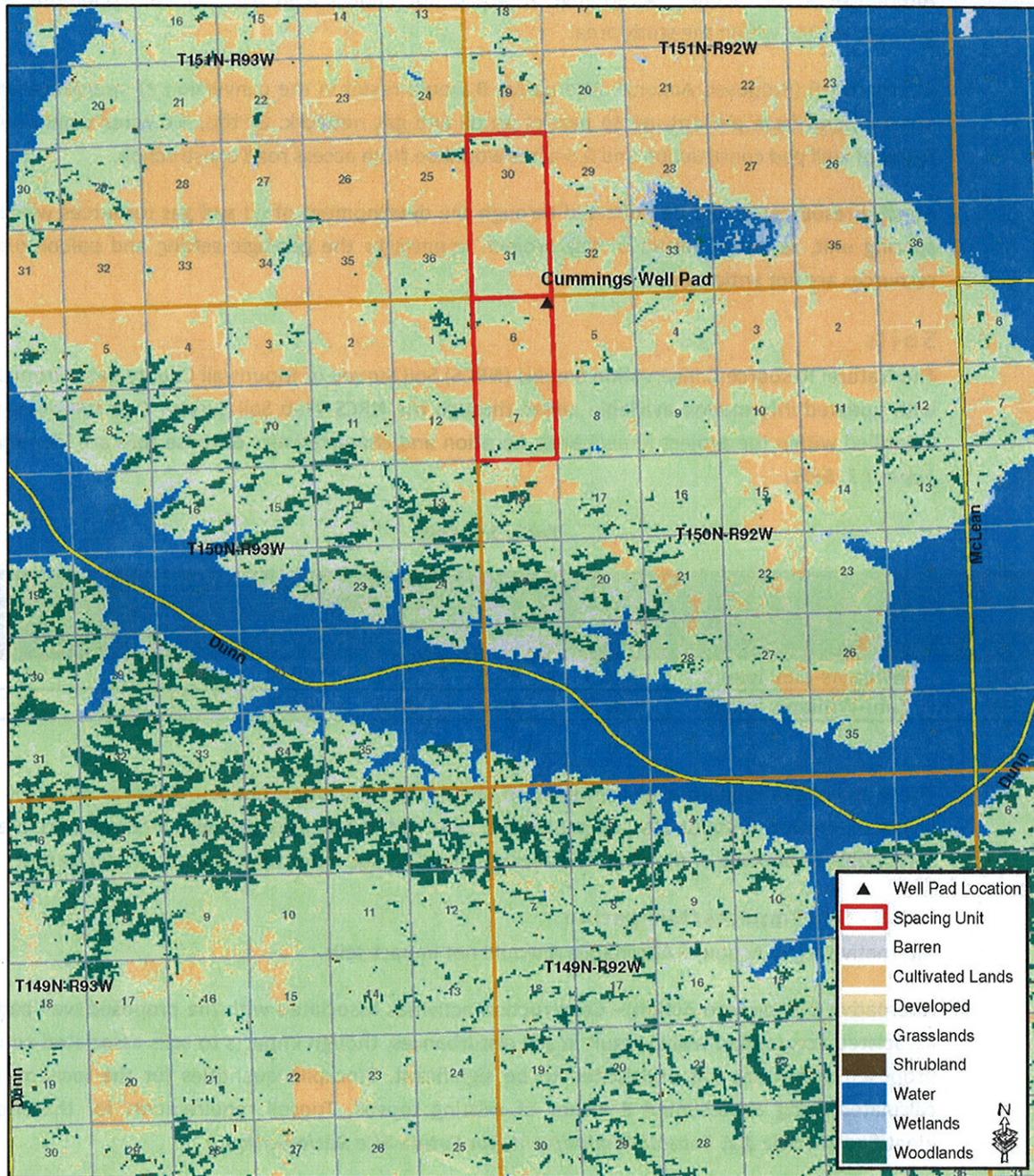


Figure 3.1, Land Use

3.2.1 Climate, Geologic Setting and Land Use Impacts/Mitigation

Alternative A (No Action)—Alternative A would not impact land use, climatic conditions or the geologic setting within the study area.

Alternative B (Proposed Action)—Alternative B would result in the conversion of approximately 8.5 acres of land from present use to part of an oil and gas network. Of this, 8.0 acres would be as a result of well pad construction and 0.5 acres would be from access road construction.

Mineral resources would be impacted through the development of oil and gas resources within the spacing unit, as is the nature of this project. Impacts to the geologic setting and paleontological resources are not anticipated.

3.3 Soils

The Natural Resource Conservation Service (NRCS) Soil Survey of Mountrail County dates from 1982, with updated information available online through the NRCS Web Soil Survey. Two soil types were identified within the project impact area. Location and characteristics of these soils are identified in *Table 3.1, Soils*.

Table 3.1, Soils

MAP UNIT SYMBOL	SOIL NAME	PERCENT SLOPE	COMPOSITION (IN UPPER 60 INCHES)			EROSION FACTOR		HYDROLOGIC SOIL GROUP
			% SAND	% SILT	% CLAY	T	KF	
24C	Williams-Zahl loams	6 to 9	34.8	30.0	35.2	5	.28	B
24E	Zahl-Williams loams	9 to 25	35.0	30.6	34.3	5	.28	B

These soils have moderate susceptibility to sheet and rill erosion and can tolerate relatively high levels of erosion without loss of productive. Both of these soils are well drained and are not susceptible to ponding or flooding. The average depth to the water table is greater than six feet.

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 pad and associated access road would result in soil disturbances, though impacts to soils associated with the proposed action are not anticipated to be significant. Stockpile quantities for the location were calculated using an assumed 8 inches of existing topsoil. Topsoil requirements for the site are identified in *Table 3.2, Topsoil Requirements for Future Site Reclamation*.

³ 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.

⁴ 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).

Table 3.2, Topsoil Requirements for Future Site Reclamation

WELL PAD NAME	CUBIC YARDS OF TOPSOIL	CUBIC YARDS OF SUB-SOIL MATERIAL
Cummings Site	6,017	2,053

Topsoil depths taken during the on-site survey indicated there are sufficient quantities of topsoil for construction and reclamation activities. Topsoil stockpiles are proposed to be located on the east side of the site.

Soil impacts would be localized and BMP's 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. BMP's used at the site to reduce these impacts would include erosion and sediment control measures during and after construction, segregating topsoil from subsurface material for future reclamation, chipping any woody vegetation that is removed on-site and incorporating it into topsoil stockpiles, re-seeding of disturbed areas immediately after construction activities are completed, the use of construction equipment appropriately sized to the scope and scale of the project, ensuring the road gradient fits closely with the natural terrain and maintaining proper drainage. According to discussions at the field on-site assessment and standard industry practices, BMP's identified in the BLM *Gold Book* shall be utilized to further minimize site erosion.

Another soil resources issue is soil compaction, which can occur through 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 (NDDH) 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 Environmental Protection Agency (EPA) and United States Army Corps of Engineers (USACE) 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.

The EPA also has the authority to protect the quality of drinking water under the Safe Drinking Water Act (SDWA) of 1974. As amended in 1986 and 1996, the SDWA requires many actions to protect

drinking water and its sources: rivers, lakes reservoirs, springs, and ground water wells.⁵ The Energy Policy Act of 2005 excludes hydraulic fracturing operations related to oil, gas, or geothermal production activities from EPA regulation under the SDWA.⁶

3.4.1 Surface Water

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

The proposed well site is located in the Lake Sakakawea basin, meaning surface waters within this basin drain to Lake Sakakawea. The proposed site is located in the Van Hook State Wildlife Management Area watershed, Muskrat Lake sub-watershed. Please refer to *Figure 3.2, Surface Water Resources*.

Runoff throughout the study area is by sheet flow until collected by ephemeral and perennial streams draining to Lake Sakakawea. Surface runoff from the well pad would travel northwest via an unnamed intermittent stream which eventually flows back to the east (approximately 5.4 miles) before it enters Muskrat Lake. Muskrat Lake is 1.9 miles long (east to west) and is partially blocked on the eastern end by 30th Street Northwest.

3.4.1.1 Surface Water Impacts/Mitigation

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

Alternative B (Proposed Action)—No significant impacts to surface water are expected to result from Alternative B. The proposed project has been sited to avoid direct impacts to surface waters and to minimize the disruption of drainage patterns across the landscape. Construction site plans would contain measures to divert surface runoff around the well pad. Culverts would be implemented as needed. Roadway engineering and the implementation of BMP's to control erosion would minimize runoff of sediment downhill or downstream. Specific measures to mitigate the impacts to surface waters and to minimize the disruption of drainage patterns were agreed upon by the BIA EA on-site participants and would include the use of a semi-closed loop drilling system and implementation of silt fences. Alternative B is not anticipated to result in measurable increases in runoff or impacts to surface waters.

Should pipeline facilities be connected to the proposed wells, ONEOK has committed to developing a spill response plan that would be submitted to the BIA prior to the commencement of construction activities. The response plan would include procedures that specifically address making the appropriate contacts, isolating the incident, protecting waterways and providing contact information for all the appropriate contractors and experts necessary to facilitate a rapid response.

⁵ The SDWA does not regulate private wells that serve fewer than 25 individuals.

⁶ The use of diesel fuel during hydraulic fracturing is still regulated under the SDWA.

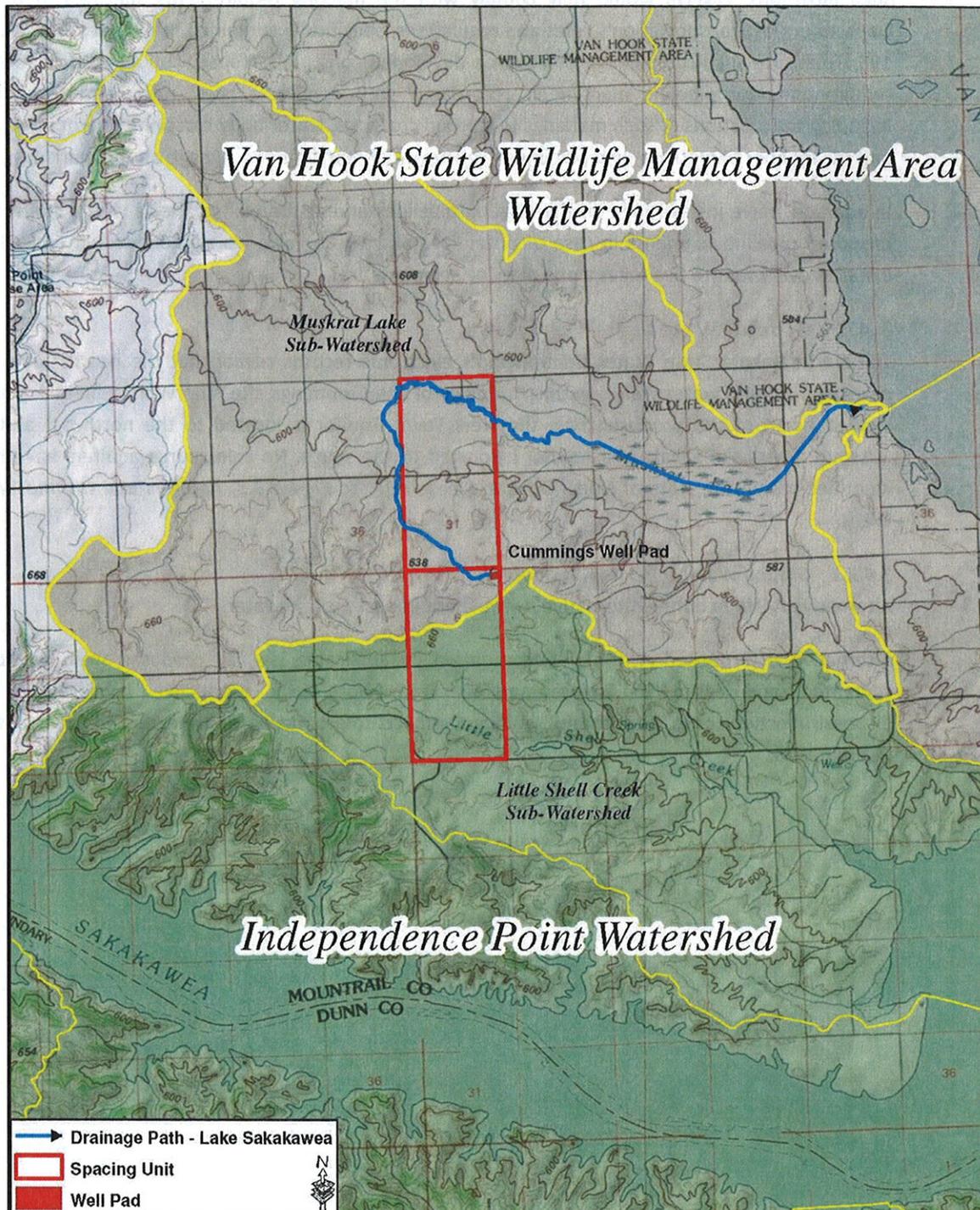


Figure 3.2, Surface Water Resources

Third-party intrusions are one of the biggest factors contributing to spills. To aid in the prevention of such intrusions, ONEOK would fully comply with the marking requirements specified in the US Department of Transportation's rules and regulations, specifically contained in 49 CFR Parts 192 and 195. To ensure such compliance, ONEOK has developed construction specifications to delineate the requirements for pipeline marking in accordance with applicable laws, rules, and regulations, including the locations of such markings (e.g., road crossings, water body crossings, line of sight, etc.) and the manner of marking such pipelines (e.g., height of markings and signage on the markings).

In addition, valve installations on the existing pipelines and at the well connects would control the proposed pipeline segments in case of potential spills. These valve installations would typically be installed every four to five miles along pipeline segments.

3.4.2 Ground Water

The North Dakota State Water Commission's electronic records reveal that the nearest active or permitted ground water well is within 0.9 miles of the Cummings site. The White Shield Aquifer is located north of the proposed site, the New Town Aquifer is located to the northeast and the Missouri River-Lake Sakakawea Aquifer is located to the south. No sole source aquifers have been identified within the state of North Dakota. Please refer to *Figure 3.3, Aquifers and Ground Water Wells*.

3.4.2.1 Ground Water Impacts/Mitigation

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

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

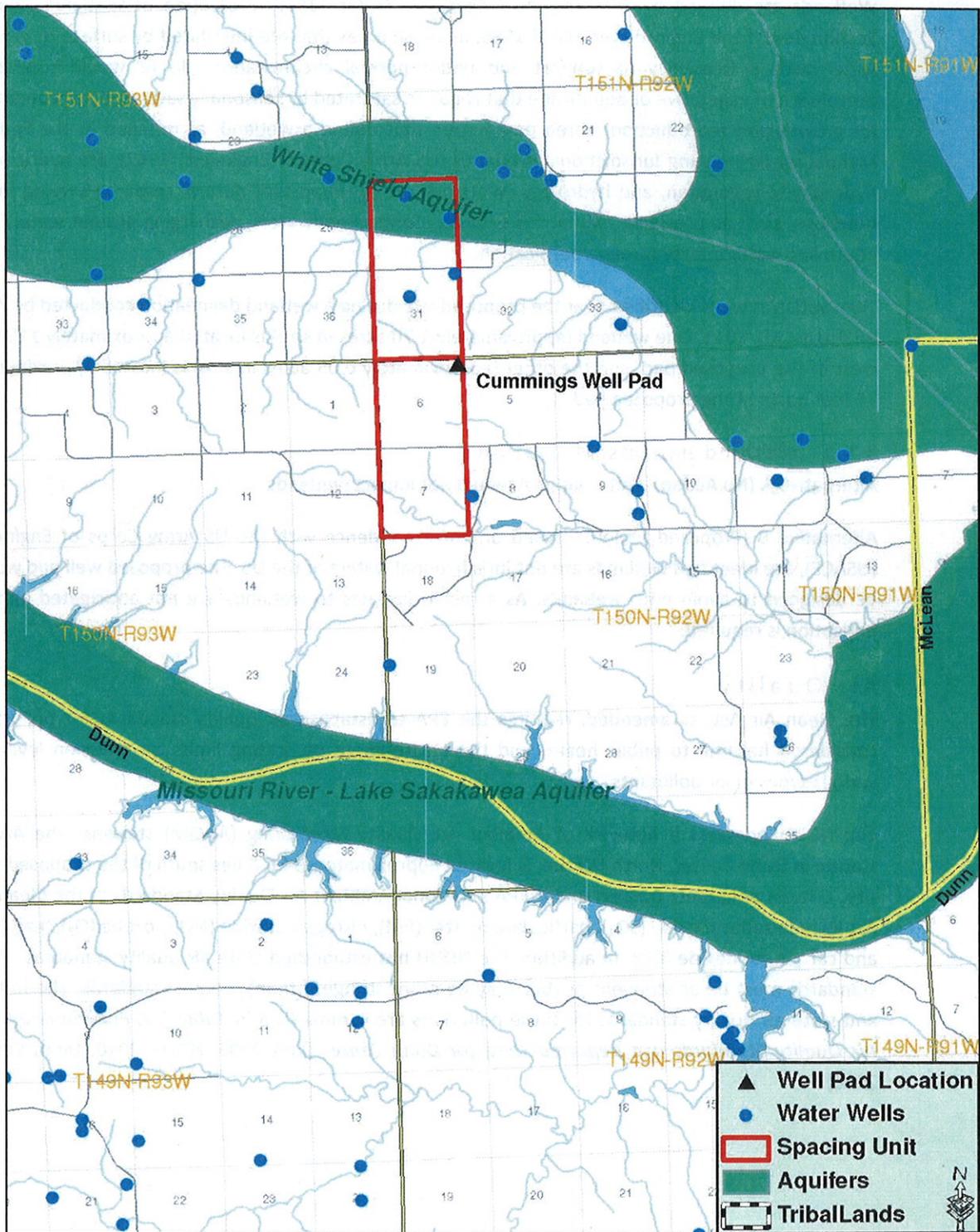


Figure 3.3, Aquifers and Ground Water Wells

3.5 Wetlands

Wetlands are defined by both the 1977 Executive Order 11990, Protection of Wetlands, and in Section 404 of the Clean Water Act of 1986, as those areas that are inundated by surface or ground water 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 ground water, and improving water quality through purification.

Two wetlands were identified near the proposed site during a wetland delineation conducted by KL&J on August 10, 2011. One wetland (approximately 1.70 acres in size) is located approximately 115 feet west of the proposed pad, and the other (approximately 0.05 acres in size) is located approximately 75 feet north of the proposed pad.

3.5.1 Wetland impacts/Mitigation

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

Alternative B (Proposed Action)—Based on correspondence with the US Army Corps of Engineers (USACE), the identified wetlands are not jurisdictional waters of the US. The proposed well pad would be designed to avoid both wetlands. As a result, impacts to wetlands are not anticipated and no mitigation is required.

3.6 Air Quality

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

The NDDH operates a network of Ambient Air Quality Monitoring (AAQM) stations. The AAQM station in Dunn Center, North Dakota, is located approximately 34.6 miles south of the proposed well site. Criteria pollutants tracked under EPA's National Ambient Air Quality Standards in the Clean Air Act include sulfur dioxide (SO₂), particulate matter (PM), nitrogen dioxide (NO₂), ozone (O₃), lead (Pb), and carbon monoxide (CO). 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 and Reported Data for Dunn Center* (EPA 2006, NDDH 2010, Dunn Center 2010).

Table 3.3, Federal and State Air Quality Standards and Reported Data for Dunn Center

POLLUTANT	AVERAGING PERIOD	EPA AIR QUALITY STANDARD		NDDH AIR QUALITY STANDARD		DUNN CENTER 2010 REPORTED DATA	
		µg/m ³	PARTS PER MILLION	µg/m ³	PARTS PER MILLION	µg/m ³	PARTS PER MILLION
SO ₂	24-Hour	365	0.14	260	0.099	—	.0055
	Annual Mean	80	0.030	60	0.023	—	.0005
PM ₁₀ ⁷	24-Hour	150	—	150	—	44.5	—
	Annual Mean	50	—	50	—	11.3	—
PM _{2.5} ⁸	24-Hour	35	—	35	—	14.2	—
	Weighted Annual Mean	15	—	15	—	3.4	—
NO ₂	Annual Mean	100	0.053	100	0.053	—	.0015
CO	1-Hour	40,000	35	40,000	35	—	—
	8-Hour	10,000	9	10,000	9	—	—
Pb	3-Month	1.5	—	1.5	—	—	—
O ₃	1-Hour	240	0.12	235	0.12	—	.064
	8-Hour	—	0.08	—	0.08	—	.055

North Dakota was one of thirteen states in 2010 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 2010).

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. No Federal Class I areas are located within the project area⁹. The Theodore Roosevelt National Park is the nearest Class I Area, located approximately 38.6 miles west of the proposed site.

3.6.1 Air Quality Impacts/Mitigation

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

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

⁷ PM₁₀ refers to particulates 10 micrometers (µ) or less in size.

⁸ PM_{2.5} refers to particulates 2.5 micrometers (µ) or less in size.

⁹ Federal Class I areas are generally national parks and wilderness areas.

3.7 Endangered, Threatened, and Candidate Species

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

The proposed project area was evaluated to determine the potential for occurrences of federally-listed endangered, threatened, and candidate species. The USFWS October 2011 Endangered, Threatened, and Candidate Species and Designated Critical Habitat in North Dakota County List identified the gray wolf, interior least tern, pallid sturgeon, and whooping crane as endangered species that may be found within Mountrail County¹⁰. The piping plover is listed as a threatened species and the Dakota skipper and Sprague's pipit are listed as candidate species. In addition, Mountrail County contains designated critical habitat for the piping plover adjacent to Lake Sakakawea. None of these species were observed during the field surveys and on-site assessments. Habitat requirements, the potential for suitable habitat within the project area, and other information regarding listed species for Mountrail County are as follows.

3.7.1 Endangered Species

Gray Wolf (*Canis Lupis*)

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 is each positioned on cropland or hayland, which does not provide suitable gray wolf habitat.

Interior Least Tern (*Aterna antillarum*)

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

¹⁰ Per the most recent Endangered, Threatened, and Candidate Species and Designated Critical Habitat list, dated March 14, 2011, these species are still listed for Mountrail County.

There is no existing or potential habitat within the project area. Potential habitat in the form of sandy/gravelly Lake Sakakawea shoreline exists approximately 3.4 miles southwest of the proposed site.

Pallid Sturgeon (*Scaphirhynchus albus*)

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

Potential habitat for pallid sturgeon can be found in Lake Sakakawea approximately 3.4 miles southwest of the project site.

Whooping Crane (*Grus Americana*)

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

The proposed project is located in the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred. Two wetlands were observed in close proximity to the proposed project site. In addition, the Cummings site occurs on a cultivated field that contains wheat stubble and canola, which may serve as suitable food sources.

3.7.1.1 Endangered Species Impacts/Mitigation

Alternative A (No Action)—Alternative A would have no effect to the gray wolf, interior least tern, pallid sturgeon or whooping crane.

Alternative B (Proposed Action)—Due to lack of preferred habitat characteristics and/or known populations, the proposed project is anticipated to have no effect on the gray wolf.

Suitable habitat for the interior least tern and pallid sturgeon is largely associated with Lake Sakakawea and its shoreline. The well site is located on upland area, with Lake Sakakawea and its shoreline located approximately 240 feet below and 3.4 miles to the southwest of the proposed project site. The topographic features of the area and distance from the shoreline would assist in providing sight and sound buffers for shoreline-nesting birds.

The proposed project is located 3.4 miles from Lake Sakakawea; however the existing drainage pathway travels 5.4 miles via intermittent streams to Muskrat Lake. Although Muskrat Lake is partially blocked on the east end by 30th Street Northwest, an outlet on the east end could potentially allow water through to Lake Sakakawea during periods of high water. The total travelled

distance from the well pad to Lake Sakakawea (through Muskrat Lake and the associated intermittent drainages) is approximately 8.5 miles. Although the potential for accidentally released fluids reaching Lake Sakakawea is unlikely, it is feasible. Storage tanks and the heater/treater would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from the site. The berm would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. Berming will be utilized around cut slopes to prevent run-on at the pad and, where BIA determines necessary, pit and soil stockpiles will be used to divert drainage outside of the fill slopes. The western edge of the well pad would be bermed (18 inches in height) to prevent run-off from entering the wetland located west of the pad. In addition, stabilization of drill cuttings before placement in the pit and the reinforced lining of the cuttings pit would diminish the potential for pit leaching. Due to the implementation of secondary containment measures and the cuttings pit parameters, the transfer of accidentally released fluids to Lake Sakakawea and its associated habitats is unlikely. Given the distance from Lake Sakakawea through the existing drainage pathway (8.5 miles), the downstream barrier to the drainage provided by the existing 30th Street Northwest, and the construction methodologies, numerous measures are in place to prevent movement of accidentally released fluids to Lake Sakakawea. However, due to the fact that it would be feasible for accidentally released fluids to reach the Lake, it is determined that the proposed project may affect but is not likely to adversely affect the interior least tern and pallid sturgeon.

Whooping cranes use shallow, seasonally and semi-permanently flooded palustrine (marshy) wetlands for roosting, and various cropland and emergent wetlands for feeding. Two wetlands were observed near the proposed site. One wetland (approximately 1.70 acres in size) is located approximately 115 feet west of the proposed pad, and the other (approximately 0.05 acres in size) is located approximately 75 feet north of the proposed pad. In addition, the Cummings site occurs on a cultivated field that contains wheat stubble and canola. The proposed project is located in the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred. Whooping cranes traveling through the area may alter their flight and landing patterns to avoid disturbance related to oil and gas development. However, it is believed that there are still large, undeveloped areas on the Fort Berthold Reservation in which migrating cranes could land to rest. Due to the presence of suitable habitat and food sources and the location of the project within the Central Flyway, the proposed project may affect but is not likely to adversely affect whooping cranes. Per USFWS recommendations on previous projects of a similar nature, if a whooping crane is sighted within one-mile of a well site or associated facilities while under construction, all work will cease within one-mile of that part of the project and the USFWS will be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area.

3.7.2 Threatened Species

Piping Plover (*Charadrius melodus*)

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

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

There is no existing or potential piping plover habitat within the project area. Critical habitat in the form of sandy/gravelly Lake Sakakawea shoreline exists approximately 3.4 miles away.

3.7.2.1 Threatened Species Impacts/Mitigation

Alternative A (No Action)—Alternative A would have no effect to the piping plover or its critical habitat.

Alternative B (Proposed Action)—Similar to the interior least tern, suitable habitat for the piping plover is largely associated with Lake Sakakawea and its shoreline. The well site is located on uplands, with Lake Sakakawea and its shoreline located approximately 240 feet below and 3.4 miles to the southwest of the Cummings Site. The topographic features of the area and distance from the shoreline would assist in providing sight and sound buffers for shoreline-nesting birds.

Storage tanks and the heater/treater would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from the site. The berm would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. Berming will be utilized around cut slopes to prevent run-on at the pad and, where BIA determines necessary, pit and soil stockpiles will be used to divert drainage outside of the fill slopes. The western edge of the well pad would be bermed (18 inches in height) to prevent run-off from entering the wetland located west of the pad. In addition, stabilization of drill cuttings before placement in the pit and the reinforced lining of the cuttings pit would diminish the potential for pit leaching. Due to the implementation of secondary containment measures and the cuttings pit parameters, the transfer of accidentally released fluids to Lake Sakakawea and its associated habitats is unlikely. Given the distance from Lake Sakakawea through the existing drainage pathway (8.5 miles), the downstream barrier to the drainage provided by the existing 30th Street Northwest, and the construction methodologies, numerous measures are in place to prevent movement of accidentally released fluids to Lake Sakakawea. However, due to the fact that it would be feasible for accidentally released fluids to reach the Lake, it is determined that the proposed project may affect but is not likely to adversely affect the piping plover. In addition, the proposed project is not likely to destroy or adversely modify designated critical habitat for the piping plover.

3.7.3 Candidate Species

Dakota Skipper (*Hesperia dacotae*)

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

The proposed site is located on cultivated land containing wheat stubble and canola, which does not provide suitable habitat for the Dakota Skipper¹¹. No Dakota skippers were observed during the field surveys or on-site assessments.

Sprague's pipit (Anthus spragueii)

The Sprague's pipit is a small songbird found in prairie areas throughout the Northern Great Plains. Preferred habitat includes rolling, upland mixed-grass prairie habitat with high plant species diversity. The Sprague's pipit breeds in habitat with minimal human disturbance.

The proposed project area consists of cultivated land containing wheat stubble and canola, which does not provide suitable habitat for the Sprague's pipit¹². No Sprague's pipits were observed during the field survey.

3.7.3.1 Candidate Species Impacts/Mitigation

Alternative A (No Action)—Alternative A would not adversely impact candidate species.

Alternative B (Proposed Action)—Due to the lack of potential habitat for the Dakota skipper and Sprague's pipit within the project area, the proposed action is not anticipated to impact individuals or habitat. An "effect determination" under Section 7 of the ESA has not been made due to the current unlisted status of these species.

3.8 Bald and Golden Eagles

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

The bald eagle (*Haliaeetus leucocephalus*) is sighted in North Dakota along the Missouri River during spring and fall migration periods and periodically in other places in the state such as the Devils Lake and Red River areas. In 2009, the ND Game and Fish Department estimated that 66 nests were occupied by bald eagles, though not all eagle nests were visited and verified. 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. No bald eagles or eagle nests were observed within 0.5 miles of proposed project disturbance areas during field survey conducted on July 26, 2011.

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,

¹¹ Information contained in this document is based on current land use conditions at the time of the field surveys and EA on-site assessments. It should be noted that site conditions may change as land use changes.

¹² Information contained in this document is based on current land use conditions at the time of the field surveys and EA on-site assessments. It should be noted that site conditions may change as land use changes.

trees, and human-made structures. They perch on ledges and rocky outcrops and use soaring to search for prey. Golden eagle preferred habitat includes open prairie, plains, and forested areas. No golden eagles or eagle nests were observed within 0.5 miles of the proposed project disturbance areas during the field surveys conducted on July 26, 2011.

The USGS Northern Prairie Wildlife Research Center maintains information on bald eagle and golden eagle habitat within the state of North Dakota. According to the USGS data, the 0.5-mile buffered survey area for the proposed well pad and access road does contain recorded habitat for both the bald eagle and the golden eagle. In addition, Dr. Anne Marguerite Coyle of Dickinson State University has completed focused research on golden eagles and maintains a database of golden eagle nest sightings. According to Dr. Coyle's information, the closest recorded golden eagle nest is located approximately 6.6 miles northwest of the proposed Cummings site. Please refer to *Figure 3.4, Bald and Golden Eagle Habitat and Nesting Sites*.

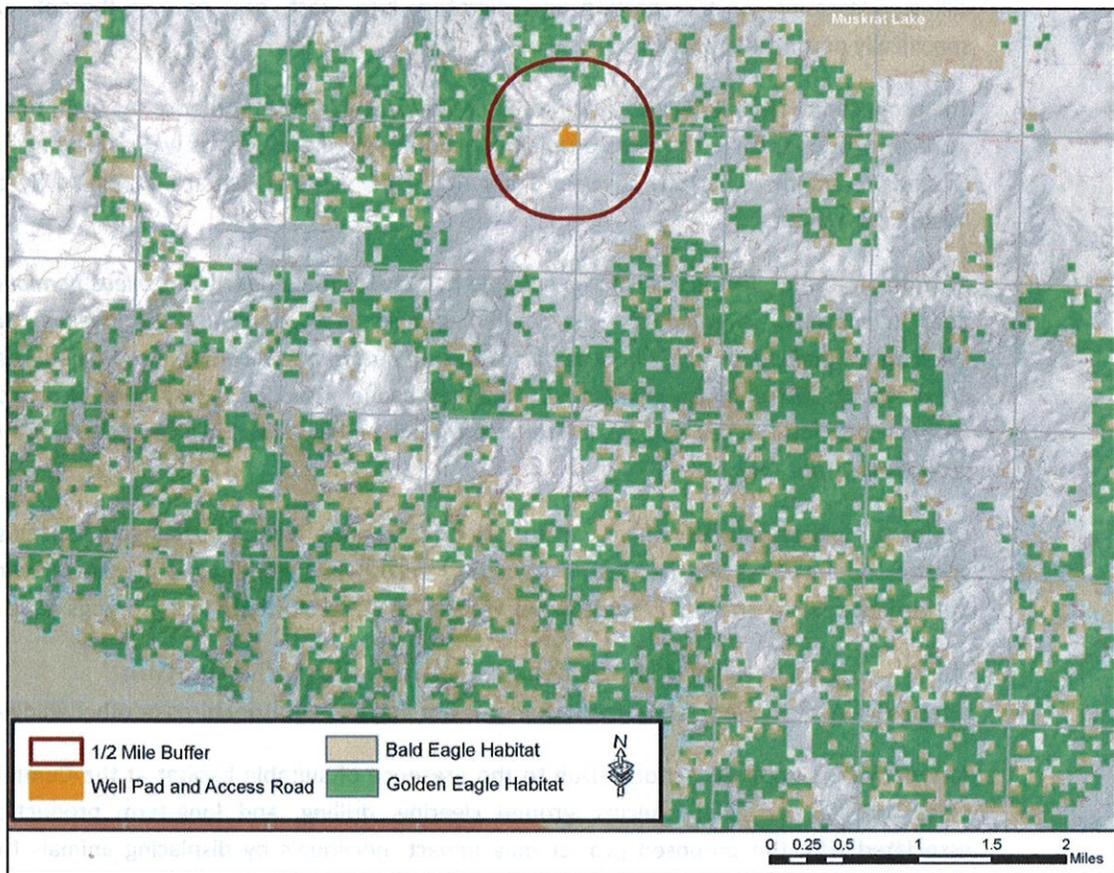


Figure 3.4, Bald and Golden Eagle Habitat and Nesting Sites

3.8.1 Eagle Impacts/Mitigation

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

Alternative B (Proposed Action)—The proposed project is located within areas of recorded suitable bald and golden eagle habitat. However, no evidence of eagles or their nests were found within 0.5 miles of the project area and no nest sightings have been recorded within one mile of the project area. Therefore, no impacts to bald or golden eagles are anticipated to result from the proposed project. If a bald or golden or eagle nest is sighted within 0.5 miles of the project construction area, construction activities shall cease and the USFWS shall be notified for advice on how to proceed. Additionally, if electrical lines are tied into existing backbones then the lines would be buried to prevent the potential for bird strikes.

3.9 Migratory Birds and Other Wildlife

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

The proposed project study area lies in the Central Flyway of North America. As such, this area is used as resting grounds for many birds on their spring and fall migrations, as well as nesting and breeding grounds for many waterfowl species. Other non-game bird species are known to fly through and inhabit this region.

In addition, the project areas contain suitable habitat for mule deer (*Odocoileus hemionu*), whitetail deer (*Odocoileus virginianus*), sharp-tailed grouse (*Tympanuchus phasianellus*), wild turkey (*Meleagris gallopavo*), ring-necked pheasant (*Phasianus colchicas*), red-tailed hawk (*Buteo jamaicensis*), kestrel (*Falco sparverius*), American badger (*Taxidea taxus*), song birds, coyote (*Canis latrans*), red fox (*Vulpes vulpes*), Eastern cottontail rabbit (*Sylvilagus floridanus*) and white-tailed jackrabbit (*Lepus townsendii*).

During the pedestrian field survey, migratory birds, raptors, big and small game species, non-game species, potential wildlife habitats, and/or bird nests were identified if present. Several monarch butterflies, several Western green grasshoppers and several Northern leopard frogs were observed.

3.9.1 Migratory Birds and Other Wildlife Impacts/Mitigation

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

Alternative B (Proposed Action)—Due to the presence of suitable habitat at the Cummings site for many wildlife and avian species, ground clearing, drilling, and long-term production activities associated with the proposed project may impact individuals by displacing animals from suitable habitat. While many species of wildlife may continue to use the project area for breeding and feeding and continue to thrive, the activities associated with oil and gas development may displace animals from otherwise suitable habitats. As a result, wildlife may be forced to utilize marginal habitats or relocate to unaffected habitats where population density and competition increase. Consequences of such displacement and competition may include lower survival, lower reproductive success, lower recruitment, and lower carrying capacity leading ultimately to population-level impacts. Therefore, the proposed project may affect individuals and populations within these wildlife species, but is not

likely to result in a trend towards listing of any of the species identified. As no grouse leks were observed in the project area, additional timing restrictions for construction are not required.

Lake Sakakawea is located approximately 3.4 miles southwest of the proposed site. The proposed site is located on upland areas that are approximately 240 feet above the Lake Sakakawea shoreline. The topographic features of the area and distance from the shoreline would assist in providing sight and sound buffers for shoreline-nesting birds.

During drilling activities, the noise, movements and lights associated with the drilling are expected to deter wildlife from entering the area. In addition, the cuttings pit would 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 its attractiveness to wildlife. Immediately after the drilling rig leaves the location, the cuttings pit would be netted with State and Federal approved nets. These would remain in place until the closure of the cuttings pit.

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

All efforts would be made to complete construction outside the migratory bird nesting season (February 1 through July) in order to avoid impacts to migratory birds during the breeding/nesting season. In the event that construction needs to take place during the migratory bird nesting season, a pre-construction survey for migratory birds and their nests would be conducted by a qualified biologist within five days prior to the initiation of all construction activities or the project areas would be mowed the previous fall to deter birds from nesting in project areas. The findings of the pre-construction surveys would be reported to the USFWS.

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

3.10 Vegetation

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

The Cummings site study area consisted almost entirely of cultivated crops. Wheat stubble from a previous year's crop and canola were the dominant plant species. Sparse occurrences of annual sunflower (*Helianthus annuus*), goatsbeard (*Tragopogon dubius*), downy brome (*Bromus tectorum*), and yellow sweetclover (*Melilotus officinalis*) were all observed growing in the field. The access road near the existing roadway ditch was dominated by Kentucky bluegrass (*Poa pratensis*), annual sunflower, yellow sweetclover, and Western wheatgrass (*Agropyron smithii*). Foxtail barley (*Hordeum*

jubatum) and barnyard grass (*Echinochloa muricata*) were observed in or around the wetland north of the proposed well pad, and Western dock (*Rumex occidentalis*), Western snowberry (*Symphoricarpos occidentalis*), prairie cordgrass (*Spartina pectinata*), quackgrass (*Elytrigia repens*), and aquatic smartweed (*Polygonum amphibium*) were observed in or around the wetland west of the proposed well pad. No noxious weeds were observed within the study area. There are no threatened or endangered plant species listed for Mountrail County. Please refer to **Figure 3-5, Cummings Site Vegetation**.



Figure 3.5, Cummings Site Vegetation

The project areas were surveyed for the presence of noxious weeds. Of the 11 species declared noxious under the North Dakota Century Code (Chapter 63-10.1), five are known to occur in Mountrail 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 within their jurisdictions. Mountrail County has added common tansy (*Tanacetum vulgare*) and houndstongue (*Cynoglossum officinale*). No noxious weeds were observed during the field survey.

Table 3.4, Noxious Weed Species

COMMON NAME	SCIENTIFIC NAME	2010 MOUNTRAIL COUNTY REPORTED ACRES
Absinth wormwood	<i>Artemesia absinthium L.</i>	545
Canada thistle	<i>Cirsium arvense (L.) Scop</i>	1,675
Common tansy	<i>Tanacetum vulgare</i>	—
Dalmation toadflax	<i>Linaria genistifolia ssp. Dalmatica</i>	—
Diffuse Knapweed	<i>Centaurea diffusa Lam</i>	—
Houndstongue	<i>Cynoglossum officinale</i>	—
Leafy spurge	<i>Euphorbia esula L.</i>	7,550
Musk thistle	<i>Carduus nutans L.</i>	—
Purple loosestrife	<i>Lythrum salicaria</i>	—
Russian knapweed	<i>Acroptilon repens (L) DC.</i>	—
Saltcedar (tamarisk)	<i>Tamarix ramosissima</i>	—
Spotted knapweed	<i>Centaurea maculosa Lam.</i>	140
Yellow toadflax	<i>Linaria vulgaris</i>	175

3.10.1 Vegetation Impacts/Mitigation

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

Alternative B (Proposed Action)—Ground clearing activities associated with construction of the proposed well pad and access road would result in vegetation disturbance; however, the areas of proposed surface disturbances are minimal in the context of the setting, and these impacts would be further minimized in accordance with the BLM *Gold Book* standards for well reclamation. Disturbance of vegetation in areas of noxious weed infestations may result in redistribution of invasive species within the project area. Thus, areas not currently dominated by these species would have a high potential to become infested. The spread of noxious weeds can have an adverse effect on multiple aspects of vegetation resources ranging from the suitability of sensitive plant habitat and maintenance of native biodiversity to forage production for livestock grazing. If advised by the BIA, identified noxious weed infestations may be treated with a BIA/BLM approved herbicide prior to construction to prevent the spread of noxious weed infestations.

Following construction, interim reclamation measures to be implemented include reduction of cut and fill slopes, redistribution of stockpiled topsoil and re-seeding of disturbed areas with a native grass seed mixture consistent with surrounding vegetation. Per BIA guidance, interim reclamation measures will occur within six months of well pad construction; however, if winter weather conditions or Marathon’s drilling schedule prevent interim reclamation from occurring within this timeframe, Marathon will contact BIA to request an extension. If commercial production equipment is installed, the well site would be reduced in size to accommodate the production facilities, while leaving adequate room to conduct normal well maintenance and potential recompletion operations, with the remainder of the well pad reclaimed. Reclamation activities would include leveling, re-contouring, treating, backfilling and re-seeding with a native grass seed mixture from a BIA/BLM-approved source. Erosion control measures would be installed as appropriate. Stockpiled topsoil would be redistributed and re-seeded as recommended by the BIA.

If no commercial production developed from any of the proposed wells, or upon final abandonment of commercial operations, all disturbed areas would be promptly reclaimed. The access road and well

pad area would be re-contoured to match topography of the original landscape as closely as possible and re-seeded with vegetation consistent with surrounding native species to ensure a healthy and diverse mix free of noxious weeds. Seed would be obtained from BIA/BLM-approved sources. Re-vegetation of the site would be consistent with the BLM *Gold Book* standards. Erosion control measures would be installed as appropriate in a manner that is consistent with the BLM *Gold Book* Standards. Maintenance of the re-vegetated site would continue until such time that the stand was consistent with the surrounding undisturbed vegetation and the site free of noxious weeds. The surface management agency would provide final inspection of the site to deem the reclamation effort complete.

3.1.1 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 Archaeological and Historic Preservation Act of 1974 provides for the survey, recovery, and preservation of significant scientific, prehistoric, archaeological or paleontological data when such data may be destroyed or irreparably lost due to a federal, federally licensed or federally-funded project.

The 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.*).

The NAGPRA of 1990 is triggered by the possession of human remains or cultural items by a federally-funded repository or by the discovery of human remains or cultural items on federal or Tribal lands and provides for the inventory, protection, and return of cultural items to affiliated Native American groups. Permits are required for intentional excavation and removal of Native American cultural items from federal or tribal lands.

The American Indian Religious Freedom Act of 1978 requires consultation with Native American groups concerning proposed actions on sacred sites on federal land or affecting access to sacred sites.

It establishes federal policy to protect and preserve for American Indians, Eskimos, Aleuts, and Native Hawaiians the right to free exercise of their religion in the form of site access, use and possession of sacred objects, as well as the freedom to worship through ceremonial and traditional rites. The Act requires federal agencies to consider the impacts of their actions on the religious sites and objects important to these peoples, regardless of eligibility for listing on the NRHP.

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

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

A cultural resource inventory of this well pad and access road was conducted by personnel of Kadrmaz, Lee & Jackson, Inc., using an intensive pedestrian methodology. Approximately 10 acres were inventoried on August 11, 2011 (Ó Donnchadha 2011). No historic properties were located that appear to possess the quality of integrity and meet at least one of the criteria (36 CFR 60.6) for inclusion on the National Register. As the lead federal agency, and as provided for in 36 CFR 800.5, on the basis of the information provided, BIA reached a determination of **no historic properties affected** for this undertaking. This determination was communicated to the THPO on June 7, 2012; however, the THPO did not respond within the allotted 30 day comment period.

3.11.1 Cultural Resources Impacts/Mitigation

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

Alternative B (Proposed Action)—All sites have been position to avoid impacts to cultural resources. As such, cultural resources impacts are not anticipated and A finding of *No Historic Properties Affected* was recommended to the BIA.

If cultural resources are discovered at any site during construction or operation, work shall immediately be stopped, the affected site secured, and the 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.

3.12 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: Four Bears, Mandaree, New Town, Parshall, Twin Buttes and White Shield. These communities provide small business amenities such as restaurants, grocery stores and gas stations; however, they lack the shopping centers that are typically found in larger cities of the region such as Minot and Bismarck. According to 2006–2010 American Community Survey 5-Year Estimates, educational services, health care and social assistance is the largest industry on the Reservation, followed by the arts, entertainment, recreation, accommodation and food services industry¹³. The Four Bears Casino, Convenience Store, and Recreation Park are also major employers with over 320 employees, 90% of which are tribal members. In addition, several industries are located on the Reservation, including Northrop Manufacturing, Mandaree Enterprise Inc. and Three Affiliated Tribes Lumber Construction Manufacturing Corporation.

Several paved state highways provide access to the reservation including ND Highways 22 and 23 and US 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.

3.12.1 Socioeconomic Impacts/Mitigation

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

Alternative B (Proposed Action)—Alternative B is not anticipated to substantially impact the socioeconomic conditions in the project area, but it does have the potential to yield beneficial impacts on Tribal employment and income. Qualified individual tribal members may find employment through oil and gas development and increase their individual incomes. Additionally, the proposed action may result in indirect economic benefits to tribal business owners resulting from construction workers expending money on food, lodging, and other necessities. The increased traffic during construction may create more congested traffic conditions for residents. Marathon will follow Mountrail County, BIA and North Dakota Department of Transportation (NDDOT) 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.

3.13 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, 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.

¹³ For the civilian employed population 16 years and over

Native Americans comprise 5.4 percent of North Dakota's population and 32.6 percent of the population of Mountrail County.

According to 2005–2009 U.S. Census Bureau data, the Fort Berthold Reservation and Mountrail County have lower than statewide averages of per capita income. Mountrail County has a higher median household income than the statewide average, while the Fort Berthold Reservation has a lower median household income than the statewide average. In addition, Mountrail County has slightly higher rates of unemployment than the state average, while Fort Berthold's rate of unemployment was substantially greater¹⁴. 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
Mountrail County	\$22,928	\$46,821	4.7%	18.8%
Fort Berthold Reservation	\$15,945	\$40,603	7.8%	25.2%
Statewide	\$24,978	\$45,140	2.4%	12.3%

Source: U.S. Census Bureau, 2005-2009 American Community Survey

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. However, Mountrail County and the Fort Berthold Reservation's population has increased over the last 10 years. American Indians are the majority population on the Fort Berthold Reservation but are the minority population in Mountrail County and the state of North Dakota. Please refer to *Table 3.6, Demographic Trends*.

Table 3.6, Demographic Trends

LOCATION	POPULATION IN 2010	% OF STATE POPULATION	% CHANGE 2000–2010	PREDOMINANT RACE	PREDOMINANT MINORITY
Mountrail County	7,673	1.1%	17.3%	White	American Indian (32.6%)
Fort Berthold Reservation	6,341	0.94%	7.2%	American Indian ¹⁵	White (23.8%)
Statewide	672,591	—	4.7%	White	American Indian (5.4%)

Source: U.S. Census Bureau, 2010 Census.

¹⁴ While more current data reflecting income, unemployment, and poverty levels within the Fort Berthold Reservation are not available, it is anticipated that published 2010 Census data may show similar trends. However, assessment contained in this document uses the best available data at present time.

¹⁵ According to the North Dakota Tourism Division, there are 10,400 enrolled members of the Three Affiliated Tribes.

3.13.1 Environmental Justice Impacts/Mitigation

Alternative A (No Action)—Alternative A would not result in disproportionately high adverse impacts to minority or low-income communities.

Alternative B (Proposed Action)—Alternative B would not require relocation of homes or businesses, cause community disruptions or cause disproportionately adverse impacts to members of the Three Affiliated Tribes. The proposed project has not been found to pose significant impacts to any other critical element (public health and safety, water, wetlands, wildlife, soil, or vegetation) within the human environment. The proposed project is also not anticipated to result in disproportionately adverse impacts to non-Tribal minority or low-income populations.

Oil and gas development of the Bakken Formation is occurring both on and off the Fort Berthold Reservation. Employment opportunities related to oil and gas development may lower the unemployment rate and increase the income levels on the Fort Berthold Reservation. In addition, the Three Affiliated Tribes and allotted owners of mineral interests may receive income from oil and gas development on the Fort Berthold Reservation in the form of royalties, if drilling and production are successful, as well as from Tribal Employee Rights Office (TERO) taxes on construction of drilling facilities.

3.14 Infrastructure and Utilities

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

Known utilities and infrastructure within the vicinity of the proposed project include paved and gravel roadways. North Dakota State Highway 23 is located approximately 10 miles north of the proposed well pad. There are no known water pipelines in the vicinity of the proposed project.

3.14.1 Infrastructure and Utility Impacts/Mitigation

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

Alternative B (Proposed Action)—Vehicular traffic associated with construction, operation and maintenance of the proposed action would increase the overall traffic on the local roadway network. To minimize potential impacts to the roadway conditions and traffic patterns in the area, all haul routes used would either be private roads or roads that have been approved for this type of transportation use by the local governing tribal, township, county and/or state entities. Marathon would follow Mountrail County, BIA and NDDOT rules and regulations regarding rig moves and oversized/overweight loads on state and county roads used as haul roads. All contractors are required to permit their oversized/overweight roads through these entities. Marathon's contractors would be required to adhere to all local, county, tribal and state regulations regarding rig moves, oversized/overweight loads, and frost restrictions.

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

Drilling operations at the proposed wells 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 for the proposed site. It is anticipated that approximately 30 to 40 trips, over the course of several days, would be required to transport the drilling rig and associated equipment to each proposed well site. If commercial operations are established at the site 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 day¹⁶. Produced water would also be hauled from the site using a tanker, which would typically haul 110 barrels of water per load. The number of visits would be dependent upon daily water production¹⁷. Established load restrictions for state and BIA roadways would be followed and haul permits would be acquired as appropriate.

3.15 Public Health and Safety

Health and safety concerns associated with this type of development include hydrogen sulfide (H₂S) gas, hazardous materials used or generated during well installation or production¹⁸.

3.15.1 Public Health and Safety Impacts/Mitigation

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

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

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

Satellite imagery revealed no buildings/residences within 3,000 feet of the proposed well pad.

¹⁶ 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.

¹⁷ A typical Bakken oil well initially produces water at 200 bbls per day and then declines rapidly over the next several months to a more moderate rate. In the vicinity of the proposed project areas, initial rates of 200 BWP (barrels of water per day) could be expected, dropping to 30 to 70 BWP after several months.

¹⁸ H₂S is extremely toxic in concentrations above 500 parts per million. H₂S has not been found in measurable quantities in the Bakken Formation. However, before reaching the Bakken, drilling would penetrate the Mission Canyon Formation, which is known to contain varying concentrations of H₂S.

Hazardous Materials. The Environmental Protection Agency (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.

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

3.16 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.

3.16.1 Past, Present, and Reasonable Foreseeable Actions

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

According to the NDIC, as of January 17, 2012, approximately 831 active and/or confidential oil and gas wells were located within the Fort Berthold Reservation, 498 of which were located on tribal trust property under the authority of the BIA. In addition, there were approximately 1,247 active and/or confidential oil and gas wells within a 20-mile radius of the proposed well site. Please refer to *Figure 3.6, Existing and Proposed Oil and Gas Wells* and *Table 3.7, Summary of Active and Proposed Wells*.

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

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

being considered and/or proposed on the Fort Berthold Reservation, and some small systems have been approved.

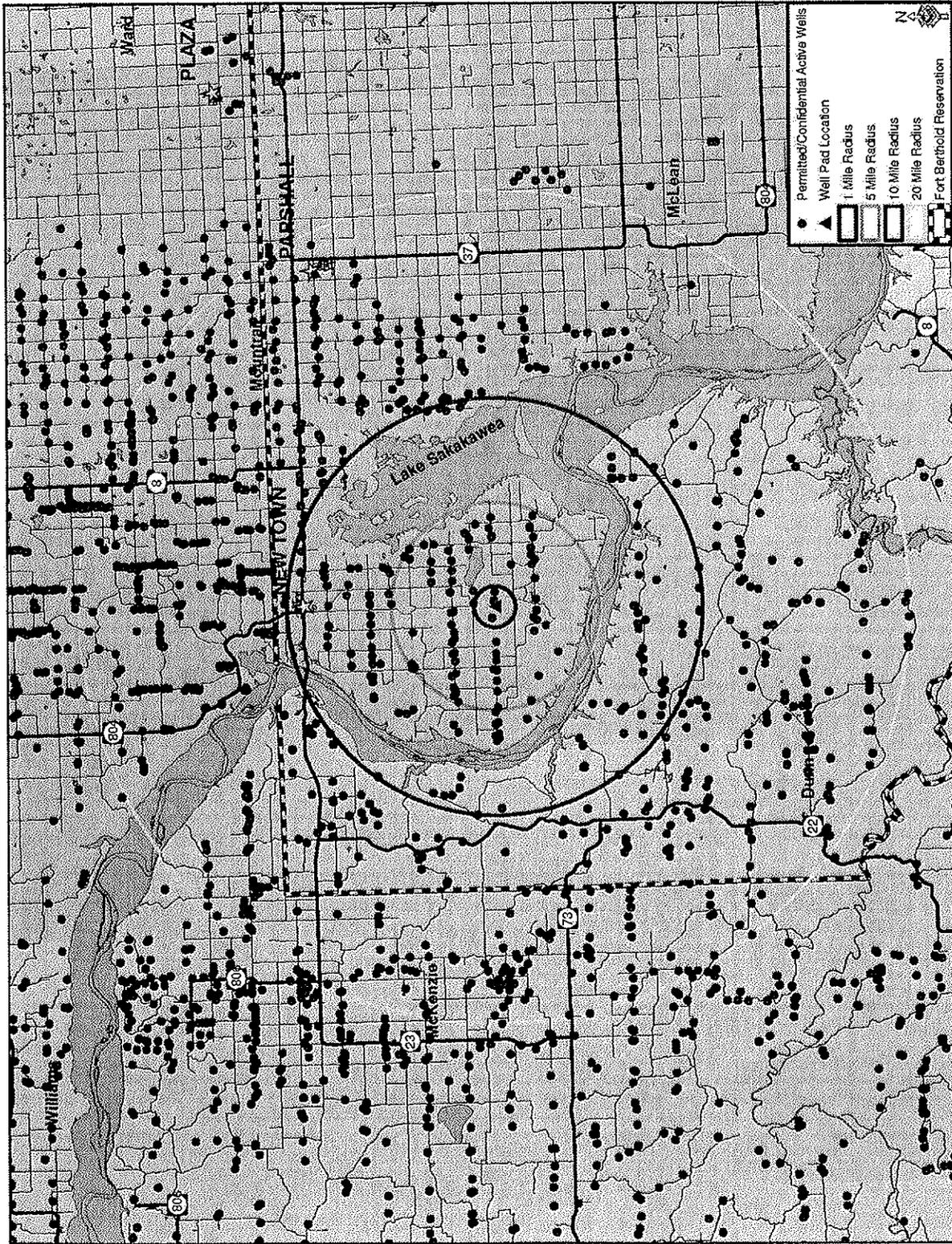


Figure 3.6, Existing and Proposed Oil and Gas Wells

Table 3.7, Summary of Active and Proposed Wells

DISTANCE FROM SITE	NUMBER OF ACTIVE OR PROPOSED WELLS
1 mile radius	8
5 mile radius	101
10 mile radius	288
20 mile radius	1,247

3.16.2 Cumulative Impact Assessment

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

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

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

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

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

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

Eagles, Other Wildlife, and Vegetation—The proposed project, when added to previously constructed and reasonably foreseeable oil and gas wells, would contribute to habitat loss and fragmentation associated with construction of well pads, access roads, and associated development. The North Dakota Parks and Recreation Department notes in its undated publication, *“North Dakota Prairie: Our Natural Heritage”* that approximately 80 percent of the state's native prairie has been lost to agriculture, with most of the remaining areas found in the arid west; ongoing oil and gas activity has the potential to threaten remaining native prairie resources. While many species of wildlife may continue to use the project area for breeding and feeding and continue to thrive, the activities associated with oil and gas development may displace animals from otherwise suitable habitats. As a result, wildlife may be forced to utilize marginal habitats or relocate to unaffected habitats where population density and competition increase. Consequences of such displacement and competition may include lower survival, lower reproductive success, lower recruitment, and lower carrying capacity leading ultimately to population-level impacts. In particular, species that rely on native prairie for breeding, feeding, and sheltering, such as the Dakota skipper and the Sprague's pipit, may experience population impacts due to the cumulative loss of habitat through conversion and fragmentation. The addition of oil and gas wells and roadways to existing human development may also increase an indirect cumulative impact on the Sprague's pipit due to its avoidance of non-prairie features.

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

Infrastructure and Utilities—The proposed action, along with other oil and gas wells proposed and drilled in the Bakken and Three Forks Formations, requires infrastructure and utilities to provide needed resource inputs and accommodate outputs such as fresh water, power, site access, transportation for products to market, disposal for produced water and other waste materials. As

with the proposed action, many other wells currently being proposed and/or built are positioned to make the best use of existing roads and to minimize the construction of new roads; however, some length of new access roads are commonly associated with new wells. The well pad has been positioned in close proximity to existing roadways to minimize the extent of access road impacts in the immediate area. Additionally, existing roadways have been utilized wherever possible to minimize impacts to the surrounding landscape. The contribution of the proposed project and other projects to stress on local roadways used for hauling materials may result in a cumulative impact to local roadways. However, abiding by permitting requirements and roadway restrictions with the jurisdictional entities are anticipated to offset any cumulative impact that may result from the proposed project and other past, present, or future projects. BMPs would be implemented to minimize impacts of the proposed project.

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

3.17 Irreversible and Irretrievable Commitment of Resources

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

3.18 Short-term Use of the Environment versus Long-term Productivity

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

3.19 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
- *Synthetic Minor Source Permit* – Environmental Protection Agency

3.20 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. All disturbed areas will be re-contoured to original elevations as close as possible as part of the reclamation process.
- BMPs (may include, but are not limited to, erosion mats and biologs) will be implemented to minimize wind and water erosion of soil resources. Stockpiles will be positioned to help divert runoff around the well pad.
- The proposed well pad and access road will avoid surface water. The proposed project will not alter stream channels or change drainage patterns.
- The drill cuttings pit will be located on the cut side of the location and away from areas of shallow ground water and have a reinforced synthetic liner to prevent potential leaks. All spills or leaks of chemicals and other pollutants will be reported to the BLM and EPA, as required. The procedures of the surface management agency (BIA) shall be followed to contain leaks or spills.
- All proposed wells will be cemented and cased to isolate aquifers from potentially productive hydrocarbon and disposal-injection zones.
- Wetland and riparian areas will be avoided.
- Disturbed vegetation will be re-seeded in kind upon completion of the project, and a noxious weed management plan will be implemented. The re-seeded site will be maintained until such time that the vegetation is consistent with surrounding undisturbed areas and the site is free of noxious weeds. Seed will be obtained from a BIA/BLM approved source.
- The proposed well pad and access road will avoid impacts to cultural resources. If cultural resources are discovered during construction or operation, work shall immediately be stopped, the affected site secured, and BIA and THPO notified. In the event of a discovery, work shall not resume until written authorization to proceed has been received from the BIA.
- The access road will be located at least 75 feet away from identified cultural resources. The boundaries of these 75-foot "exclusion zones" will be marked 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.
- Disposal areas will be properly fenced to prevent human or animal access.
- An H₂S Contingency Plan will be submitted to the BLM as part of the APDs.

- Established load restrictions for state and BIA roadways will be followed and haul permits will be acquired as appropriate.
- Suitable mufflers will be put on all internal combustion engines and certain compressor components to mitigate noise levels.
- The wells and associated facilities will be painted in earth tones, based on standard colors recommended by the BLM, to allow them to better blend in with the natural background color of the surrounding landscape.
- BMPs will be used during construction to ensure contaminants do not move off site.
- The cuttings pit will be netted while not actively being used.
- A semi-closed loop drilling system will be utilized. As part of this, Marathon will implement a closed circulation drilling mud system, whereby drilling fluid is circulated from the well into steel mud tanks and the drill cuttings are separated from the drilling fluid. The cuttings will then be stabilized, and placed in a cuttings pit on-site. The reinforced lining of the cuttings pit will have a minimum thickness of 20 mils to prevent seepage and contamination of underlying soil. Any minimal free fluid left in the cuttings pit will be removed and disposed of in accordance with BLM and NDIC regulations. All liquids from drilling will be transported off-site. The drill cuttings pit will be reclaimed to BLM and NDIC standards immediately upon finishing completion operations.
- Prior to use, the cuttings pit will be fenced on the non-working sides. The access side will be fenced and netted immediately following drilling and completion operations in order to prevent wildlife and livestock from accessing the pit.
- The cut sides of the well pad will be bermed to prevent run-on.
- If a whooping crane is sighted within one-mile of the well site or associated facilities while it is under construction, all work will cease within one-mile of that part of the project and the USFWS will be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area.
- It is anticipated that construction of the proposed project will take place after July 15 and will therefore avoid the migratory bird nesting and breeding season (between February 1 and July 15). The site may be mowed prior to construction to deter migratory birds from nesting in the area. In the event that construction is delayed and should occur during future migratory bird nesting and breeding seasons, a qualified biologist will conduct a pre-construction survey for migratory birds or their nests within five days prior to the initiation of all construction activities. The findings of this survey will be reported to USFWS.
- If a bald or golden eagle or eagle nest is sighted within 0.5 miles of the project construction area, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.
- Wire mesh or grate covers will be placed over barrels or buckets placed under valves and spigots to collect dripped oil.
- Netting, with a maximum mesh size of 1.5 inches, will be used to keep birds and other small animals out of open pits.

- All storage tanks and heater/treaters will be surrounded by an impermeable berm that will act as secondary containment to guard against possible spills. The berm will be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production.
- Re-seeding of native species shall occur as needed on stockpile areas and slope areas during reclamation.
- Per BIA guidance, interim reclamation measures will occur within six months of well pad construction; however, if winter weather conditions or Marathon's drilling schedule prevent interim reclamation from occurring within this timeframe, Marathon will contact BIA to request an extension.
- If electrical lines are installed, the lines will be buried to prevent the potential for bird strikes.

CHAPTER 4 PREPARERS AND AGENCY COORDINATION

4.1 Introduction

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

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

4.2 Preparers

Kadmas, Lee & Jackson prepared this EA under a contractual agreement between Marathon Oil Company (Marathon) and Kadmas, Lee & Jackson. 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	HES Supervisor	Project development, alternatives, document review
	Darrell Nodland	Operations Specialist	Project development, alternatives, document review
	Bill Groffy	Sr. Regulatory Representative	
	Brenda Rettinger	HES Professional	
Kadmas, Lee & Jackson, Inc.	Kayla Torgerson	Environmental Planner	Principal author, impact assessment
	Shanna Braun	Environmental Scientist	Client and agency coordination, senior review
	John Cannon	Environmental Scientist	Field resources surveys
	Brian Ó Donnchadha	Archaeologist	Cultural resources surveys
	Mary Mitchell	Archaeologist	Cultural resources surveys
	Skip Skattum	GIS Analyst	Impact assessment, exhibit creation
William H. Smith & Associates P.C. Surveying Consultants	William H. Dolinar	Registered Land Surveyor	Well location survey and plats

4.3 Agency Coordination

To initiate early communication and coordination, an early notification package to tribal, federal, state and local agencies and other interested parties was distributed on October 13, 2011. This scoping package included a brief description of the proposed project, as well as a location map. Pursuant to Section 102(2) (D) (IV) of NEPA, a solicitation of views was requested to ensure that social, economic, and environmental effects were considered in the development of this project. ***Appendix A contains Scoping Materials.***

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

4.4 Public Involvement

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

CHAPTER 5 REFERENCES

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Appendix A

Agency Scoping Materials

SOV MASTER LIST

Cummings Well Pad Site, Marathon Oil Company
Scoping Meeting List

C Title	First	Last	Title	Department	Agency	Address	City	State	Zip
Mr.	Weldon	Loudermilk	Regional Director	Bureau of Indian Affairs	115 4th Ave. SE	Aberdeen	SD	57401	
Mr.	Jeffrey	Desjardis	Environmental Protection Specialist	Bureau of Indian Affairs	202 Main Street	New Town	SD	58763	
Mr.	Darryl	Turcotte	Environmental Protection Specialist	Bureau of Indian Affairs	202 Main Street	New Town	ND	58763	
Mr.	Richard	Nelson	Chief, Resource Management	Dakotas Area Office	PO Box 1017	Bismarck	ND	58502-1017	
Mr.	Tom	Schnauer	Manager	Bismarck Airport District Office	2301 University Drive, Bldg 23B	Bismarck	ND	58504	
Mr.	Dan	Cimarosi	Manager	ND Regulatory Office	PO Box 927	Bismarck	ND	58504	
Mr.	Charles	Sorensen	Natural Resource Specialist	Riverdale Field Office	1513 S. 12th St.	Riverdale	ND	58585	
Mr.	Brad	Thompson	Chief, Planning Branch	Omaha District Attn: CENWO-PM-A	1618 Capitol Avenue	Omaha	NE	68102-4901	
Mr.	Gerald	Paulson	Director, Transmission Line Substations	ND Maintenance Office	PO Box 1173	Bismarck	ND	58502-1173	
Mr.	Larry	Svoboda	Director	NEPA Program, Region 8	1595 Wynkoop Street	Denver	CO	80202-1129	
Mr.	Richard	Clark	Wetlands Coordinator	US Environment Protection Agency	1595 Wynkoop Street	Denver	CO	80202-1129	
Mr.	Jeffrey	Townier	Field Supervisor	ND Field Office	3425 Miriam Ave.	Bismarck	ND	58501	
Mr.	Paul J.	Sweeney	State Conservationist	US Department of Agriculture	PO Box 1458	Bismarck	ND	58502-1458	
Mr.	Scott	Davis	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	821 E. Interstate Ave.	Bismarck	ND	58501	
Mr.	L. David	Glatt	Chief	Environmental Health Section Gold Seal Center	918 E. Divide Ave., 4th floor	Bismarck	ND	58501-1947	
Mr.	Terry	Steinwand	Director	ND Game & Fish Department	100 Bismarck Expressway	Bismarck	ND	58501-5095	
Mr.	Ed	Murphy	State Geologist	ND Geological Survey	600 E. Blvd. Avenue	Bismarck	ND	58505-0840	
Mr.	Mark	Zimmerman	Director	ND Parks & Recreation Dept.	1600 E. Century Ave, Suite 3	Bismarck	ND	58503-0849	
Mr.	Todd	Sando	State Engineer	ND State Water Commission	900 E. Blvd. Ave.	Bismarck	ND	58505-0850	
Mr.	Scott	Hochhalter	Soil Conservation Specialist	Soil Conservation Committee	2718 Gateway Ave., #104	Bismarck	ND	58503	
Mr.	Bill	Boyd	Construction Manager	Midcontinent Cable Company	719 Memorial Hwy PO Box 1405	Bismarck	ND	58501-1406	
Mr.	Doug	Dixon	General Manager	Badlands Region	PO Box 649	Wardford City	ND	58854-0649	
Mr.	John	Sturtepy	General Manager	Land Department	13710 FNB Parkway	Omaha	NE	68154-5200	
Mr.	Ken	Miller	Manager/CEO	Southwest Water Authority	4665 2nd St. W.	Dickinson	ND	58601	
Mr.	Ray	Christenson	Manager/CEO	West Plains Electric Coop., Inc.	PO Box 1038	Dickinson	ND	58602-1038	
Mr.	David C.	Schickoph	CEO	Xcel Energy	PO Box 2747	Fargo	ND	58108-2747	
Mr.	Sir or Madam	Bagley	District Engineer	ND Department of Transportation	1700 3rd Ave W, Suite 101	Dickinson	ND	58601-3009	
Mr.	Lorrey	Nash	Assistant Field Office Manager	Bureau of Land Management	99 23rd Ave W, Suite A	Dickinson	ND	58601	
Mr.	Michael	Sevage	Tribal Chairman	Bureau of Land Management	99 23rd Ave W, Suite A	Dickinson	ND	58601	
Ms.	Myra	Pearson	Tribal Chairman	Sisseton-Wahpeton Sioux Tribe	PO Box 509	Sisseton	SD	57262-0267	
Mr.	Charles	Murphy	Tribal Chairman	Standing Rock Sioux Tribe	PO Box 359	Ft. Totten	ND	58538	
Mr.	Elton	Spotted Horse	Environmental Division Director	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763	
Mr.	Elgin	Crows Breast	Tribal Historic Preservation Officer	Three Affiliated Tribes	HC3 Box 2	New Town	ND	58763	
Mr.	Tex	Hall	Tribal Chairman	Three Affiliated Tribes	HC3 Box 2	New Town	ND	58763	
Mr.	Merle	St. Claire	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	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763	
Ms.	V. Judy	Brough	Representative	Energy Department	PO Box 665	New Town	ND	58763	
Mr.	Arnold	Stratis	Representative	Four Bears Segment	404 Frontage Road	New Town	ND	58763	
Mr.	Scott	Eagle	Representative	Mandaree Segment	404 Frontage Road	New Town	ND	58763	
Mr.	Mervin	Packineau	Representative	Parshall/Lucky Mount Segment	404 Frontage Road	New Town	ND	58763	
Mr.	Frank	Whitecalf	Representative	White Shield Segment	404 Frontage Road	New Town	ND	58763	
Mr.	Barry	Benson	Representative	Twin Buttes Segment	70879 E Ave NW	Holiday	ND	58636	
Mr.	Fred	Poltra	Director	Game and Fish Department	404 Frontage Road	New Town	ND	58763	
Mr.	Lester	Crowsheart	Director	Fort Berthold Rural Water	308 Four Bears Complex	New Town	ND	58763	

SOV MASTER LIST

C Title	First	Last	Title	Department	Agency	Address	City	State	Zip
Mr.	Roger	Hovda	Operations Manager		Resurrection Telephone Cooperative	PO Box 68	Parshall	ND	58770-0068
Ms.	Joan	Hollekim	Auditor		Mountain County	PO Box 69	Stanley	ND	58784
Mr.	David	Hynek	Chairman	County Commission	Mountain County	101 N. Main Street	Stanley	ND	58784
Mr.	Darrell	Nodland	Operations Specialist		Marathon Oil Company	3172 Highway 22	Dickinson	ND	58601

October 13, 2011

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

**RE: Marathon Oil Company
Three Proposed Oil and Gas Wells on One Pad
Fort Berthold Reservation
Mountrail County, ND**

Dear Sir or Madam,

On behalf of Marathon Oil Company, Kadrmas, Lee & Jackson, is preparing an EA (Environmental Assessment) under NEPA (the National Environmental Policy Act) for the BIA (Bureau of Indian Affairs) and BLM (Bureau of Land Management). The proposed action includes approval by the BIA and BLM of the development of a single well pad, resulting in the drilling and completion of three oil and gas wells in Mountrail County on the Fort Berthold Reservation. The Cummings well pad would be located in the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 6, Township 150 North, Range 92 West, 5th P.M. and would contain the following three wells: Cummings USA 41-6H, Cummings USA 41-6TFH, and Cummings 44-31TFH. Collectively, these locations would be referred to at the Cummings Site. ***Please refer to the enclosed Project Location Map.***

The proposed action would advance the production of oil and gas from the Bakken and Three Forks Formations. The well pad has been positioned to utilize existing roadways for access to the extent possible. Construction of the proposed well pad and access road is scheduled to begin in late 2011 or early 2012.

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

Please provide your comments by **November 12, 2011**. We request your comments by that date to ensure that we will have ample time to review them and incorporate them into the EA.

If you would like further information regarding this project, please contact me at (218) 790-4476. Thank you for your cooperation.

Sincerely,

Kadrmas, Lee & Jackson, Inc.

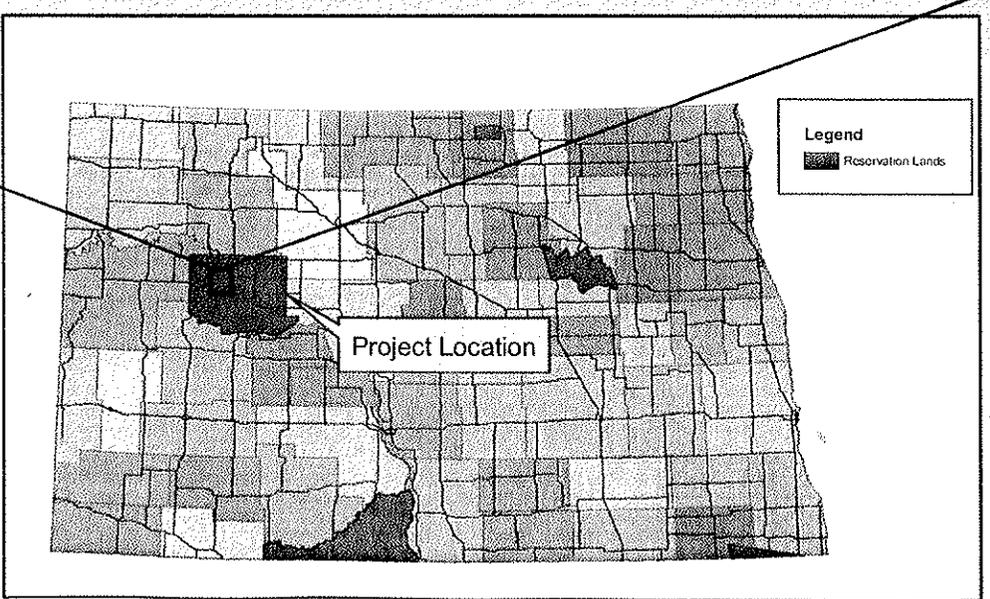


Shanna Braun
Environmental Planner

Enclosure (Project Location Map)



**Marathon Oil Company
Cummings Well Site
Mountrail County, ND**



Appendix B

Agency Scoping Responses

**Marathon Oil Company
Drilling of Cummings USA 41-6H/Cummings USA 41-6TFH/Cummings USA 44-31TFH Oil
& Gas Wells**

List of Scoping Responses

Federal

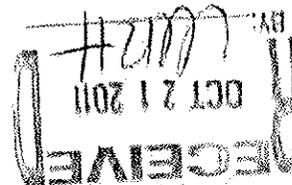
U.S. Department of the Army – Corps of Engineers, North Dakota Regulatory Office
U.S. Department of the Interior – Bureau of Reclamation
U.S. Department of the Interior – Fish and Wildlife Service

State

North Dakota Department of Health
North Dakota Parks and Recreation Department



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
NORTH DAKOTA REGULATORY OFFICE
1513 SOUTH 12TH STREET
BISMARCK ND 58504-8640



October 18, 2011

North Dakota Regulatory Office

[NWO-2011-2192-BIS]

Ms. Shanna Braun
Kadmas, Lee & Jackson, Inc.
3203 32nd Ave S, Suite 201
Fargo, North Dakota 58106-9767

Dear Ms. Braun:

We have reviewed your request of October 14, 2011 for Department of the Army (DA) approved jurisdictional determination for construction of a single well pad with three oil and gas wells on the Fort Berthold Reservation, collectively known as the Cummings Site. The project is located in Section 6, Township 150 North, Range 92 West, Mountrail County, North Dakota.

Based on the information you provided to this office, it has been determined this project, as presently designed, does not involve jurisdictional waters of the U.S. Therefore, a Section 404 permit would not be required for this project as proposed. However, should future plans involve a discharge of fill into waters of the United States, a Department of the Army (DA) permit may be required.

An approved jurisdictional determination has been completed for these projects. The JD is enclosed for your information. It may also be viewed at our website at <http://www.nwo.usace.army.mil/html/od-rnd/ndhome.htm>. These JD will be available on the website within 30 days. You may also request copies of the supporting materials the Corps used in determining this jurisdiction. If you are not in agreement with the JD, you may request an administrative appeal under Corps of Engineers regulations found at 33 CFR 331. The Notification of Administrative Appeal Options and Process and Request for Appeal (NAO-RFA) is attached. The Request for appeal must be received within 60 days from the date of this correspondence. If you would like more information on the jurisdictional appeal process, contact this office. **It is not necessary to submit a Request for Appeal if you do not object to the JD.** The JD will be valid for a period of 5 years.

Although a DA permit will not be required for this project, this does not eliminate the requirement that you obtain any other applicable Federal, state, tribal or local permits as required. Please note that deviations from the original plans and specifications of your projects **could** require other authorizations from this office.

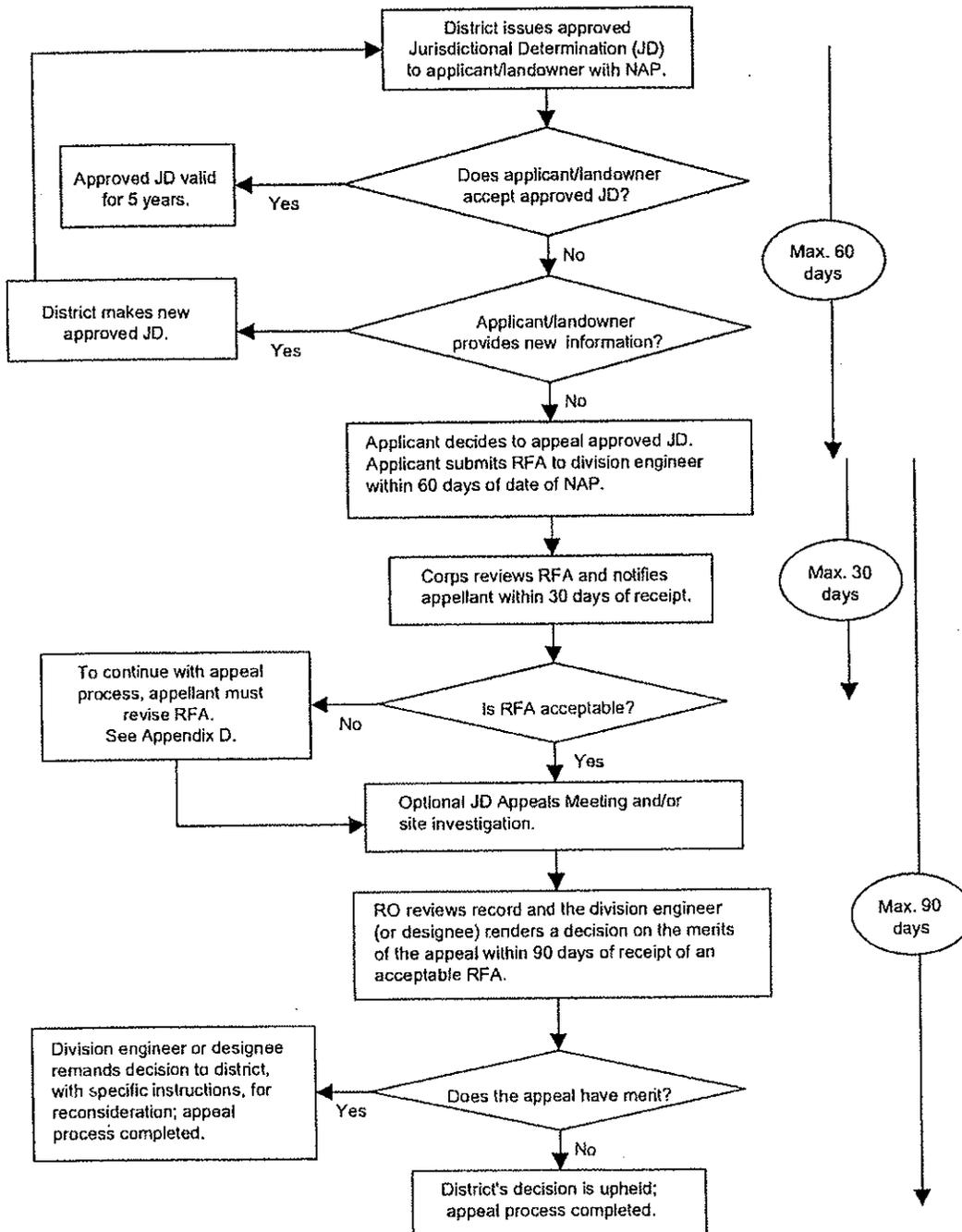
The Omaha District, North Dakota Regulatory Office is committed to providing quality and timely service to our customers. In an effort to improve customer service, please take a moment to complete our Customer Service Survey found on our website at <http://per2.nwp.usace.army.mil/survey.html>. If you do not have Internet access, you may call and request a paper copy of the survey that you can complete and return to us by mail or fax.

If you have any questions concerning this verification, please call me or Patsy J. Crooke, of my staff at 255-0015.

Sincerely,

Daniel E. Cimarosti
Regulatory Program Manager
North Dakota

Administrative Appeal Process for Approved Jurisdictional Determinations



Appendix C

**NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND
REQUEST FOR APPEAL**

Applicant: Marathon Oil		File Number: NWO-2011-2192-BIS	Date: 18 Oct 2011
Attached is:			See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A	
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B	
	PERMIT DENIAL	C	
XX	APPROVED JURISDICTIONAL DETERMINATION	D	
	PRELIMINARY JURISDICTIONAL DETERMINATION	E	

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://usace.army.mil/inet/functions/cw/cecwo/reg> or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:	If you only have questions regarding the appeal process you may also contact: US Army Corps of Engineers, Northwestern Division Attn: David Gesl, Appeal Review Officer 1125 NW Couch Street Portland, OR 97208-2870 Telephone (503) 808-3825 David.W.Gesl@usace.army.mil
--	--

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number:
---	-------	-------------------

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): October 18, 2011

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Omaha, NWO-2011-2192-BIS, Marathon Oil Cummings Site Wells

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: North Dakota County/parish/borough: Mountrail City: New Town
Center coordinates of site (lat/long in degree decimal format): Lat. 47. 8465; 47.847215 Long. -102.549586; -102.493803W
Universal Transverse Mercator:

Name of nearest waterbody: Missouri River/Lake Sakakawea

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: The wetlands are isolated

Name of watershed or Hydrologic Unit Code (HUC): 10110101

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date: October 18, 2011

Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **are no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- Non-RPWs that flow directly or indirectly into TNWs
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- Impoundments of jurisdictional waters
- Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: linear feet: width (ft) and/or acres.

Wetlands: acres.

c. Limits (boundaries) of jurisdiction based on: Pick List

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):³

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain:

An approved JD was completed for the Muskrat Lake basin during June/July 2009 and determined to be isolated, reference NWO-2009-01588-BIS dated July 21, 2009. No additional information has been generated that would change this determination. These two wetlands are adjacent to the isolated tributary of Muskrat Lake.

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs *N/A*

C. SIGNIFICANT NEXUS DETERMINATION *N/A*

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY): *N/A*

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):⁴ *N/A*

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
 - Other: (explain, if not covered above):

Muskrat Lake is not listed as public waters and does not have a public boat ramp. Muskrat Lake is a closed basin isolated lake that does not connect to the Missouri River / Lake Sakakawea or other waters of the United States. These two wetlands are adjacent to the isolated tributary of Muskrat Lake .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: 1.75 acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Provided by Kadmas Lee & Jackson as part of the approved jurisdictional determination request.
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
 - Corps navigable waters' study:
 - U.S. Geological Survey Hydrologic Atlas:
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 1:24K USGS Quad New Town SW
- USDA Natural Resources Conservation Service Soil Survey. Citation:
- National wetlands inventory map(s). Cite name: USFWS/USGS Quad New Town SW.
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date):

⁴ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

or Other (Name & Date):

- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD:

The project involves the construction of a single well pad that will impact a tributary to Muskrat Lake. Muskrat Lake is not listed as public waters and does not have a public boat ramp. Muskrat Lake is a closed basin isolated lake that does not connect to the Missouri River / Lake Sakakawea or other waters of the United States.

An approved JD was completed for the Muskrat Lake basin during June/July 2009 and determined to be isolated, reference NWO-2009-01588-BIS dated July 21, 2009. No additional information has been generated that would change this determination. An agricultural economic report was completed, April 1985, by the Department of Agricultural Economics, North Dakota Agricultural Experiment Station that indicated water cannot outlet from Muskrat Lake until the lake reaches an approximate level of 1895' msl which is not presumed a possibility. <http://ageconsearch.umn.edu/bitstream/23443/1/aer196.pdf>.

There is no information available to show that these wetlands 1) are or could be used by interstate or foreign travelers for recreational or other purposes, 2) produces fish or shellfish which are or could be taken and sold in interstate or foreign commerce, or 3) is or could be used for industrial purposes by industries in interstate commerce..



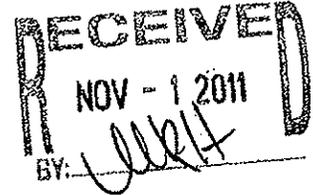
United States Department of the Interior

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



IN REPLY REFER TO:
DK-5000
ENV-6.00

OCT 28 2011



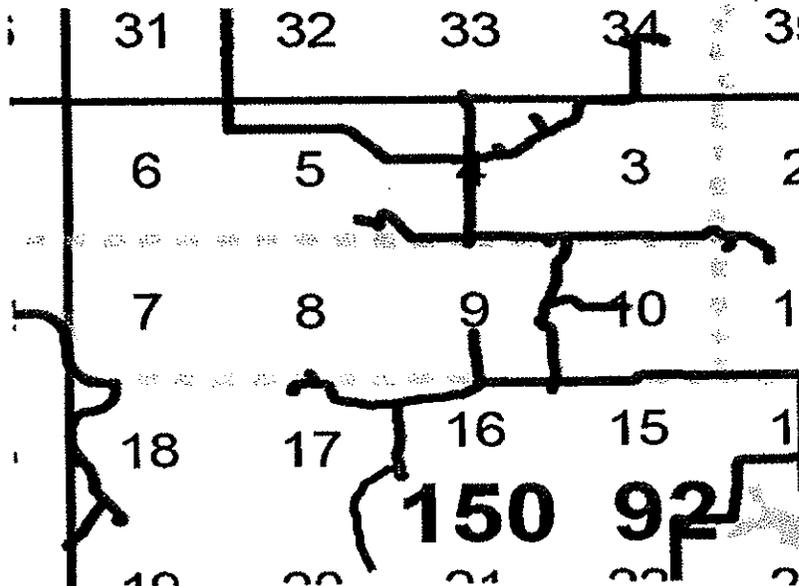
Mr. Shanna Braun
Environmental Planner
Kadmas, Lee, & Jackson, Inc.
P.O. Box 9767
Fargo, ND 58106-9767

Subject: Solicitation for an Environmental Assessment for the Construction of a Single Well Pad and 3 Oil and Gas Wells by Marathon Oil on the Fort Berthold Reservation in McLean County, North Dakota

Dear Mr. Wolf:

This letter is written to inform you that we received your letter of October 13, 2011, and the information and map have been reviewed by Bureau of Reclamation staff.

It appears there are Federal, Reclamation facilities in Sections 6, T150N, R92W, Sanish SE, North Dakota, Mountrail County (refer to the blue and red lines in the map). I have provided a map of the general vicinity of your proposed well pad to assist you in determination of potential effects due to your proposed action.



Sections 6, T150N, R92W, Sanish SE, ND

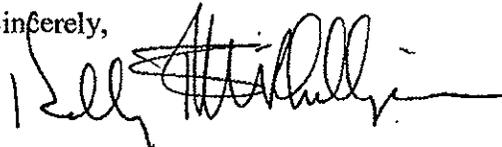
Should you need to cross a Fort Berthold Rural Water System pipeline, please refer to the enclosed sheet for pipeline crossing specifications and contact our engineer Colin Nygaard, as below.

Since Reclamation is the lead Federal agency for the Fort Berthold Rural Water System, we request that any work planned on the reservation be coordinated with Mr. Lester Crows Heart, Fort Berthold Rural Water Director, Three Affiliated Tribes, 308 4 Bears Complex, New Town, North Dakota 58763.

For future reference, please direct all future environmental consultation communications to Reclamation's Dakotas Area Office, Environmental Management Division.

Thank you for providing the information and opportunity to comment. If you have any further environmental questions, please contact me at 701-221-1287 or Colin Nygaard, Civil Engineer, for engineering questions at 701-221-1262.

Sincerely,



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

RECLAMATION
 MISSOURI DEPARTMENT OF RECLAMATION
 1001 EAST WASHINGTON AVENUE, SUITE 100
 COLUMBIA, MISSOURI 65201
 PHONE: (314) 425-1234
 FAX: (314) 425-1234
 PROJECT: [REDACTED]
 SHEET: 25480
 DATE: 1/1

ALWAYS THINK SAFETY
 MISSOURI DEPARTMENT OF RECLAMATION
 1001 EAST WASHINGTON AVENUE, SUITE 100
 COLUMBIA, MISSOURI 65201
 PHONE: (314) 425-1234
 FAX: (314) 425-1234
 PROJECT: [REDACTED]
 SHEET: 25480
 DATE: 1/1

DETECTABLE WARNING TAPE
 A. For potable water lines, the warning tape shall be a 3-inch-wide, yellow, non-ferrous, non-conductive tape impregnated with "CAUTION BURRED POTABLE WATER LINE."
 B. For non-potable water lines, the warning tape shall be a 3-inch-wide, yellow, non-ferrous, non-conductive tape impregnated with "CAUTION BURRED NON-POTABLE WATER LINE."
 C. For gas, oil, or steam chemical lines, the warning tape shall be a 3-inch-wide, yellow, non-ferrous, non-conductive tape impregnated with "CAUTION BURRED (GAS) LINE."
 D. For telecommunications, telegraph, television, and other lines, the warning tape shall be a 3-inch-wide, yellow, non-ferrous, non-conductive tape impregnated with "CAUTION BURRED (TYPE) LINE."
 E. For electrical conduits, the warning tape shall be a 3-inch-wide, yellow, non-ferrous, non-conductive tape impregnated with "CAUTION BURRED ELECTRICAL CONDUIT."
 F. A marker sign shall be provided that shows the clearance and depth of the warning tape. The marker sign shall be placed at 10-foot intervals along the length of the warning tape.

NOTES
 1. Drawing is not to scale.
 2. Character names are minimum for all conditions.
 3. Any conditions permits required/needed for construction shall be provided by the Contractor.
 4. Overhead conductor clearances shown are for 120 degree F and final unladen sag.
 5. Enable correct practices, including re-vegetation, shall be implemented after completing construction activities.
 6. The applicant shall submit a graded description, and detailed construction plans showing plan, vertical, profile and sections, and grading plans of proposed work within Reclamation's Right-of-Way (ROW).
 7. The applicant shall submit procedures, excavation plans, and schedules for closing the Reclamation pipeline.
 8. At the completion of construction activities the applicant shall submit AS-BUILT drawings that indicate the horizontal and vertical alignment of all utilities in areas disturbed during construction within Reclamation ROW.
 9. Applicant shall provide adequate protection for all existing and proposed utilities. This shall include, but not be limited to, the following:
 9.1. Displaying the crossing points with an adequate 50 percent warning pressure factor, 50 percent warning pressure factor (50% WPF) for all existing and proposed utilities.
 9.2. Use secondary containment (type casing) for all hazardous material pipelines.
 10. All work within 18 inches of the facility shall be done using hand-held tools only. The use of power tools shall be made in the presence of Reclamation personnel or authorized representatives.
 11. The applicant and/or the contractor shall be liable for all damages to Reclamation facilities and/or the public and shall provide adequate protection for all existing and proposed utilities. This shall include, but not be limited to, the following:
 11.1. Displaying the crossing points with an adequate 50 percent warning pressure factor, 50 percent warning pressure factor (50% WPF) for all existing and proposed utilities.
 11.2. Use secondary containment (type casing) for all hazardous material pipelines.
 12. Typical Reclamation potable and raw water pipelines are PVC. If metallic pipelines or those containing metallic reinforcement (e.g., reinforced concrete) are encountered in the crossing a suitable bonded dielectric coating and cathodic protection may be required.



RECLAMATION
 MISSOURI DEPARTMENT OF RECLAMATION
 1001 EAST WASHINGTON AVENUE, SUITE 100
 COLUMBIA, MISSOURI 65201
 PHONE: (314) 425-1234
 FAX: (314) 425-1234
 PROJECT: [REDACTED]
 SHEET: 25480
 DATE: 1/1

ALWAYS THINK SAFETY
 MISSOURI DEPARTMENT OF RECLAMATION
 1001 EAST WASHINGTON AVENUE, SUITE 100
 COLUMBIA, MISSOURI 65201
 PHONE: (314) 425-1234
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DETECTABLE WARNING TAPE
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 B. For non-potable water lines, the warning tape shall be a 3-inch-wide, yellow, non-ferrous, non-conductive tape impregnated with "CAUTION BURRED NON-POTABLE WATER LINE."
 C. For gas, oil, or steam chemical lines, the warning tape shall be a 3-inch-wide, yellow, non-ferrous, non-conductive tape impregnated with "CAUTION BURRED (GAS) LINE."
 D. For telecommunications, telegraph, television, and other lines, the warning tape shall be a 3-inch-wide, yellow, non-ferrous, non-conductive tape impregnated with "CAUTION BURRED (TYPE) LINE."
 E. For electrical conduits, the warning tape shall be a 3-inch-wide, yellow, non-ferrous, non-conductive tape impregnated with "CAUTION BURRED ELECTRICAL CONDUIT."
 F. A marker sign shall be provided that shows the clearance and depth of the warning tape. The marker sign shall be placed at 10-foot intervals along the length of the warning tape.

NOTES
 1. Drawing is not to scale.
 2. Character names are minimum for all conditions.
 3. Any conditions permits required/needed for construction shall be provided by the Contractor.
 4. Overhead conductor clearances shown are for 120 degree F and final unladen sag.
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 6. The applicant shall submit a graded description, and detailed construction plans showing plan, vertical, profile and sections, and grading plans of proposed work within Reclamation's Right-of-Way (ROW).
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 9. Applicant shall provide adequate protection for all existing and proposed utilities. This shall include, but not be limited to, the following:
 9.1. Displaying the crossing points with an adequate 50 percent warning pressure factor, 50 percent warning pressure factor (50% WPF) for all existing and proposed utilities.
 9.2. Use secondary containment (type casing) for all hazardous material pipelines.
 10. All work within 18 inches of the facility shall be done using hand-held tools only. The use of power tools shall be made in the presence of Reclamation personnel or authorized representatives.
 11. The applicant and/or the contractor shall be liable for all damages to Reclamation facilities and/or the public and shall provide adequate protection for all existing and proposed utilities. This shall include, but not be limited to, the following:
 11.1. Displaying the crossing points with an adequate 50 percent warning pressure factor, 50 percent warning pressure factor (50% WPF) for all existing and proposed utilities.
 11.2. Use secondary containment (type casing) for all hazardous material pipelines.
 12. Typical Reclamation potable and raw water pipelines are PVC. If metallic pipelines or those containing metallic reinforcement (e.g., reinforced concrete) are encountered in the crossing a suitable bonded dielectric coating and cathodic protection may be required.

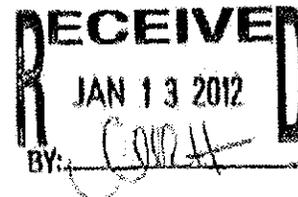




United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
3425 Miriam Avenue
Bismarck, North Dakota 58501



Ms. Shanna Braun, Environmental Planner
Kadmas, Lee & Jackson
3203 32nd Ave S, Suite 201
PO Box 9767
Fargo, North Dakota 58106-9767

Re: Marathon Cummings Three Proposed
Wells on One Pad, Fort Berthold
Reservation, Mountrail County, North
Dakota

Dear Ms. Braun:

This is in response to your October 13, 2011, scoping letter and request for concurrence regarding three proposed oil and gas wells on one pad proposed to be drilled and completed by Marathon Oil Company (Marathon) on the Fort Berthold Reservation, Mountrail County, North Dakota.

Specific locations for the proposed pad is:

Cummings: T. 150 N., R. 92 W., NE ¼ NE ¼ Section 6

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

Threatened and Endangered Species

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

Your letter states that the Cummings proposed pad is located approximately 8.54 stream-miles from potential habitat for interior least tern, piping plover and pallid sturgeon. A setback distance of 1.0 stream-mile is believed to be adequate to contain most spills before product can reach the lake through draws and drainages. The topographic features of the area and the distance from the shoreline (3.40 miles at the nearest point) should also assist in providing sight and sound buffers for plovers and terns. Therefore, the Service concurs with your "may affect, is not likely to adversely affect" determination for interior least tern, piping plover, pallid sturgeon and designated critical habitat for piping plover.

Your letter states that Marathon has committed to ceasing work on the proposed site if a whooping crane(s) is sighted within 1.0 mile of the project area and immediately contacting the Service. Work may resume in coordination with the Service after the bird(s) leaves. Additionally, per BIA requirements, all new power lines must be buried. The letter states that a 0.05-acre temporary wetland is proposed to be drained into another small wetland to the west of the pad site. Executive Order 11990 directs all Federal agencies to minimize the destruction, loss, or degradation of wetlands; and preserve and enhance the natural beneficial values of wetlands. Although not required, we also recommend that if the wetland is to be drained, that wetland mitigation be provided to offset this loss. Temporary wetlands are important to a variety of wildlife species, including whooping cranes. The Service recommends avoiding impacts to the 0.05-acre wetland, rather than draining. If this is not feasible, and you continue to propose draining of the wetland, we do not concur with your determination of "may affect, not likely to adversely affect," based on the potential for an adverse effect to whooping cranes due to harm from habitat modification. Formal consultation may be appropriate, and a biological assessment based on anticipated adverse effect should be submitted.

The Service acknowledges your no effect determination for gray wolf.

The Dakota skipper and Sprague's pipit are candidate species for listing under the ESA; therefore, an effects determination is not necessary for these species. 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. Although not required, Federal action agencies such as the BIA have the option of requesting a conference on any proposed action that may affect candidate species such as the Dakota skipper and Sprague's pipit.

Migratory Birds

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

- Construction will be completed outside of the migratory bird nesting season (Feb. 1-July 15). If construction cannot be completed outside of the migratory bird nesting season, Marathon will:

- Conduct pre-construction surveys for migratory birds and their nests within 5 days prior to the initiation of construction activities. If birds or nests are discovered, the Service will be contacted for additional information on how to proceed.

Bald and Golden Eagles

The letter states that a ground survey for cliff, tree and ground raptor nests was conducted within line-of-sight of the proposed project. No eagles or nests were discovered within 0.5 mile of the project area. The eagle nest database maintained by North Dakota Game and Fish Department does not indicate any recorded eagle nests within 0.5 mile of the project area.

The Service believes the commitment to implement the aforementioned measures will assist in complying with the MBTA and the BGEPA.

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

Sincerely,



Jeffrey K. Towner
Field Supervisor
North Dakota Field Office

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

From: Heidi_Riddle@fws.gov
To: Shanna.Braun
Cc: [Nodland, Darrell W. \(MRO\) \(dwnodland@marathonoil.com\)](mailto:Nodland_Darrell_W_(MRO)_dwnodland@marathonoil.com); lcfranklin@marathonoil.com; [Marilyn Bercier \(marilyn.bercier@bia.gov\)](mailto:Marilyn_Bercier_(marilyn.bercier@bia.gov)); mark.herman@bia.gov; [Groffy, Bill \(MRO\) \(wfgroffy@marathonoil.com\)](mailto:Groffy, Bill (MRO)_wfgroffy@marathonoil.com)
Subject: Re: Marathon Cummings Well Pad Effect Determination
Date: Friday, January 20, 2012 9:21:29 AM
Attachments: [USFWS.pdf](#)

Thank you Shanna. This email will serve as our response that we *do concur* with the "may affect, not likely to adversely affect" determination for whooping cranes, based upon this revision to the proposal, that no wetlands will be impacted.

Best Regards,

Heidi

~~~~~  
Heidi Riddle  
Fish and Wildlife Biologist  
U.S. Fish and Wildlife Service  
North Dakota Ecological Services Field Office  
3425 Miriam Avenue  
Bismarck ND 58501  
Office: 701.250.4481  
Direct Lines: 701.355.8503 or 701.683.6809  
Fax: 701.355.8513  
Email: [heidi\\_riddle@fws.gov](mailto:heidi_riddle@fws.gov)

"If I had to choose, I would rather have birds than airplanes." - Charles Lindbergh

Shanna Braun <[Shanna.Braun@kljeng.com](mailto:Shanna.Braun@kljeng.com)>

01/20/2012 08:47 AM

To "Heidi\_Riddle@fws.gov" <[Heidi\\_Riddle@fws.gov](mailto:Heidi_Riddle@fws.gov)>  
cc "Nodland, Darrell W. (MRO) (dwnodland@marathonoil.com)" <[dwnodland@marathonoil.com](mailto:dwnodland@marathonoil.com)>, "lcfranklin@marathonoil.com" <[lcfranklin@marathonoil.com](mailto:lcfranklin@marathonoil.com)>, "Marilyn Bercier (marilyn.bercier@bia.gov)" <[marilyn.bercier@bia.gov](mailto:marilyn.bercier@bia.gov)>, "mark.herman@bia.gov" <[mark.herman@bia.gov](mailto:mark.herman@bia.gov)>, "Groffy, Bill (MRO) (wfgroffy@marathonoil.com)" <[wfgroffy@marathonoil.com](mailto:wfgroffy@marathonoil.com)>  
Subject Marathon Cummings Well Pad Effect Determination

Good Morning Heidi,  
We recently received the attached response for the Marathon Cummings site (containing three wells on one pad). Part of this proposal included diversion of water out of a 0.05 acre wetland and into a larger wetland in the project area, essentially draining the smaller wetland. USFWS responded with non-concurrence of the "may affect not likely to adversely affect" determination for the whooping crane due to this removal of potential habitat.

Since the time the scoping letter was sent (October 13, 2011), Marathon has determined that this site can be constructed without draining the 0.05 acre wetland; therefore, there would be no wetland impacts associated with the proposed project. As such, we are requesting USFWS concurrence with the whooping crane "may affect, not likely to adversely affect" determination. If a whooping crane is sighted within 1.0 mile of a well site or associated facilities while under construction, all work shall cease within 1.0 mile of that part of the project and the USFWS will be contacted immediately. In coordination with the USFWS, work may resume after the bird(s) leave the area. In addition, all new electrical lines will be buried to avoid the potential for whooping crane strikes.

Please let me know if this message will be sufficient for USFWS consideration or if you would like us to follow up via written correspondence.

Thanks,

Shanna Braun  
Environmental Scientist  
Kadmas, Lee & Jackson  
Phone 218-790-4476



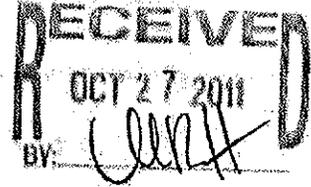
**NORTH DAKOTA**  
DEPARTMENT of HEALTH

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



October 24, 2011

Ms. Shanna Braun  
Environmental Planner  
Kadrmas, Lee & Jackson, Inc.  
P.O. Box 9767  
Fargo, ND 58106-9767



Re: Marathon Oil Company  
Three Proposed Oil & Gas Wells on One Pad  
Cummings Well Site, Fort Berthold Reservation, McLean County

Dear Ms. Braun:

This department has reviewed the information concerning the above-referenced project submitted under date of October 13, 2011, 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. Detailed guidance is available at [www.ndhealth.gov/AO/OilAndGasWells.htm](http://www.ndhealth.gov/AO/OilAndGasWells.htm).

Any questions about air pollution control or permitting requirements should be addressed to Ms. Kathleen Paser at the U.S. Environmental Protection Agency, Region 8. She may be reached at (303) 312-6526 or [Paser.Kathleen@epa.gov](mailto:Paser.Kathleen@epa.gov).

2. Aggregate to be used for road construction should not contain any erionite. Aggregate sources should be tested for erionite following guidelines found at [www.ndhealth.gov/EHS/Erionite](http://www.ndhealth.gov/EHS/Erionite). For questions regarding erionite testing, please call Mark Dihle at 701-328-5188.
3. 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

Environmental Health  
Section Chief's Office  
701.328.5150

Division of  
Air Quality  
701.328.5188

Division of  
Municipal Facilities  
701.328.5211

Division of  
Waste Management  
701.328.5166

Division of  
Water Quality  
701.328.5210

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.

4. 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.

cc: Mark Dihle, Division of Air Quality



---

## 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**

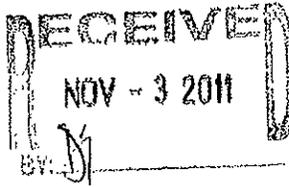
Prevent the erosion of exposed soil surfaces and trapping sediments being transported. Examples include, but are not restricted to, sediment dams or berms, diversion dikes, hay bales as erosion checks, riprap, mesh or burlap blankets to hold soil during construction, and immediately establishing vegetative 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.



Jack Dalrymple, Governor  
Mark A. Zimmerman, Director

1600 East Century Avenue, Suite 3  
Bismarck, ND 58503-0649  
Phone 701-328-5357  
Fax 701-328-5363  
E-mail [parkrec@nd.gov](mailto:parkrec@nd.gov)  
[www.parkrec.nd.gov](http://www.parkrec.nd.gov)

October 28, 2011

Ms. Shanna Braun  
Kadmas Lee & Jackson  
13203 32nd. Ave. S Ste. 201  
PO Box 9767  
Fargo, ND 58106-9767

Re: Marathon Oil Company – 3 proposed Oil and Gas Wells on 1 Pad – Fort Berthold Indian Reservation

Dear Ms. Braun,

The North Dakota Parks and Recreation Department (the Department) has reviewed the above referenced proposed Marathon Oil Company development of a single well pad, resulting in the drilling and completion of three oil and gas wells in McKenzie County.

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

The North Dakota Natural Heritage biological conservation database has been reviewed to determine if any plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, we have two occurrences of *Stipa comata* – *Bouteloua gracilis*/*Carex filifolia* prairie (Neddle-and-thread mixed grass prairie) documented adjacent to project area. Please see the attached spreadsheet and map for more information on these occurrences.

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.

We appreciate your commitment to rare plant, animal and ecological community conservation, management and inter-agency cooperation to date. For additional information please contact Kathy Duttonhefner (701-328-5370 or [kgduttonhefner@nd.gov](mailto:kgduttonhefner@nd.gov)) of our staff. Thank you for the opportunity to comment on this proposed project.

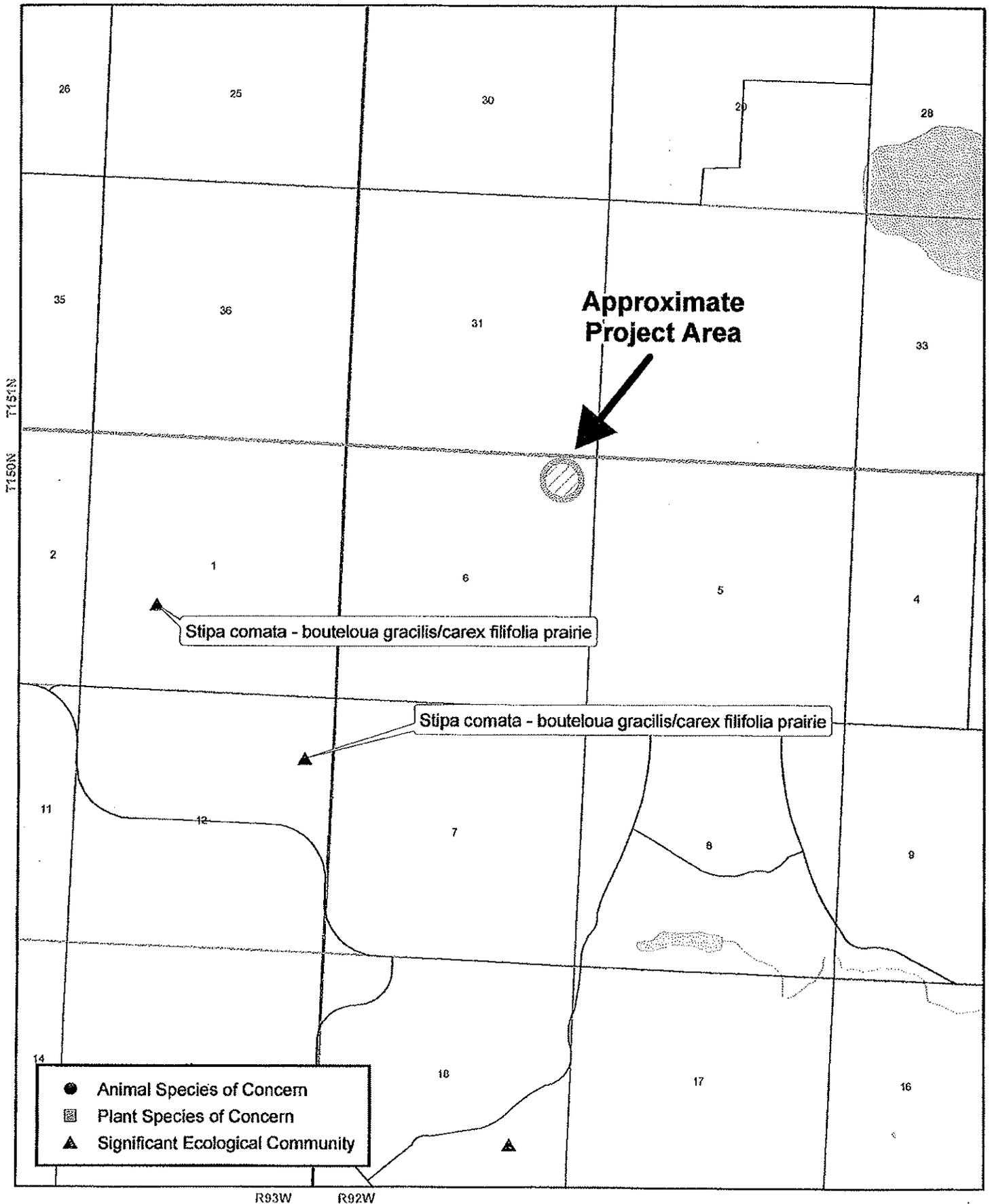
Sincerely,

Jesse Hanson, Manager  
Planning and Natural Resources Division

R.USNDNHI\*2011-229KD10/20/2011DL11.12.2011

.....  
*Play in our backyard!*

# North Dakota Parks and Recreation Department North Dakota Natural Heritage Inventory



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

| State Scientific Name                                                                        | State Common Name                        | State Rank | Global Rank | Federal Status | Township Range Section                                                                                                                                                                                        | County    | Last Observation | Estimated Representation Accuracy | Precision |
|----------------------------------------------------------------------------------------------|------------------------------------------|------------|-------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------|-----------------------------------|-----------|
| <i>Stipa comata</i> - <i>boutei</i> lous<br><i>gracilis</i> / <i>carex filifolia</i> prairie | Needle-and-thread<br>Mixed Grass Prairie | S2         | GNR         |                | 150N093W - 12; 150N092W - 06; 151N092W - 31;<br>150N093W - 11; 150N092W - 05; 150N093W - 13;<br>150N092W - 08; 151N093W - 36; 150N093W - 01;<br>150N092W - 07; 150N093W - 02; 150N093W - 14;<br>150N092W - 18 | Mountrail | 1967             |                                   | M         |
| <i>Stipa comata</i> - <i>boutei</i> lous<br><i>gracilis</i> / <i>carex filifolia</i> prairie | Needle-and-thread<br>Mixed Grass Prairie | S2         | GNR         |                | 150N093W - 01; 150N092W - 06; 150N092W - 07;<br>151N093W - 35; 151N093W - 36; 150N093W - 12;<br>150N093W - 02; 151N092W - 31; 150N093W - 11                                                                   | Mountrail | 1967             |                                   | M         |

### North Dakota Natural Heritage Inventory Biological and Conservation Data Disclaimer

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

#### Estimated Representation Accuracy

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

Very high (>95%)

High (>80%, <= 95%)

Medium (>20%, <= 80%)

Low (>0%, <= 20%)

Unknown

(null) - Not assessed

#### Precision

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

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

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

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

U - Unmappable





# United States Department of the Interior

BUREAU OF INDIAN AFFAIRS  
Great Plains Regional Office  
115 Fourth Avenue S.E., Suite 400  
Aberdeen, South Dakota 57401

IN REPLY REFER TO:  
DESCRM  
MC-208

JUN 07 2012

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

Dear Mr. Crows Breast:

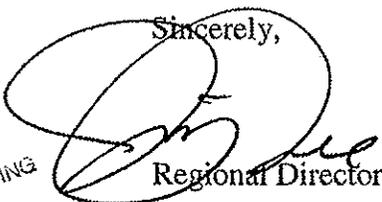
We have considered the potential effects on cultural resources of a triple oil well pad in Mountrail County, North Dakota. Approximately 10 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the area depicted in the enclosed report. No historic properties were located that appear to possess the quality of integrity and meet at least one of the criteria (36 CFR 60.4) for inclusion on the National Register of Historic Places. No properties were located that appear to qualify for protection under the American Indian Religious Freedom Act (42 USC 1996).

As the surface management agency, and as provided for in 36 CFR 800.5, we have therefore reached a determination of **no historic properties affected** for this undertaking. Catalogued as **BIA Case Number AAO-2072/FB/12**, the proposed undertaking, location, and project dimensions are described in the following report:

Ó Donnchadha, Brian  
(2011) Cummings USA 41-6H, Cummings USA 41-6TFH & Cummings USA 44-31TFH: A Class III Cultural Resource Inventory, Mountrail 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. We will adhere to the Standard Conditions of Compliance.

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

# **Notice of Availability and Appeal Rights**

Marathon Oil Company: Cummings 41-6H/Cummings 41-6TFH/Cummings 44-31TFH Oil & Gas Wells

**The Bureau of Indian Affairs (BIA) is planning to issue administrative approvals related to Three Bakken Oil and Gas Wells atop one well pad on the Berthold Reservation as shown on the attached map. Construction by Marathon Oil is expected to begin in 2012.**

**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 Earl Silk, Superintendent at 701-627-6570 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 August 8, 2012, 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 701-627-6570.**

**Project locations.**

