



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

AUG 09 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 seven Bakken oil and gas wells located atop two well pads 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

Finding of No Significant Impact
Marathon Oil Company (Marathon)
Environmental Assessment for
Drilling of 21-5H, 21-5TFH, 41-5H, 41-5TFH,
11-4H, 11-4TFH, and 21-4TFH
Oil & Gas Wells
Fort Berthold Indian Reservation
Dunn County, North Dakota

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

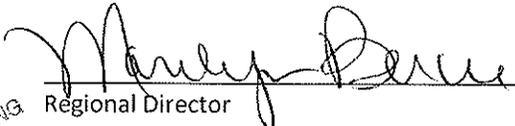
- 21-5H, 21-5TFH, 41-5H, and 41-5TFH oil and gas wells on the Eagle USA well pad located in Section 32, T148N, R94W, 5th P.M.
- 11-4H, 11-4TFH, and 21-4TFH oil and gas wells on the Bears Ghost USA well pad located in Section 4, T147N, R94W, 5th P.M.

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

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

This determination is based on the following factors:

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

ACTING 
Regional Director

8/9/12
Date

ENVIRONMENTAL ASSESSMENT

United States Bureau of Indian Affairs

Great Plains Regional Office
Aberdeen, South Dakota



Marathon Oil Company

Drilling of
21-5H, 21-5TFH, 41-5H, 41-5TFH (Eagle USA Well Pad)
11-4H, 11-4TFH, and 21-4TFH (Bears Ghost USA Well Pad)
Oil & Gas Wells

Fort Berthold Indian Reservation

August 2012

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

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CHAPTER 1 PURPOSE AND NEED FOR ACTION

1.1 Introduction

This 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, 458,000 of which are in tribal and individual Indian ownership by the Three Affiliated Tribes (Mandan, Hidatsa, and Arikara) and its members. The reservation is located in west central North Dakota and is split into three areas by Lake Sakakawea, which traverses the center of the reservation. It occupies sections of six counties: Dunn, McKenzie, McLean, Mercer, Mountrail, and Ward.

The Fort Berthold Reservation lies atop the Bakken Formation, a geologic formation rich in oil and gas deposits that extends approximately 25,000 square miles beneath North Dakota, Montana, Saskatchewan, and Manitoba, with approximately two-thirds of the area beneath North Dakota. The Three Forks Formation lies beneath the Bakken. The North Dakota Department of Mineral Resources estimates that there are approximately 2.1 billion barrels of recoverable oil in each of the formations. (The Bakken contains about 169 billion barrels of oil and the Three Forks contains about 20 billion barrels; however, most of this is not expected to be recoverable.) The Department's director estimates that there are 30–40 years of production remaining or more if technology improves.

The proposed action includes approval by the Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM) for Marathon Oil Company (Marathon) to drill and complete seven wells on two well pads. The well pads are proposed to be positioned in the following locations and as shown on *Figure 1.1, Project Location Map*:

- Eagle USA well pad located in the SE¼ of Section 32, T148N, R94W, 5th P.M. and containing four wells: 21-5H, 21-5TFH, 41-5H, and 41-5TFH
- Bears Ghost USA well pad located in the NW¼ of Section 4, T147N, R94W, 5th P.M. and containing three wells: 11-4H, 11-4TFH, and 21-4TFH

The wells would target the Bakken and Three Forks Formations. Each well would have an associated spacing unit in which the minerals to be developed by that well are located. Proposed completion activities include acquisition of rights-of-way (ROW), infrastructure for the proposed wells, and roadway improvements.

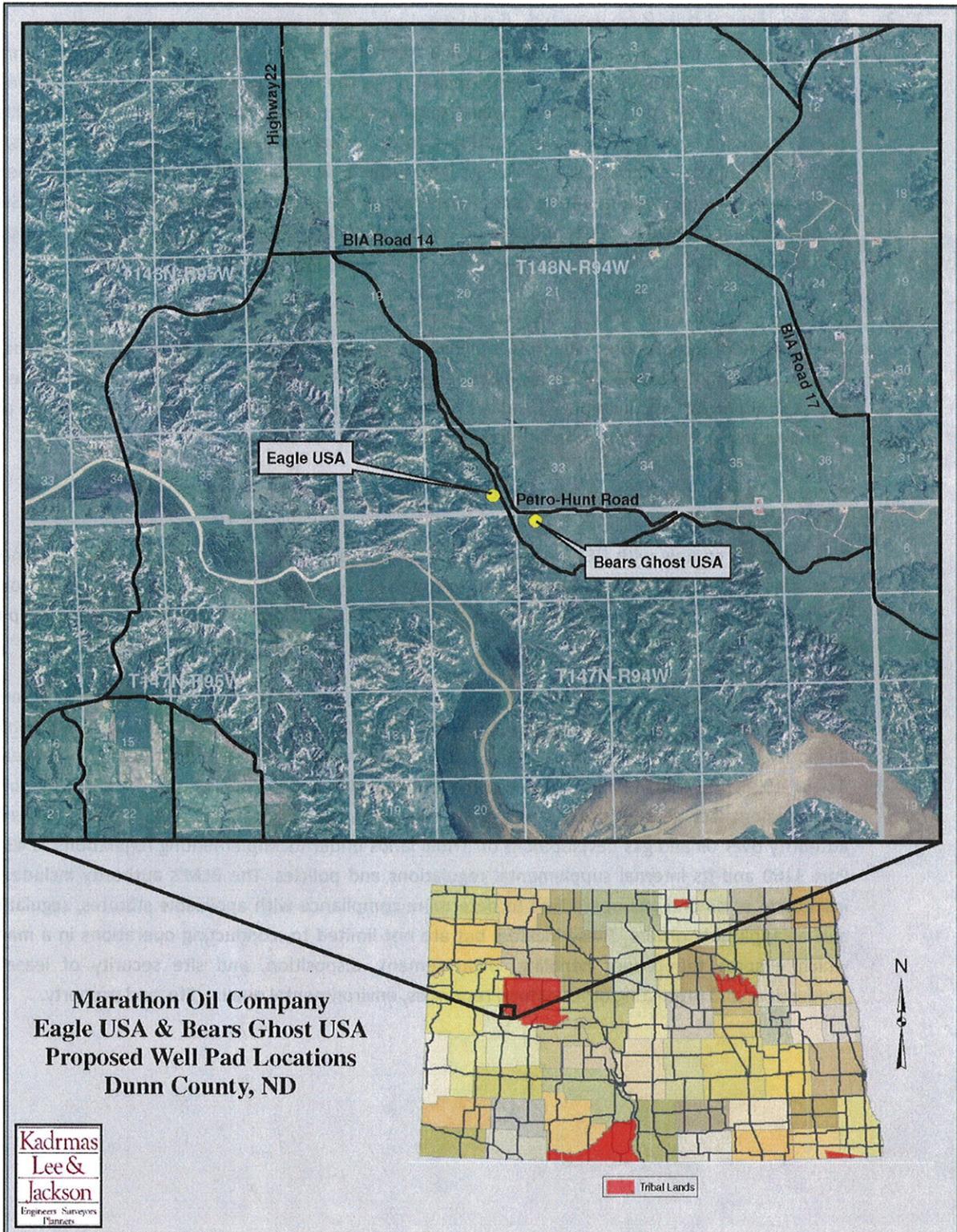


Figure 1.1, Project Location Map

1.3 Need for the Proposed Action

The Tribes own their mineral resources, which are held in trust by the United States government through the BIA. The BIA's positive recommendation to the BLM for approval of the Applications for Permit to Drill (APDs) to drill the seven 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 employment and income. Furthermore, the proposed action gives the United States an opportunity to reduce its dependence on foreign oil and gas by exploring for domestic sources of oil and gas.

1.4 Purpose of the Proposed Action

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

1.5 Regulations that Apply to Oil and Gas Development Activities

The BIA must comply with NEPA before it issues a determination of effect regarding environmental resources and provides a recommendation to the BLM regarding the 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 and BLM would not authorize the development of the two proposed well pads, resulting in no drilling or completion of the seven proposed oil and gas wells. There would be no environmental impacts associated with Alternative A; however, the Three Affiliated Tribes would not receive potential royalties from production or other economic benefits from oil and gas development on the Reservation. Further, the oil and gas resources targeted by the proposed action would not be explored for commercial production or recovered and made available for domestic energy use.

2.3 Alternative B: Proposed Action

The proposed action (Alternative B) includes authorization by the BIA and BLM to construct two multiple well pads, resulting in the drilling and completion of seven oil and gas wells, as well as associated ROW acquisition, roadway improvements, and infrastructure for the wells. Each site would consist of a well pad, access road, associated infrastructure, and spacing units. The well pads are where the actual surface disturbance caused by drilling activities would occur. The spacing units are the location of the minerals that are to be developed. The locations of the proposed well pads, access roads, and proposed horizontal drilling techniques were chosen to minimize surface disturbance.

The well pads would require new ROW for the site areas, access points, and associated infrastructure. ROW would be located to avoid sensitive surface resources and any cultural resources identified during site surveys. Infrastructure may include electrical, telecommunication, and water lines, as well as subsurface oil and gas gathering pipelines, all of which would be located underground within the ROW acquired by Marathon, or additional NEPA analysis and approval would be required. Please refer to *Figure 2.1, Overview of Well Pads* and *Appendix C, Well Pad Plats*.

Intensive, pedestrian resource surveys of the proposed well pad sites and access road corridors were conducted on July 27, 2011 by Kadrmass, Lee & Jackson, Inc. (KL&J) with revisits of the proposed Eagle USA well pad conducted on October 4, 2011 and April 17, 2012. The purpose of the surveys was to gather site-specific data and photos with regards to botanical, biological, threatened and endangered species, eagle, and water resources. A study area consisting of the well pad with a 100 foot buffer and a 200-foot wide access road corridor were evaluated for each site. Resources were evaluated using visual inspection and pedestrian transects across the sites. In addition, two follow-up eagle surveys were conducted on July 28, 2011 and April 30, 2012 by KL&J. The eagle surveys consisted of pedestrian transects focusing specifically on potential nesting sites within 0.5 mile of project disturbance areas, including cliffs and wooded draws. Wooded draws were observed from both the upland areas overlooking the draws and from bottomlands within the actual draws.

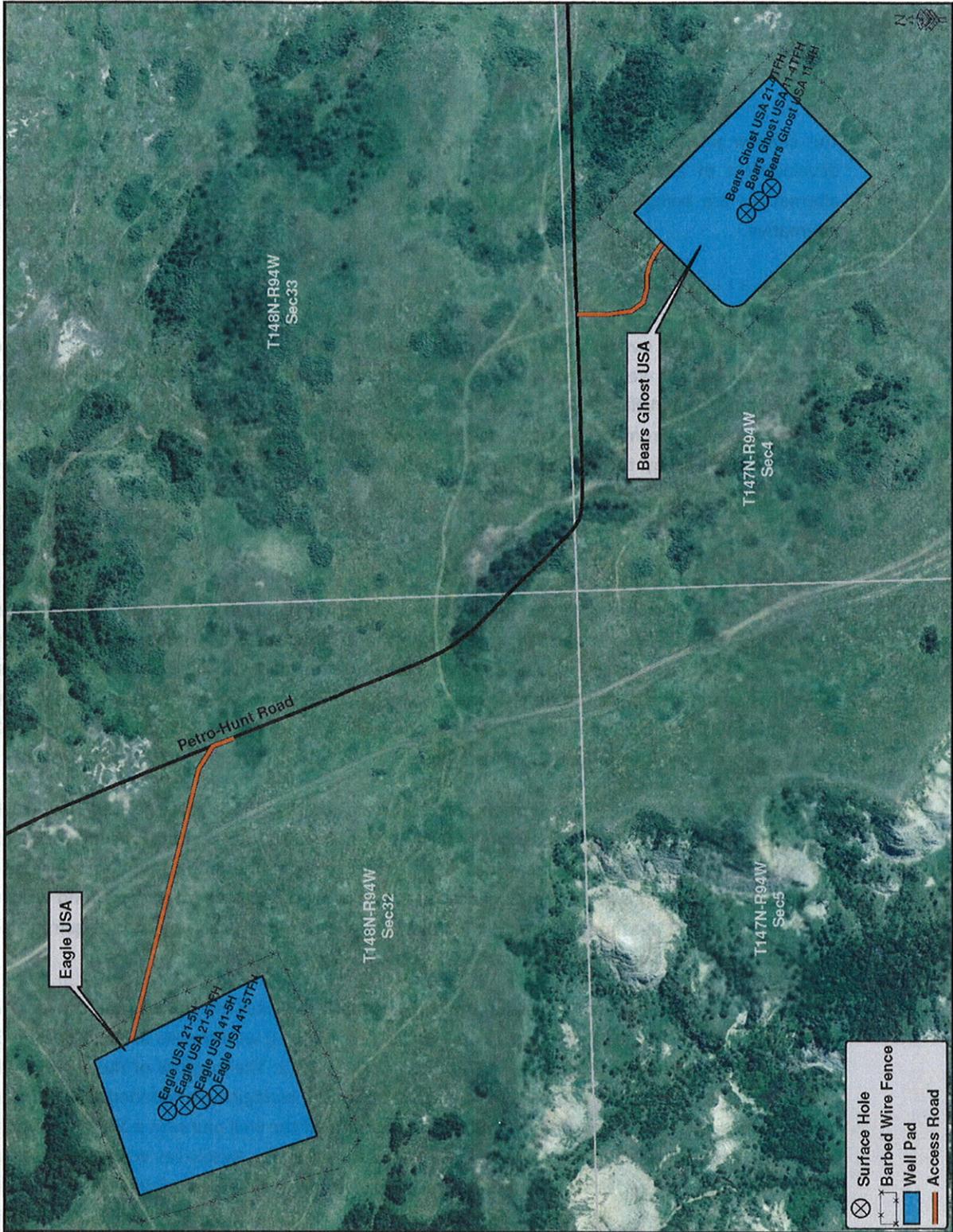


Figure 2.1, Overview of Well Pads

The BIA-facilitated EA on-site assessments of the well pads and access roads were conducted on July 27, 2011, with the BIA also present for the Eagle USA well pad revisits conducted on October 4, 2011 and April 17, 2012. The BIA Environmental Protection Specialist was present, as well as representatives from the Tribal Historic Preservation Office, Marathon, and KL&J. During the assessments, 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 assessments agreed that the locations chosen are positioned in areas which would minimize impacts to sensitive wildlife and botanical resources and that the environmental commitments made by Marathon would further minimize harm to the environment. 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 Field Camps

Self-contained trailers may temporarily house key personnel on-site during drilling operations. No long-term residential camps are being 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.

2.3.2 Access Roads

Existing roadways would be used to the extent possible to access the proposed wells; however, the construction of new access roads would be required. The proposed Eagle USA well pad would be accessed from the east. A new access road approximately 902 feet long with a ROW width of 120 feet (2.48 acres) would be constructed in the SE¼ of the SE¼ of Section 32, Township 148 North, Range 94 West. The new access road would be constructed off of an existing oil field access road, and travel west to the proposed well pad. The proposed Bears Ghost USA well pad would be accessed from the northwest. A new access road approximately 380 feet long with a ROW width of 100 feet (0.88 acres) would be constructed in the NW¼ of the NW¼ of Section 4, Township 147 North, Range 94 West. The new access road would be constructed off of an existing oil field access road, and travel southeasterly to the proposed well pad.

Construction of the access roads would follow road design standards outlined in the BLM's Gold Book (4th Edition, 2006). The access roads would be situated to avoid drainages and wooded draws to the extent possible. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignments. The roadways would be 20 feet wide, with the remainder of the disturbed areas due to borrow ditches and construction slopes. The running surface of the access roads would be surfaced with crushed scoria or gravel from a previously approved location. The ROW would be wide enough to accommodate utility installation and snow removal/storage efforts. Cattle guards, culverts and erosion control measures would be installed. The outslope portions of the constructed access roads would be re-seeded upon completion of construction to reduce access road related disturbance. The access roads would be improved as necessary to eliminate overly steep grades, maintain current drainage patterns, and provide all-weather driving surfaces.

Construction of the proposed project and drilling of the proposed wells is planned to occur in 2012. All efforts would 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 and nesting season. In the event that construction should occur during the migratory bird nesting and breeding season, a qualified biologist would conduct pre-construction surveys for migratory birds and their nests within five days prior to the initiation of all construction activities. Mowing/grubbing of the sites prior to the nesting and breeding season may be completed in lieu of the pre-construction surveys to deter birds from nesting in project areas.

2.3.3 Well Pads

Each of the proposed well pads would consist of a fenced in, leveled area covered with several inches of crushed scoria or gravel. The pads would be used for a drilling rig and related equipment, as well as contain an excavated, reinforced lined¹ pit to store drill cuttings. At the Eagle USA site, the level well pad plus cut and fill slope areas, including cuttings pit for drill cuttings, would be approximately 530 feet by 475 feet (approximately 6.41 acres) with approximately 9 acres fenced. The level well pad plus cut and fill slope areas for the Bears Ghost USA site would be approximately 550 feet by 400 feet (approximately 6.04 acres) with approximately 8 acres fenced. Placing multiple wells on two pad locations would minimize the disturbance from approximately 35-acres (assuming 5 acres per well location) to the approximate 17 acres total that would be located within both well pad fenced areas.

The well pad areas would be cleared of vegetation, stripped of topsoil, and graded to specifications in the APDs submitted to the BLM, in accordance with the BLM's Gold Book. Topsoil would be stockpiled and stabilized until disturbed areas are reclaimed and re-vegetated. Excavated subsoil would be used in pad construction, with the finished well pads graded to ensure water drains away from the drill sites. All cut slopes on the edges of the well pads would be 2:1 where less than eight feet and 3:1 where eight feet or greater. A berm would be installed around the entire Eagle USA well pad and a retention area would be constructed in the northwest corner of the pad. The entire pad would be sloped towards the retention area which would collect any fluids that accumulate on the pad due to precipitation and other unlikely, but possible, undesirable events. All fluid would be handled and disposed of in accordance with applicable regulations. The cut slopes of the Bears Ghost USA pad would be bermed to prevent precipitation or meltwater from running onto the pad. Where the BIA determines necessary, pit and soil stockpiles would be used to divert drainage outside of the cut and fill slopes. Erosion control would be maintained through the use of BMPs such as water bars, diversion ditches, bio-logs, silt fences, and re-vegetation of disturbed areas. The drill cuttings pits would be reclaimed to BLM and North Dakota Industrial Commission (NDIC) standards immediately upon finishing completion operations.

Construction of the proposed project and drilling of the proposed wells is planned to occur in 2012. All efforts would 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 and nesting season. In the event that construction should occur during the migratory bird nesting and breeding season, a qualified biologist would conduct pre-construction surveys for migratory birds and their nests within five days prior to the initiation of all construction activities. Findings from the migratory bird surveys would be reported to the BIA. Mowing/grubbing of the sites prior to the nesting and breeding season may be completed in lieu of the pre-construction survey to deter birds from nesting in project areas.

¹ The lining would have a minimum thickness of 20 mils.

2.3.4 Drilling, Casing and Cementing

Following access road construction and well pad preparation, drilling rigs would be rigged up. The time for rigging up, drilling the well, and rigging down each well is anticipated to be about 30 days. During that phase, vehicles and equipment would access the sites several times a day.

The four proposed Eagle USA wells would access potential oil and gas resources within 1,280 acre spacing units located in Sections 5 and 8, Township 147 North, Range 94 West, 5th P.M. The three proposed Bears Ghost USA wells would access potential oil and gas resources within 1,280 acre spacing units located in Sections 4 and 9, Township 147 North, Range 94 West, 5th P.M. Please refer to *Figure 2.2, Location of Spacing Units*. Any portion of the bore occurring outside of the spacing unit would be cased and cemented.

Initial drilling would be vertical to a depth of approximately 10,400 feet to reach the Bakken Formation and 10,500 feet to reach the Three Forks Formation, at which time drilling would angle to become horizontal. The laterals along the horizontal plane would extend approximately 11,200 feet. The 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. Upon drilling the surface hole, 9-5/8" 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. Water for surface hole drilling would be obtained from a commercial source. About 8 gallons of water would be used per foot of hole drilled, for a total of about 40,000 gallons (20,000 gallons in the hole and 20,000 gallons as working volume at the surface). After setting and cementing the surface casing, an oil-based mud system consisting of about 80 percent diesel fuel and 20 percent saltwater would be used to drill the remainder of the vertical hole and curve. Seven-inch production casing would be set and cemented through the curve and into the lateral from the production casing shoe to a cement top depth that reaches above the Dakota Group at approximately 4600' 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" production liner/packer assembly will be run in the lateral, tying back to the 7" casing to allow a staged fracture stimulation to be completed on the well.

A modified closed loop drilling system would 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. In accordance with NDIC and BLM regulations and guidelines, the cuttings would then be stabilized into a solid mass using Class C fly ash or lime kiln and placed in an on-site cuttings pit. Any minimal free fluid remaining in the cuttings pits would be removed and properly disposed of. The cuttings pits would be lined to prevent seepage and contamination of the adjacent and underlying soil. Prior to their use, the pits would be fenced on the non-working sides. The access sides would be fenced and netted immediately following drilling and completion operations in order to prevent wildlife and livestock from accessing the pit. Upon well completion, the pits 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.

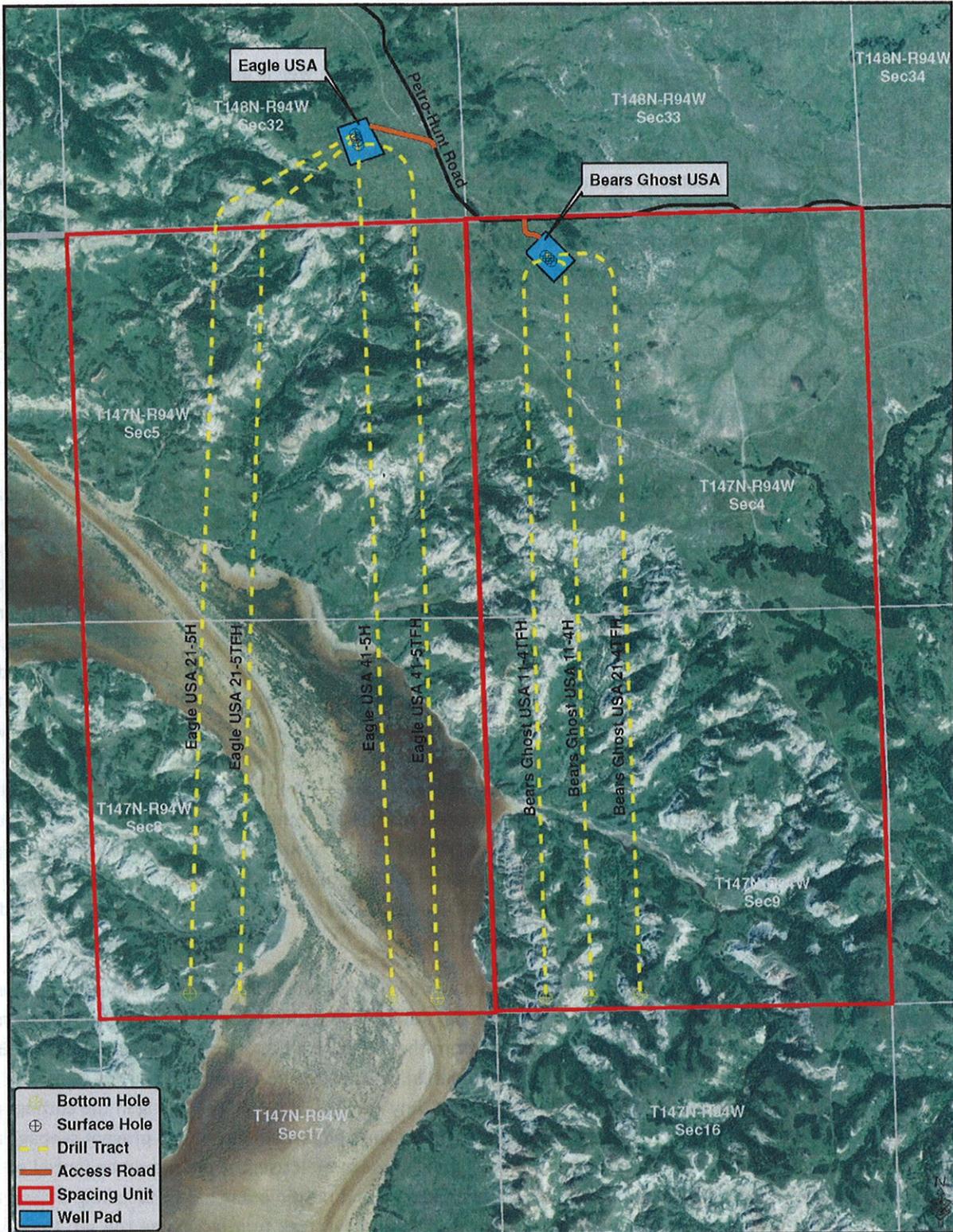


Figure 2.2, Location of Spacing Units

2.3.5 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 hydraulic fracturing ("fracking") to stimulate the horizontal portion of the wells, and running production tubing for potential future commercial production. Marathon would only utilize hydraulic fracturing on the section of the bore that is located within the spacing unit. Fluids utilized in the completion process would be captured in tanks and disposed of in accordance with BLM and NDIC rules and regulations. Once the wells are completed, site activity and vehicle access would be reduced. If wells are determined to be successful, tank trucks (and natural gas, oil and produced water gathering lines, if appropriate) would transport the product to market.

2.3.6 Commercial Production

If commercially recoverable oil and gas resources are found at any of the proposed wells, the respective well pad would become established as a production facility. Production equipment, including well pumping units, vertical heater-treaters, storage tanks, flare systems, and associated piping would be installed. The storage tanks and heaters-treaters would be surrounded by impermeable berms that would act as secondary containment to guard against possible spills. The berms would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. Natural gas would be flared on-site in accordance with BIA's Notice to Lessees 4A and NDIC regulations, which prohibit gas flaring for more than the initial year of operation. 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. Marathon would avoid, minimize, and mitigate the environmental effects of the seven wells by incorporating applicable conditions, mitigation measures, and BMPs from the BLM's regulations, BLM's Gold Book, and applicable BLM Onshore Oil and Gas Orders, including Numbers 1, 2, and 7.

During the initial phase of commercial production, oil would be collected in 400 barrel steel storage tanks and periodically trucked into an existing oil terminal to be sold. Produced water would be captured in 400 barrel steel or fiberglass 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. All haul routes used would be either private roads or roads that are approved for use by the local governing tribal, township, county, and/or state entities. All associated applicable permits would be obtained and restrictions complied with. Should oil, gas, and/or saltwater pipelines be installed, every attempt to tie production facilities at the proposed sites to regional pipelines would be made, thereby minimizing truck traffic. Any future oil, gas, or saltwater transportation pipelines would be constructed within the approved ROW, or additional NEPA analysis and approval from the BIA would be undertaken.

Should pipeline facilities for oil and gas gathering be constructed, Marathon Oil Company has chosen Saddle Butte Pipeline, LLC (Saddle Butte) as the pipeline provider for the wells proposed in this EA. In the event that a company other than Saddle Butte would construct the pipeline, the company would be required to comply with all commitments and procedures set forth in this EA, or additional NEPA analysis and approval would be required. The pipelines would require approval for the associated ROW acquisition consisting of 50 feet of permanent ROW and 50 feet of temporary ROW for construction. Installation of the pipelines may require clearing and grading within the entire approved ROW along the pipeline corridor.

Every effort would be made to minimize surface disturbance during the pipeline construction process. Trenches would be excavated to a depth sufficient to maintain a minimum of 48 inches of ground coverage over the pipeline. Other utilities, including phone and water pipelines, may be present in the immediate area, and the applicable utility providers would be coordinated with. Topsoil would be separated and stockpiled along either side of any disturbed cross section. If construction activities take place near the end of construction season, topsoil would only be removed far enough in advance that the pipeline could be installed and the site re-graded prior to the end of the construction season. In addition, Saddle Butte would also install straw bales on slopes to provide erosion breaks. Continued use of pasture and livestock grazing areas would be maintained during construction through the use of temporary crossings, fencing and cattle guards.

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. If designed effectively and well maintained, pipelines may have an indefinite life expectancy. To ensure their long-term viability, all pipelines would be coated with between 14-16 mils of fusion bonded epoxy coating, which would help protect the pipelines against corrosive elements in the soil. The coating would be inspected thoroughly at the time of installation, both visually and by electronic testing. Saddle Butte would also utilize specialty coatings to provide additional levels of protection where necessary on underground fittings, bore crossings, etc. Velocities and pressure drops for the pipeline system would be carefully evaluated and lines sized to prevent erosion velocity. Additionally, lines would be designed to be cleaned and inspected using internal tools, such as cleaning pigs and smart pigs, to assess pipeline conditions in order to maintain the integrity of the pipeline system.

All Saddle Butte installations would be monitored by an inspection/construction management team as well as independent third party contract experts. Saddle Butte's construction specifications require contractors to allow for inspection, and no pipeline would be laid and backfilled without appropriate approvals. Hydrotesting of pipelines would be used at the time of installation to assure no possibility of leakage. Following design and installation, Saddle Butte would immediately conduct a cathodic survey utilizing test stations, rectifier pads, and other means.

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 fully reclaimed in accordance with BIA and BLM requirements.

2.3.7 Reclamation

Interim reclamation activities would begin within six months after construction of the well pads. In the event that snow cover or the drilling schedule precludes reclamation activities from commencing within six months of well completion, Marathon would request an extension from the BIA and BLM. Interim reclamation measures implemented upon well completion would include leveling, re-contouring, reduction of cut and fill slopes, treating, backfill, erosion control, and redistribution of stockpiled topsoil and re-seeding of the disturbed areas with native vegetation or a seed mixture prescribed by the BIA. Reclamation would be considered successful when seeded areas are established, adjacent vegetative communities spread back into the disturbed areas, and noxious weeds are under control. If commercial production equipment is installed, the well pads would be reduced in size and reclaimed, leaving adequate room to accommodate production facilities, normal well maintenance and potential recompletion operations.

Prompt reclamation of the areas disturbed by pipeline installation would occur, consisting of redistributing topsoil and reseeding with native vegetation or a seed mixture prescribed by the BIA. If topsoil cannot be spread in a timely manner, allowing vegetation to reestablish prior to winter, topsoil would be spread and the area reseeded the following spring. When no germination is possible before winter, Saddle Butte would use sprayed reinforcement, lain matting reinforcement, spread and crimp straw, straw wattles and/or silt fences to minimize erosion through winter months. Any temporary reclamation measures would remain until Saddle Butte can completely reclaim and revegetate the area in the spring, and would be inspected on a monthly basis, or more frequently as necessary, throughout the winter. Additional reclamation activities would occur throughout the life of the pipeline, due to routine maintenance or addition of infrastructure. Reclamation would be considered successful when seeded areas are established, adjacent vegetative communities spread back into the disturbed areas, and noxious weeds are under control.

If no commercial production were developed from the seven 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, reseeded with a seed mixture consistent with surrounding native species, and fitted with erosion controls. Maintenance of the grass seeding would continue until the productivity of the stand is consistent with surrounding undisturbed vegetation and is free of noxious weeds. An exception to the reclamation measures may occur if the BIA approves assignment of the access road either to the BIA roads inventory or to concurring surface allottees.

2.3.8 Potential for Future Development

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

CHAPTER 3 DESCRIPTION OF THE AFFECTED ENVIRONMENT AND IMPACTS

3.1 Introduction

This chapter describes the existing conditions within the study areas. 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 well pads and access roads are situated geologically within the Williston Basin, where the shallow stratigraphy consists of sandstones, silts and shales dating to the Tertiary Period (65 to 2 million years ago), including the Sentinel Butte and Golden Valley Formations. The Bakken and Three Forks Formations are well-known sources of hydrocarbons and would be the target of 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 Great Plains Regional Climate Center data collected at the Dunn Center weather station from 1918–2011, temperatures in excess of 80 degrees Fahrenheit are common in summer months. The area receives an average of 16.42 inches of precipitation annually, predominantly during spring and summer. Winters in the region are cold, with temperatures often falling near zero degrees Fahrenheit. Snow generally remains on the ground from November to March, and an average of 36 inches of snow is received annually.

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 areas is completely grasslands (100%). Please refer to *Figure 3.1, Land Use*.

The topography within the project areas is identified as the border area between the United States Geological Survey's (USGS) Missouri Plateau and Little Missouri Badlands sections of the Northwestern Great Plains ecoregion. Both sections are unglaciated, with the Missouri Plateau characterized by rolling plains and some sandstone buttes, and the Little Missouri Badlands consisting of highly dissected conical hills. The sections were formed in the soft, easily erodible strata of the Ludlow, Cannonball, Slope, Bullion Creek, and/or Sentinel Butte Formations.

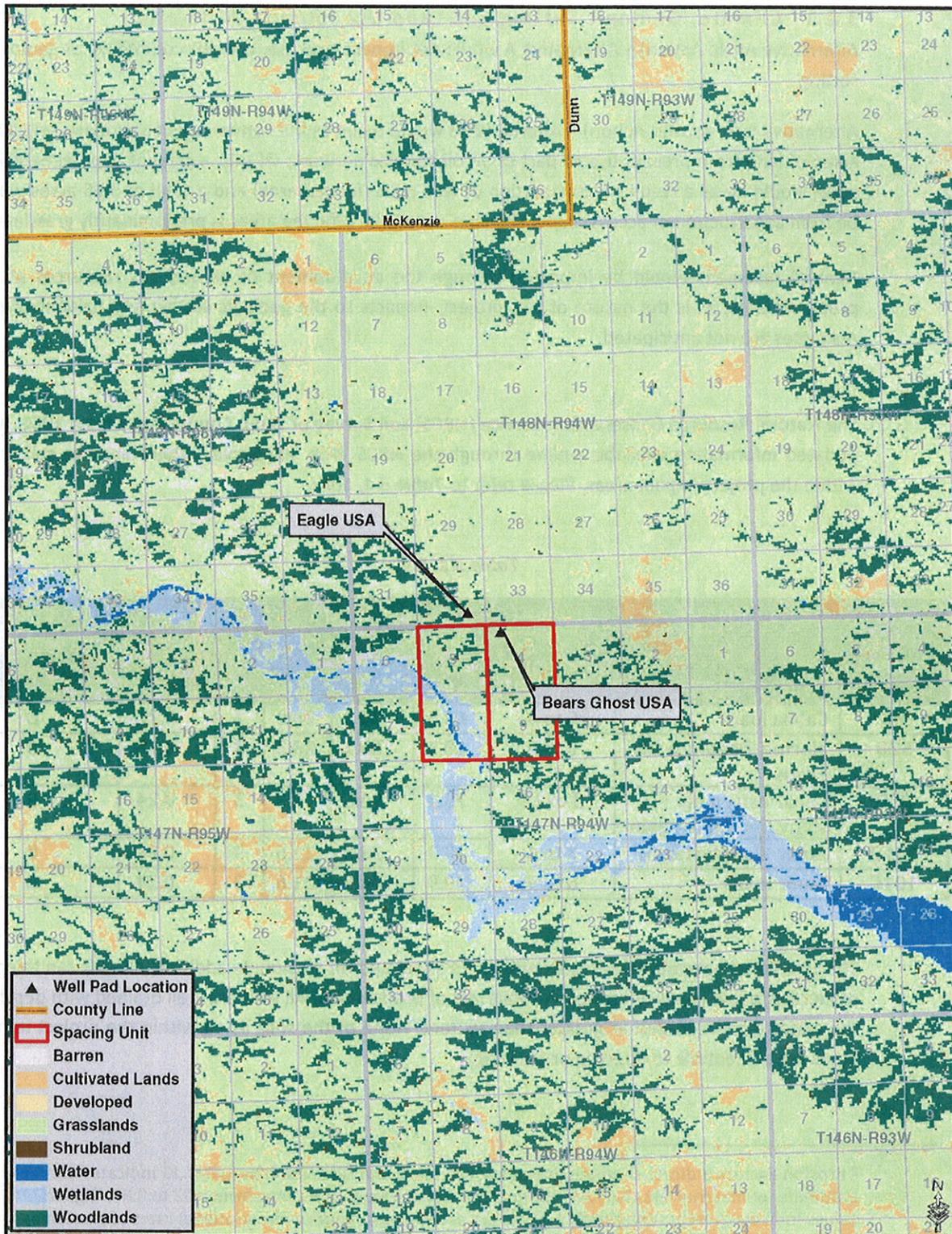


Figure 3.1, Land Use

3.2.1 Climate, Geologic Setting and Land Use Impacts/Mitigation

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

Alternative B (Proposed Action) – Alternative B would result in the conversion of approximately 20.36 acres of land from present use to part of an oil and gas network. Of this, a total of approximately 17 acres would be as a result of construction of well pads (fenced area) and a total of 3.36 acres would be from construction of access roads. The land-use of the affected areas is predominantly grassland.

Mineral resources would be impacted through the development of oil and gas resources at the proposed sites, 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 Dunn County dates from 1982, with updated information available online through the NRCS Web Soil Survey. There are five soil types within the project impact areas. Please refer to *Table 3.1, Soils*.

Table 3.1, Soils

MAP UNIT SYMBOL	SOIL NAME	PERCENT SLOPE	COMPOSITION (IN UPPER 60 INCHES)			EROSION FACTOR ²		HYDROLOGIC SOIL GROUP ³
			% SAND	% SILT	% CLAY	T	KF	
			9E	Cabba loam	15 to 45	40.5	39.5	
52B	Morton-Dogtooth silt loams	0 to 6	18.5	58.1	23.3	3	0.28	B
82D	Vebar extremely stony fine sandy loam	3 to 15	75.4	14.8	9.8	3	0.24	B
101B	Amor-Shambo loams	3 to 6	39.9	38.5	21.6	3	0.24	B
101C	Amor loam	6 to 9	39.9	38.5	21.6	3	0.24	B

The soils listed have moderate susceptibility to sheet and rill erosion. In addition, all soils can tolerate moderate to low levels of erosion without loss of productivity. All soils are well drained with depth to the water table recorded at greater than six feet. None of the soils listed within the project impact areas are susceptible to flooding or ponding.

² 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.

³ Hydrologic Soil Groups (A, B, C, and D) are based on estimates of runoff potential according to the rate of water infiltration under the following conditions: soils are not protected by vegetation, soils are thoroughly wet, and soils receive precipitation from long-duration storms. The rate of infiltration decreases from Group A (high infiltration, low runoff) to D (low infiltration, high runoff).

3.3.1 Soil Impacts/Mitigation

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

Alternative B (Proposed Action) – Construction activities associated with the proposed well pads, access roads and associated utilities would result in soil disturbances, though impacts to soils are not anticipated to be significant. Based on NRCS soil data, topsoil exists to depths approximately 3-8 inches at the sites. Topsoil depths taken during the onsite surveys indicated soil depths of approximately 8 inches at the sites, yielding sufficient quantity of topsoil for construction and reclamation activities. Topsoil stockpile quantities identified in the design plats for the locations were calculated assuming eight inches of existing topsoil. The Eagle USA well pad topsoil stockpiles would contain approximately 6,934 cubic yards of material (including topsoil used for berming) placed along the south and northwestern edges of the proposed well pad. Approximately 3,434 cubic yards of subsoil material would be stockpiled along the southwestern corner of the pad. The Bears Ghost USA well pad topsoil stockpile would contain approximately 6,533 cubic yards of material (including topsoil used for berming) placed along the east half of the southeastern edge of the proposed well pad. Approximately 1,547 cubic yards of subsoil material would be stockpiled along the west half of the southeastern edge of the pad. The stockpile areas were included in the fenced areas of impact. Where the BIA determines necessary, stockpiles would be used to divert drainage outside of the cut slopes, thus minimizing erosion and allowing for interim reclamation soon after the wells are put into production.

Soil impacts would be localized, and BMPs would be implemented to minimize the impacts. Surface disturbance caused by well development, road improvements, and facilities construction would result in the removal of vegetation from the soil surface. Removal of vegetation can damage soil crusts and destabilize the soil. As a result, the soil surface could become more prone to accelerated erosion by wind and water. BMPs used at the site to reduce the impacts would include erosion and sediment control measures during and after construction, segregating topsoil from subsurface material for future reclamation, chipping any woody vegetation removed from the sites and incorporating it into topsoil stockpiles, re-seeding of disturbed areas immediately after construction activities are completed, 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.

The use of heavy equipment may result in soil compaction. When soil is compacted, it decreases permeability and increases surface runoff, especially 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 would be immediately reported to the appropriate regulatory agencies, such as the BLM, the NDIC, and/or the North Dakota Department of Health (NDDH). The procedures of the surface management agency would be followed to contain leaks or spills.

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, the Little Missouri River and Lake Sakakawea are considered navigable waters and are 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 wells⁴. The Energy Policy Act of 2005 excludes hydraulic fracturing operations related to oil, gas, or geothermal production activities from EPA regulation under the SDWA⁵.

3.4.1 Surface Water

The project areas are situated in the Great Plains region of North Dakota on the eastern edge of the Badlands. The Great Plains region 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 those water bodies. Surface water generally flows overland until draining into those systems.

The proposed well sites are located in the Lake Sakakawea basin, where surface waters within the basin drain to Lake Sakakawea. The proposed Eagle USA site is located in the Burnt Creek Watershed and Dry Creek Sub-Watershed. The proposed Bears Ghost USA site is located in the Waterchief Bay Watershed and Upper Moccasin Creek Sub-Watershed. Runoff throughout the study areas is by sheet flow until collected by ephemeral and perennial streams draining to the Little Missouri River and Lake Sakakawea.

The proposed Eagle USA site is situated on an upland area with drainages to the southwest and north. In the event that runoff was to flow off of the well pad, it would drain into one of two series of ravines located southwest and north of the proposed well pad. The total traveled distance from the proposed site to the Little Missouri River via the southwestern drainage route would be approximately 1.5 miles. The total traveled distance to the Little Missouri River via the northern drainage route would be approximately 3.3 miles. The nearest wooded draw is approximately 100 feet north of the proposed well pad.

The Bears Ghost USA site is also situated on an upland area. Runoff from the well pad would drain to the southwest and would flow overland until reaching an ephemeral drainage and stock dam. After a distance of approximately 4 miles, runoff would join Moccasin Creek, which flows easterly into Lake Sakakawea for a total traveled distance of 23.8 miles. The nearest wooded draw is approximately 0.3 mile southwest of the proposed well pad. Culverts along the proposed access roads would be implemented to avoid drainage impacts. Please refer to *Figure 3.2, Surface Water Resources*.

⁴ The SDWA does not regulate private wells that serve fewer than 25 individuals.

⁵ The use of diesel fuel during hydraulic fracturing is still regulated under the SDWA.

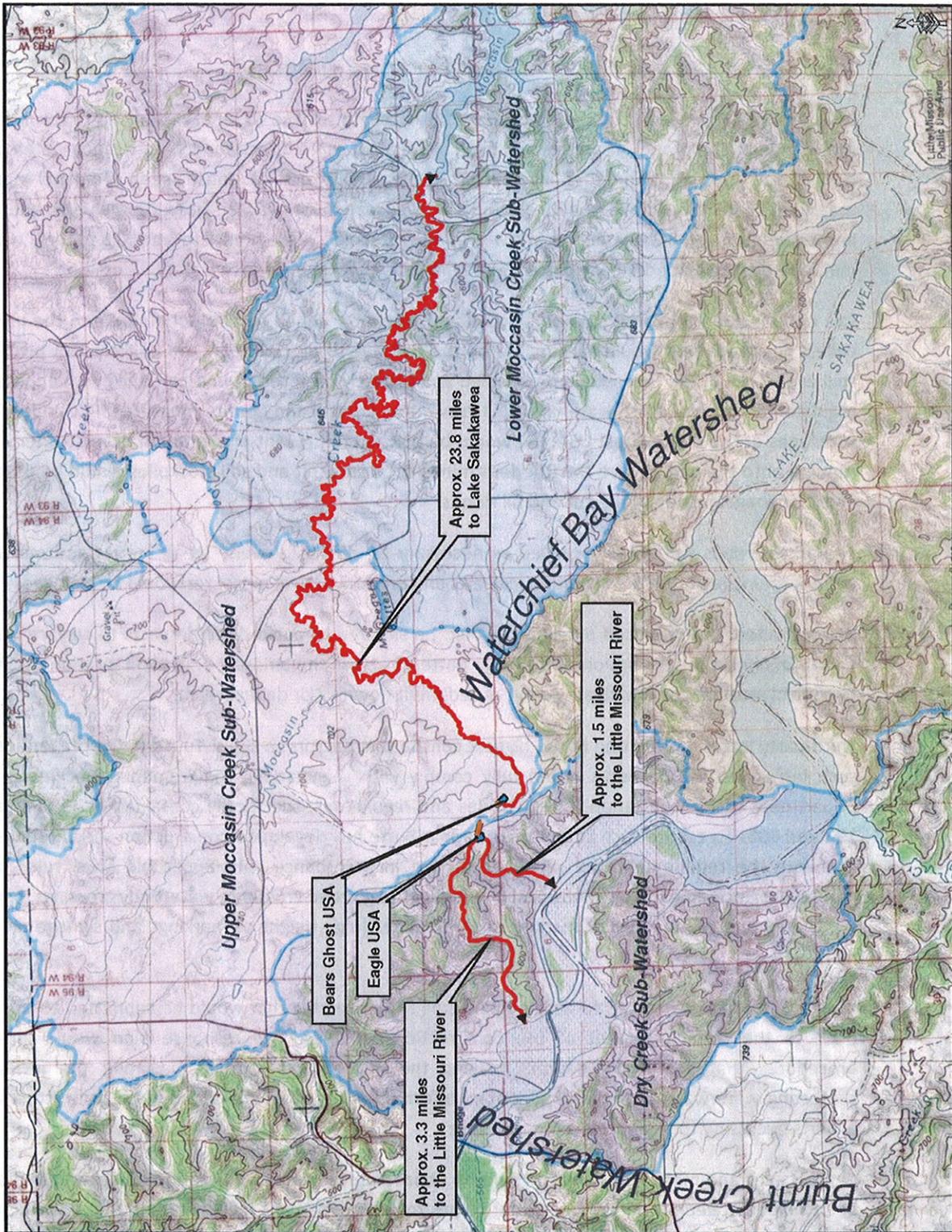


Figure 3.2, Surface Water Resources

3.4.1.1 Surface Water Impacts/Mitigation

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

Alternative B (Proposed Action) – No significant impacts to surface water are expected to result from Alternative B. The proposed project has been situated to avoid direct impacts to surface waters and to minimize the disruption of drainage patterns across the landscape. Construction site plans contain measures to divert surface runoff around the well pad. Roadway engineering, culverts and the implementation of BMPs such as straw wattles, fiber rolls, fiber matting and silt fences, would minimize disruption of drainage patterns and mitigate impacts to surface waters.

The entire Eagle USA pad would be bermed and would be sloped to a retention area on the pad to collect any fluids that would accumulate on the pad due to precipitation and unlikely, but possible, spill events. All of the fluid would be handled and properly disposed of in accordance with applicable regulations, including stormwater and Spill Prevention Control and Countermeasure (SPCC) rules. The cut slopes of the Bears Ghost USA pad would be bermed to prevent precipitation or meltwater from running onto the pad. Where the BIA determines necessary, pit and soil stockpiles would be used to divert drainage outside of the cut and fill slopes.

The access roads would be improved as necessary to eliminate overly steep grades and maintain current drainage patterns. In addition, culverts and erosion control measures would be installed.

If constructed, the proposed pipeline(s) would be situated to avoid direct impacts to surface water and to minimize the disruption of drainage patterns across the landscape. Implementation of BMPs to control erosion would mitigate runoff of sediment downhill or downstream.

Third-party intrusions are one of the biggest contributing factors to spills. To aid in the prevention of such intrusions, Saddle Butte would fully comply with the marking requirements specified in US Department of Transportation (USDOT) rules and regulations, specifically contained in 49 CFR Parts 192 and 195. To ensure such compliance, Saddle Butte 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, waterbody crossings, line of sight, etc.) and the manner of marking such pipelines (e.g., height of markings and signage on the markings).

Saddle Butte has committed to developing a spill response plan that would be submitted to the BIA prior to the commencement of the 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 of the appropriate contractors and experts necessary to facilitate a rapid response.

Check valves and manual valve sets would be utilized for pipeline spill isolation. Check valves would be installed between trunk lines and lateral lines to prevent a “back feed” scenario to a spill, thereby limiting the volume of any spill to the wells that are directly contributing to it. Manual valve sets would also be installed at all intersections of laterals to trunk lines, allowing isolation at the wells themselves.

Saddle Butte has also developed a GIS database that establishes real time, web-based maps for use by its operations team and first responder personnel. In addition, Saddle Butte has provided options in its trunk lines for automatic isolation based on low pressure switching devices once the system pressure exceeds 1400 psi. The valves would automatically isolate the pipeline under most line rupture circumstances. Based on the mitigation measures, the proposed project is not anticipated to result in measurable increases in runoff or impacts to surface waters.

3.4.2 Ground Water

The North Dakota State Water Commission's electronic Ground and Surface Water Data Query revealed no active or permitted groundwater wells within one-mile of the proposed project area. The nearest active water well is located approximately 1.5 miles northeast at the nearest point (Eagle USA well pad). The Little Missouri River Aquifer is located southwest of the proposed well pads; however, no sole source aquifers have been identified within the state of North Dakota. Please refer to *Figure 3.3, Aquifers and Groundwater Wells*.

3.4.2.1 Ground Water Impacts/Mitigation

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

Alternative B (Proposed Action) – Limited scientific data is available regarding the effects of hydraulic fracturing on ground water⁶. Five geologic formations above the Three Forks and Bakken Formations contain salts, which work to stop the flow of fluid through the geologic formations. The formations lie between groundwater aquifers and the Three Forks and Bakken Formations, making the leaching of fluids from the fracturing process into groundwater supplies unlikely. The southern portion of the proposed spacing units would be located near or directly below the Little Missouri River Aquifer, which is classified as a near surface aquifer; however, initial drilling of the proposed wells would be vertical to an approximate depth of 10,100-11,000 feet, well below all known aquifers within the region. As required by applicable law, all proposed wells would be cemented and cased to isolate aquifers from potentially productive hydrocarbon and disposal/injection zones. In addition, the first 2,000 feet drilled at each well would utilize a fresh water based mud system with non-hazardous additives to minimize contamination concerns. Due to the depth of the proposed wells and aforementioned precautions that would be implemented by Marathon, no significant impacts to groundwater are expected to result from Alternative B.

Saddle Butte's standard pipeline bore depth beneath an actively eroding drainage area is eight feet. However, bores are designed on a case by case basis to avoid any adverse effects of the natural surface in the vicinity of the bore. Additionally, bore pipe would be coated with abrasion resistant coating that provides substantial abrasion resistance if a large erosion or flooding event occurs. In addition, measures used to install and inspect the pipe prior to use along with monitoring procedures for potential leaks would minimize potential groundwater disturbance.

⁶ The EPA is currently scoping a study on fracking, which will address potential impacts to ground water. The study is anticipated to be completed in 2014.

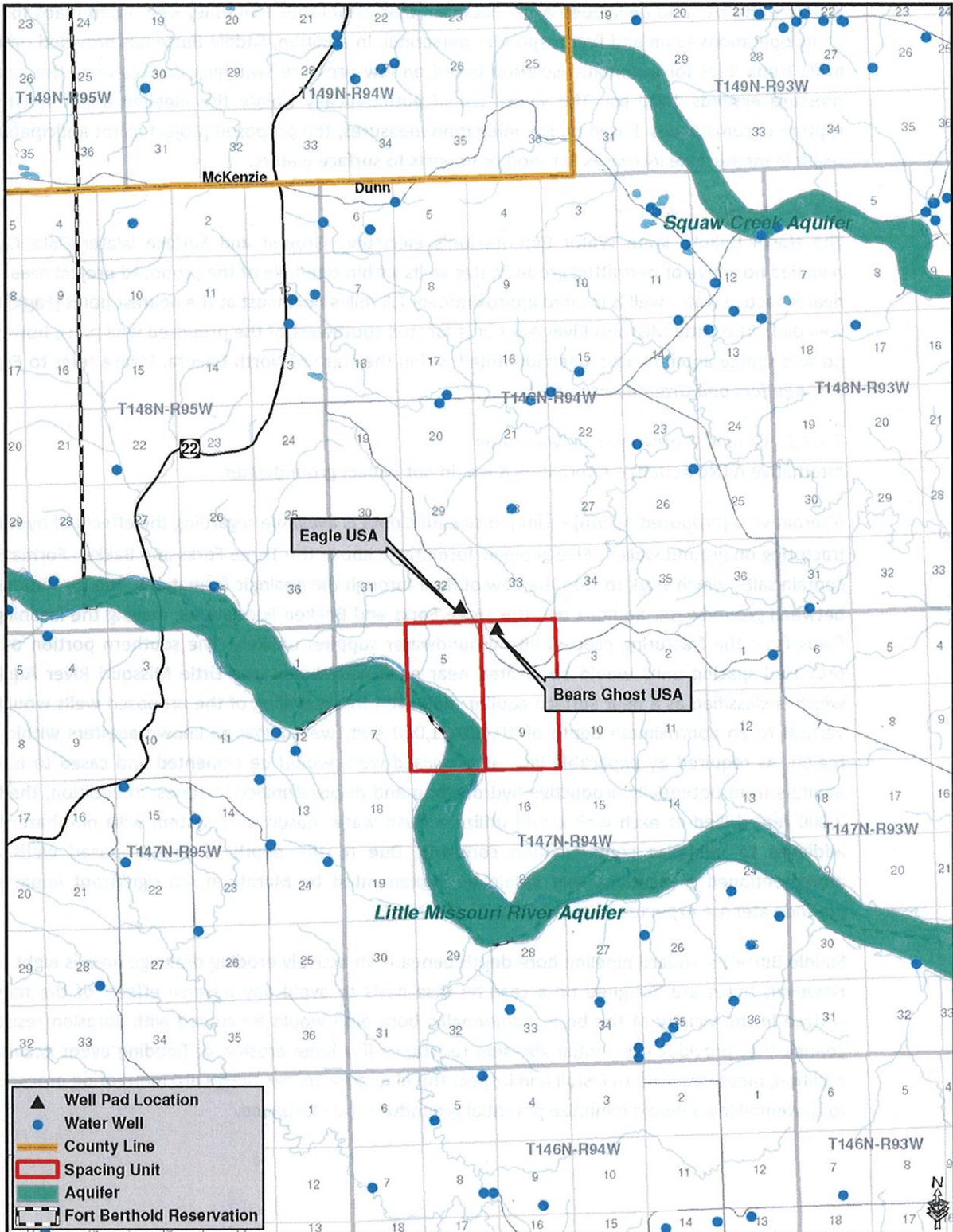


Figure 3.3, Aquifers and Groundwater Wells

3.5 Wetlands

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

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

3.5.1 Wetland Impacts/Mitigation

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

Alternative B (Proposed Action) – Due to the absence of wetlands within the well pad study areas, no wetland impacts are anticipated to result from Alternative B.

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 nearest AAQM station is located in Dunn Center, North Dakota, approximately 16 miles south of the proposed sites. 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. Please refer to *Table 3.2, Federal and State Air Quality Standards and Reported Data for Dunn Center*.

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. Additionally, the Fort Berthold Reservation complies with the North Dakota National Ambient Air Quality Standards and visibility protection. The Clean Air Act affords additional air quality protection near Class I areas. Class I areas include national parks greater than 6,000 acres in size, national monuments, national seashores, and federally designated wilderness areas larger than 5,000 acres designated prior to 1977. There are no Federal Class I areas within the project areas. The Theodore Roosevelt National Park is the nearest Class I area, located approximately 27 miles west of the proposed sites.

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

POLLUTANT	AVERAGING PERIOD	EPA AIR QUALITY STANDARD		NDDH AIR QUALITY STANDARD		DUNN CENTER 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	365	0.14	--	.0037
	Annual Mean	80	0.030	80	0.030	--	.0007
PM ₁₀ ⁷	24-Hour	150	--	125	--	31.0	--
	Annual Mean	--	--	--	--	9.7	--
PM _{2.5} ⁸	24-Hour	35	--	35	--	12.0	--
	Weighted Annual Mean	15	--	15	--	3.87	--
NO ₂	Annual Mean	100	0.053	100	0.053	--	.0014
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	--	--	--	--	--	.068
	8-Hour	--	0.075	--	0.075	--	.066

3.6.1.1 Air Quality Impacts/Mitigation

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

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

3.7 Threatened, Endangered, 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 U.S. Department of Interior Secretary. An endangered species is one that is in danger of extinction throughout all or a significant portion of its range. A threatened species

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.

is one that is likely to become endangered in the foreseeable future. A candidate species is a plant or animal for which the USFWS has sufficient information on its biological status and threats to propose it as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by other higher priority listing activities. While candidate species are not legally protected under the ESA, it is within the spirit of the ESA to consider said species as having significant value and worth protecting.

The proposed action areas were evaluated to determine the potential for occurrences of federally listed threatened, endangered, and candidate species. The USFWS February 2012 Endangered, Threatened, and Candidate Species and Designated Critical Habitat in North Dakota county list identified the gray wolf, interior least tern, pallid sturgeon, black-footed ferret and whooping crane as endangered species that may be found within Dunn County. The piping plover is listed as a threatened species and the Dakota Skipper and Sprague's pipit are listed as candidate species. In addition, Dunn County contains designated critical habitat for the piping plover adjacent to Lake Sakakawea. None of the species were observed in the field during field surveys. Habitat requirements, the potential for suitable habitat within the project areas, and other information regarding listed species for Dunn County are as follows:

3.7.1 Endangered Species

Gray Wolf (Canis lupus)

The gray wolf is the largest wild canine species in North America. The species is found throughout northern Canada, Alaska, and the forested areas of Northern Michigan, Minnesota, and Wisconsin, and has been reintroduced 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, 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 roam alone.

The project areas are located far from other known wolf populations and are surrounded by mixed-grass pasture land, which does not provide suitable gray wolf habitat.

Interior Least Tern (Sterna antillarum)

The interior least tern nests along inland rivers. The species is found in isolated areas along the Missouri, Mississippi, Ohio, Red, and Rio Grande Rivers. In North Dakota, it has been 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. The birds nest close together, using safety in numbers to scare away predators.

There is no existing or potential habitat within the project areas. Potential habitat in the form of sandy/gravelly Little Missouri River shoreline may exist approximately 1-mile southwest of the proposed sites at the nearest point (Eagle USA well pad), or about 1.5 miles away following the shortest drainage pattern to the river (Eagle USA well pad).

Pallid Sturgeon (Scaphirhynchus albus)

The pallid sturgeon is known to exist in the Yellowstone, Missouri, Atchafalaya, middle and lower Mississippi Rivers, and seasonally in some tributaries. In North Dakota, the species 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 may exist in the Little Missouri River approximately 1-mile southwest of the proposed sites at the nearest point (Eagle USA well pad), or about 1.5 miles away following the shortest drainage pattern to the river (Eagle USA well pad).

Black-footed Ferret (*Mustela nigripes*)

The black-footed ferret was historically found throughout the Rocky Mountains and Great Plains. In North Dakota, the black-footed ferret may potentially be present within prairie dog towns; however, the species has not been confirmed in North Dakota for nearly 30 years and is presumed to be extirpated. Its preferred habitat includes areas around prairie dog towns, as it relies on prairie dogs for food and lives in prairie dog burrows. Black-footed ferrets require at least an 80-acre prairie dog town to survive.

The proposed Eagle USA and Bears Ghost USA well pads are located approximately 0.5 mile west of an active prairie dog town. The town is greater than 80-acres in size; however, studies to identify the presence of black-footed ferrets have been previously completed and the proposed town has been previously cleared by the BIA and USFWS for an earlier well pad project.

Whooping Crane (*Grus americana*)

The whooping crane is the tallest bird in North America. In the United States, the 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 using shallow, seasonally and semi-permanently flooded palustrine (marshy) wetlands for roosting, and cropland and emergent wetlands for feeding. During migration, whooping cranes are often recorded in riverine habitats, including the Missouri River. There are currently three wild populations of whooping cranes, yielding a total species population of about 340; only one of the flocks is self-sustaining.

There were no wetlands or cropland observed near the proposed well pad location. However, the proposed project is located in the Central Flyway where 75 percent of confirmed whooping crane sightings occur. The Little Missouri River may provide potential stopover habitat for whooping crane migration, approximately 1-mile southwest of the proposed sites at the nearest point (Eagle USA well pad), or about 1.5 miles away following the shortest drainage pattern to the river (Eagle USA well pad).

3.7.1.2 Endangered Species Impacts/Mitigation

Alternative A (No Action) — Alternative A would have no effect to the gray wolf, interior least tern, pallid sturgeon, black-footed ferret 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 or black-footed ferret.

Suitable habitat for the interior least tern and pallid sturgeon is largely associated with Lake Sakakawea and its shoreline. The well pad and access road are located on upland bluffs of mixed-

grass pastureland, with the Little Missouri River located approximately 500 feet below. The Little Missouri River is located approximately 1-mile southwest of the proposed sites at the nearest point (Eagle USA well pad), or about 1.5 miles away following the shortest drainage pattern to the river (Eagle USA well pad). The topographic features of the area and distance from the shoreline should assist in providing sight and sound buffers for shoreline-nesting birds.

Storage tanks and heater-treaters would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from each site. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. A berm would also be installed around the entire Eagle USA well pad and a retention area would be constructed in the northwest corner of the pad. The entire pad would be sloped towards the retention area which would collect any fluids that accumulate on the pad due to precipitation and unlikely, but possible, undesirable events. All fluid would be handled and disposed of in accordance with applicable regulations. The cut slopes of the Bears Ghost USA pad would be bermed to prevent run-off, as well as fluids from other unlikely but possible undesirable events, from leaving the pad location. Where the BIA determines necessary, pit and soil stockpiles would be used to divert drainage outside of the cut slopes. 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 the Little Missouri River and its associated habitats is reasonably feasible but unlikely; therefore, the proposed project may affect but is not likely to adversely affect the interior least tern or pallid sturgeon. In addition, if electrical lines are installed the lines would be buried to prevent bird strikes.

There were no wetlands or cropland found in the study areas; however, the proposed project is located within the Central Flyway where approximately 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. To minimize the potential of direct whooping crane impacts, any electrical lines would be buried to prevent bird strikes. Per USFWS recommendation, if a whooping crane is sighted within one-mile of the well sites or associated facilities while under construction, all work would cease within one-mile of that part of the project and the USFWS would be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area; therefore, the proposed project may affect but is not likely to adversely affect whooping cranes or their associated habitat

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 areas. Critical habitat in the form of sandy/gravelly Little Missouri River exists approximately 1-mile southwest of the proposed sites at the nearest point (Eagle USA well pad), or about 1.5 miles away following the shortest drainage pattern to the river (Eagle USA well pad).

3.7.2.1 Threatened Species Impacts/Mitigation

Alternative A (No Action) — Alternative A would have no effect to the piping plover and would not impact designated piping plover critical habitat.

Alternative B (Proposed Action) — Suitable habitat for the piping plover is largely associated with Lake Sakakawea and its shoreline. The well pads and access roads would be located on upland bluffs of mixed-grass pastureland, with the Little Missouri River located approximately 500 feet below. The Little Missouri River is located approximately 1-mile southwest of the proposed sites at the nearest point (Eagle USA well pad), or about 1.5 miles away following the shortest drainage pattern to the river (Eagle USA well pad). The topographic features of the area and distance from the shoreline should assist in providing sight and sound buffers for shoreline-nesting birds.

Storage tanks and heater-treaters would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from each site. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. A berm would also be installed around the entire Eagle USA well pad and a retention area would be constructed in the northwest corner of the pad. The entire pad would be sloped towards the retention area which would collect any fluids that accumulate on the pad due to precipitation and other unlikely but possible undesirable events. All fluid would be handled and disposed of in accordance with applicable regulations. The cut slopes of the Bears Ghost USA pad would be bermed to prevent precipitation or meltwater from running onto the pad. Where the BIA determines necessary, pit and soil stockpiles would be used to divert drainage outside of the cut and fill slopes. 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 the Little Missouri River and its associated habitats is reasonably feasible but unlikely; therefore, the proposed project may affect but is not likely to adversely affect the piping plover, nor is the proposed project likely to destroy or adversely modify designated piping plover critical habitat. In addition, if electrical lines are installed the lines would be buried to prevent bird strikes.

3.7.3 Candidate Species

Dakota Skipper (*Hesperia dacotae*)

The Dakota skipper is a small butterfly with a one-inch wing span. The species historically ranged from southern Saskatchewan, across the Dakotas and Minnesota, to Iowa and Illinois. 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 sites consisted of grazed native and non-native upland grasses and shrubs. Although grazing is evident, it is moderate in nature; therefore, the project sites do contain potentially suitable habitat for the Dakota skipper. No Dakota skippers were observed during the field visits; however, the visits occurred before the brief Dakota skipper butterfly stage.

Sprague's pipit (*Anthus spragueii*)

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

The proposed sites consisted of grazed native and non-native upland grasses and shrubs. Although grazing is evident, it is moderate in nature; therefore, the project sites do contain potentially suitable habitat for the Sprague's pipit. No Sprague's pipits were observed during the field visits.

3.7.3.1 Candidate Species Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact Dakota skippers, Sprague's pipits or their associated habitats.

Alternative B (Proposed Action) – Due to the presence of potential habitat for the Dakota skipper and Sprague's pipit within the project areas, the proposed project may impact individuals or habitat through earthwork associated with construction activities, habitat conversion, and/or fragmentation. An "effect determination" under Section 7 of the Endangered Species Act has not been made due to the current unlisted status of the 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, to "take" includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb, wherein "disturb" means to agitate or bother a bald or golden eagle to the degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, causing injury, death, or nest abandonment.

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

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

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 project areas 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 (last updated in 2010), the closest recorded golden eagle nest is located approximately 1.5 miles south of the proposed sites. During the eagle survey, an attempt to locate the nest was unsuccessful and it was concluded that the nest is no longer present. Please refer to *Figure 3.4, Bald and Golden Eagle Habitat and Nest Sightings*.

3.8.1 Bald and Golden 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 eagle nests were found within 0.5 mile of the project areas and no nest sightings have been recorded within 0.5 mile of the project areas; therefore, no impacts to bald or golden eagles are anticipated to result from the proposed project. If a bald or golden eagle nest is sighted within 0.5 mile of the project construction areas, construction activities would cease and the USFWS notified for advice on how to proceed. In addition, any electrical lines would be buried to prevent the potential for electrical line strikes by bald or golden eagles.

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 the 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. In addition, comments received from the USFWS have been considered in the development of this project.

The proposed project study areas lie in the Central Flyway of North America. The Central Flyway is used as resting grounds for many birds on their spring and fall migrations, as well as nesting and breeding grounds for many waterfowl species. In addition, the project areas contain suitable habitat for mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), coyote (*Canis latrans*), red fox (*Vulpes vulpes*), mountain lion (*Puma concolor*), American badger (*Taxidea taxus*), North American porcupine (*Erethizon dorsatum*), eastern cottontail rabbit (*Sylvilagus floridanus*), jackrabbit (*Lepus townsendii*), sharp-tailed grouse (*Tympanuchus phasianellus*), ring-necked pheasant (*Phasianus colchicas*), wild turkey (*Meleagris gallopavo*), raptors, and song birds.

During the pedestrian field surveys, migratory birds, raptors, big and small game species, non-game species, potential wildlife habitats, and and/or bird nests were identified, if present. Wildlife species observed during the field surveys included a turkey vulture (*Cathartes aura*) at the Eagle USA site and a red-tailed hawk (*Buteo jamaicensis*) at the Bears Ghost USA site.

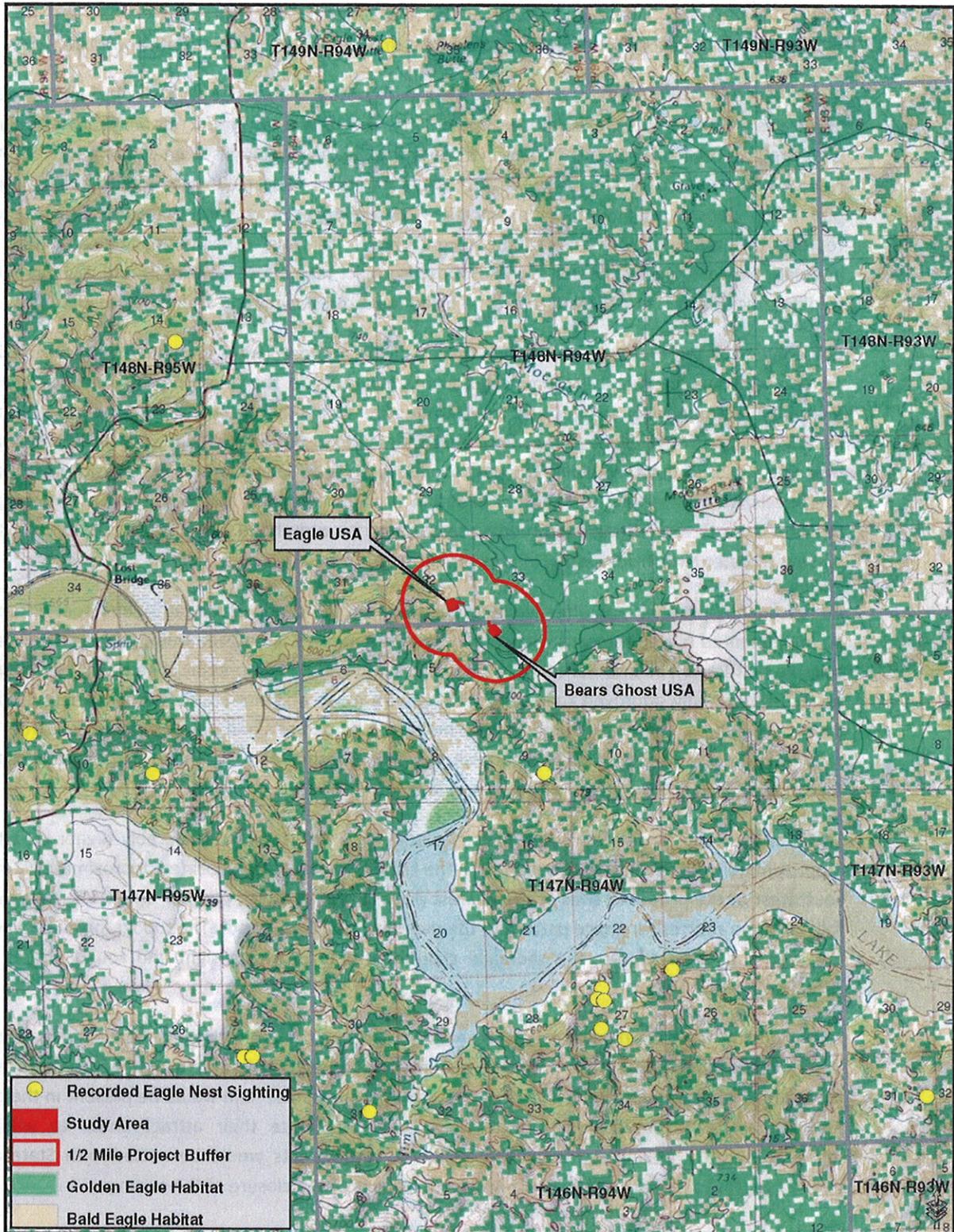


Figure 3.4, Bald and Golden Eagle Habitat and Nest Sightings

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 project site for many avian and wildlife species, ground clearing, drilling, and long-term production activities associated with the proposed project may impact individuals by displacing animals from suitable habitat. As a result, wildlife may be forced to utilize marginal habitats or relocate to unaffected habitats where population density and competition increase. Consequences 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 of wildlife species, but is not likely to result in a trend towards listing of any of the species identified.

Construction of the proposed project and drilling of the proposed wells is planned to occur in 2012. All efforts would 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 and nesting season. In the event that construction should occur during the migratory bird nesting and breeding season, a qualified biologist would conduct pre-construction surveys for migratory birds and their nests within five days prior to the initiation of all construction activities. Mowing/grubbing of the sites prior to the nesting and breeding season may be completed in lieu of the pre-construction surveys to deter birds from nesting in project areas.

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

The proposed well pads are located on an upland area that is at a considerably higher elevation (approximately 500 feet) than the shoreline. The Little Missouri River is located approximately 1-mile southwest of the proposed sites at the nearest point (Eagle USA well pad), or about 1.5 miles away following the shortest drainage pattern to the river (Eagle USA well pad). The topographic features of the area and distance from the shoreline should assist in providing sight and sound buffers for shoreline-nesting birds.

During drilling activities, the noise, movements, and lights associated with the drilling are expected to deter wildlife from entering the project areas. In addition, the cuttings pits would be used primarily for solid material storage, and it is expected that very minimal free fluid would be present in the pits. The absence of exposed liquids in the pits would minimize their attractiveness to wildlife. Immediately after drilling rigs leave the locations, cuttings pits would be netted with State and Federal approved nets. The nets would remain in place until the closure of the cuttings pits.

In addition, design considerations would be implemented to further protect against potential habitat degradation. Storage tanks and heater-treaters would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from each site. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's

production. A berm would also be installed around the entire Eagle USA well pad and a retention area would be constructed in the northwest corner of the pad. The entire pad would be sloped towards the retention area which would collect any fluids that accumulate on the pad due to precipitation and unlikely, but possible, undesirable events. All fluid would be handled and disposed of in accordance with applicable regulations. The cut slopes of the Bears Ghost USA pad would be bermed to prevent precipitation or meltwater from running onto the pad. Where the BIA determines necessary, pit and soil stockpiles would be used to divert drainage outside of the cut and fill slopes. BMP's to minimize wind and water erosion of soil resources would also be put into practice.

3.10 Vegetation

During the pedestrian field surveys, botanical resources were evaluated using visual inspection. The Eagle USA site study area consisted of native and non-native upland grasses and shrubs that have been disturbed by livestock grazing. The proposed well pad was dominated by Kentucky bluegrass (*Poa pratensis*), needle and thread grass (*Hesperostipa comata*), fringed sagebrush (*Artemisia frigida*), prairie coneflower (*Ratibida columnifera*), and prairie junegrass (*Koeleria macrantha*). Small patches of creeping juniper (*Juniperus horizontalis*) were also observed along with Missouri goldenrod (*Solidago missouriensis*).

The Bears Ghost USA site study area also consisted of native and non-native upland grasses and shrubs that have been disturbed by livestock grazing. The proposed well pad was dominated by Kentucky bluegrass, needle and thread grass, fringed sagebrush, and common ragweed (*Ambrosia artemisiifolia*). Little bluestem (*Schizachyrium scoparium*) and goats beard (*Tragopogon dubius*) were also observed in small patches. Western snowberry (*Symphoricarpos occidentalis*) was observed in small patches along the proposed access road and throughout the proposed well pad study area. Please refer to *Figure 3.5, Well Pads Dominant Vegetation*.



Figure 3.5, Well Pads Dominant Vegetation

There are no threatened or endangered plant species listed for Dunn County. The project areas were also surveyed for the presence of noxious weeds. Of the eleven species declared noxious under the North Dakota Century Code (Chapter 63-01.0), three are known to occur in Dunn County. Please refer to **Table 3.3, Noxious Weed Species**. Counties and cities have the option to add species to the list to be enforced within their jurisdictions; however, no additional species have been listed in Dunn County. No noxious weeds were identified during the on-site assessments.

Table 3.3, Noxious Weed Species

COMMON NAME	SCIENTIFIC NAME	2010 DUNN COUNTY REPORTED ACRES
Absinth wormwood	<i>Artemisia absinthium L.</i>	43,800
Canada thistle	<i>Cirsium arvense (L.) Scop</i>	39,300
Dalmatian toadflax	<i>Linaria genistifolia ssp. Dalmatica</i>	—
Diffuse knapweed	<i>Centaurea diffusa Lam</i>	—
Leafy spurge	<i>Euphorbia esula L.</i>	6,200
Musk thistle	<i>Carduus nutans L.</i>	—
Purple loosestrife	<i>Lythrum salicaria</i>	—
Russian knapweed	<i>Acroptilon repens (L) DC.</i>	—
Salt cedar (tamarisk)	<i>Tamarix ramosissima</i>	—
Spotted knapweed	<i>Centaurea maculosa Lam.</i>	—
Yellow Toadflax	<i>Linaria vulgaris</i>	—

3.10.1 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 pads, access roads, and associated infrastructure would result in vegetation disturbance; however, the areas of proposed surface disturbances are minimal in the context of the setting, and the 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 to the project areas. Thus, areas not currently dominated by such 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 would be treated with a BIA/BLM approved herbicide prior to construction to prevent the spread of noxious weed infestations.

Following construction, interim reclamation measures including reduction of cut and fill slopes, redistribution of stockpiled topsoil, and re-seeding of disturbed areas with a native grass seed or another BIA approved mixture consistent with surrounding vegetation would be implemented within six months after completion of the wells. In the event that snow cover or the drilling schedule precludes reclamation activities from commencing within six months of well completion, Marathon would request an extension from the BIA.

If commercial production equipment is installed, the well pads would be reduced in size and reclaimed, leaving adequate room to accommodate production facilities, normal well maintenance and potential recompletion operations. Reclamation activities would include the reduction of cut and fill slopes, re-contouring, backfill, leveling, treating, erosion control, and redistribution of stockpiled topsoil and re-seeding with a native grass seed mixture from a BIA/BLM-approved source as recommended by the BIA.

If no commercial production develops from any of the proposed wells, or upon final abandonment of commercial operations, all disturbed areas would be promptly reclaimed. The access roads and well pad areas would be re-contoured to match topography of the original landscape, reseeded with a native grass seed mixture obtained from a BIA/BLM-approved source, and fitted with erosion controls consistent with the BLM Gold Book standards. Maintenance of the re-vegetated sites would continue until consistent with the surrounding undisturbed vegetation and free of noxious weeds. The surface management agency would provide final inspection of the sites to deem the reclamation effort complete.

3.11 Cultural Resources

Historic properties, or cultural resources, on federal or tribal lands are protected by multiple laws, regulations and agreements.

Section 106 of the National Historic Preservation Act of 1966, as amended, requires that projects needing federal approval and/or federal permits be evaluated for the effects on historic and cultural properties included or eligible for listing on the National Register of Historic Places (NRHP).

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 Native American Graves Protection and Repatriation Act (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 religious sites and objects important to American Indians, 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 includes consultation requirements at various stages of a federal undertaking. The Mandan, Hidatsa, and Arikara Nation (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 (NPS). The THPO operates with the same authority exercised in most of the rest of North Dakota by the State Historic Preservation Officer (SHPO). Thus, the BIA consults and corresponds with the THPO regarding cultural resources on all projects proposed within the Fort Berthold Reservation.

Cultural resource inventories of these well pads and access roads were conducted by personnel of Kadrmas, Lee & Jackson, Inc., using an intensive pedestrian methodology. For the Bears Ghost USA 11-4H/Bears Ghost USA 11-4TFH (+ Bears Ghost USA 21-4TFH) project approximately 10 acres were inventoried on July 27, 2011 (Ó Donnchadha 2011a). 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 September 23, 2011; however, the THPO did not respond within the allotted 30 day comment period. For the Eagle USA 21-5H/Eagle USA 21-5TFH/Eagle USA 41-5H/Eagle 41-5TFH (formerly Eagle USA 31-4H/Eagle USA 31-4TFH/ Eagle USA 41-4H/Eagle 41-4TFH) project approximately 9 acres were inventoried between September 27 and 30, 2011. As a previously recorded archaeological site was located partially within the project Area of Potential Effects, 66 shovel test excavations were used to evaluate the site. No cultural materials were recovered in these excavations (Ó Donnchadha 2011b), such that the site does not

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. On the basis of the information provided, BIA reached a determination of **no adverse effect** for this undertaking. This determination was communicated to the THPO on December 19, 2011; 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) – If cultural resources are discovered during construction or operation, work would immediately be stopped, the affected site secured, and the BIA and THPO notified. Work would not resume until written authorization to proceed was received from the BIA. All project workers would be 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 areas. 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.

The Fort Berthold Reservation is home to six major communities, consisting of New Town, White Shield, Mandaree, Four Bears, Twin Buttes, and Parshall. The communities provide small business amenities such as restaurants, grocery stores, and gas stations; however, they lack the larger shopping centers typically found in more populous cities of the region, such as Minot and Bismarck. According to 2006-2010 US Census data, educational/health/social services is the largest industry on the Reservation, followed by the entertainment/recreation/accommodation/food industry⁹. The Four Bears Casino, Convenience Store, and Recreation Park are also major employers with over 320 employees, 90% of whom are Tribal members. In addition, several industries are located on the Reservation, including Northrop Manufacturing, Mandaree Enterprise Corporation, Three Affiliated Tribes Lumber Construction Manufacturing Corporation, and Uniband.

Several paved state highways provide access to the Reservation, including ND Highways 22, 23 and 1804. The 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 services 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,

⁹ Since 2010, there has been an increasing focus on oil and gas development on the Fort Berthold Reservation. As such, it is anticipated that the trends have potentially shifted; however, data from the 2011 US Census has not yet been released for the Fort Berthold Reservation.

which could have positive effects on employment and income through the creation of jobs and payment of leases, easement, and/or royalties to Tribal members.

Alternative B (Proposed Action) – Alternative B is not anticipated to substantially impact the socioeconomic conditions in the project areas, but it does have the potential to yield beneficial impacts on Tribal employment and income. Qualified individual Tribal members may find employment through oil and gas development and increase their individual incomes. Additionally, the proposed action may result in indirect economic benefits to Tribal business owners resulting from construction workers expending money on food, lodging, and other necessities. The increased traffic during construction may create more congested traffic conditions for residents. Marathon would follow Dunn 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. The Three Affiliated Tribes qualify for environmental justice consideration as both a minority and a low-income population.

The population of North Dakota is predominantly Caucasian. American Indians comprise 5.4% of North Dakota’s population and 12.7% of the population of Dunn County. Population decline in rural areas of North Dakota has been a growing trend as individuals move toward metropolitan areas of the state, such as Bismarck and Fargo. While Dunn County’s population had been slowly declining prior to the oil boom, the Fort Berthold Reservation has witnessed a steady increase in population. The recent intensification of drilling activity in the western part of the state has likely contributed to increased populations in western counties, including those associated with the Fort Berthold Reservation. American Indians are the majority population on the Fort Berthold Reservation, but are the minority population in Dunn County and the State of North Dakota. Please refer to *Table 3.4, Demographic Trends*.

Table 3.4, Demographic Trends

LOCATION	POPULATION IN 2010	% OF STATE POPULATION	% CHANGE 2000–2010	PREDOMINANT RACE	PREDOMINANT MINORITY
Dunn County	3,536	0.53%	-1.8%	Caucasian	American Indian (12.7%)
Fort Berthold Reservation	6,341	0.94%	+7.2%	American Indian ¹⁰	Caucasian (23.8%)
Statewide	672,591	—	+4.7%	Caucasian	American Indian (5.4%)

Source: U.S. Census Bureau, Census 2000 & Census 2010

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

According to 2006-2010 U.S. Census Bureau data, the Fort Berthold Reservation has lower than statewide averages of per capita income and median household income. Dunn County has higher median household income but lower per capita income than the statewide averages. Dunn County has the same rate of unemployment as the state average, while Fort Berthold's rate of unemployment is greater than the state average¹¹. 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
Dunn County	\$24,832	\$48,707	3.6%	8.6%
Fort Berthold Reservation	\$18,059	\$41,658	6.9%	26.0%
Statewide	\$25,803	\$46,781	3.6%	12.3%

Source: U.S. Census Bureau, 2006-2010 American Community Survey

Due to the recent intensification of oil and gas activity with northwestern North Dakota, these figures are not truly reflective of the current economic characteristic of either Dunn County or the Fort Berthold Reservation. Between 2008 and 2011, annual income paid to tribal owners for oil and gas related activities rose from \$4.5 million to \$116.4 million. In addition, oil and gas related activities have created in excess of 10,000 jobs on the Reservation, many of which have been filled by tribal members.

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 populations.

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

Oil and gas development of the Bakken and Three Forks Formations 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. Through Tribal Employee Rights Office (TERO) regulations on employment and contracting on the Fort

¹¹While more current data reflecting income, unemployment, and poverty levels within the Fort Berthold Reservation are not yet available, it is anticipated that 2011 numbers may show different trends. The exploration and production of oil and gas resources on the Reservation has created employment opportunities and have likely affected the economic indicators; however, this assessment uses the best available data.

Berthold Reservation, Marathon utilizes several contractors that employ MHA tribal members. Several of the contractors have developed a positive collaborative working relationship with Marathon and provide a valuable asset to drill, complete, and produce wells 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 Permit Application and TERO fees collected on wells drilled on minerals held in trust by the BIA.

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 infrastructure within the vicinity of the proposed project includes paved (ND Highway 22) and gravel (BIA Road 14 and oil field access roads) roadways. The Bureau of Reclamation (BOR) manages the Fort Berthold Rural Water System. The nearest known freshwater pipeline runs adjacent to the existing oil field access road, to which the proposed access roads would be connected, in Section 32, T148N, R94W and Section 4, T147N, R94W in Dunn County.

3.14.1 Infrastructure and Utility Impacts/Mitigation

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

Alternative B (Proposed Action) – Alternative B would require the construction of two new scoria or gravel roadways totaling approximately 1,282 feet. In addition, 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 Dunn County, BIA, and NDDOT rules and regulations regarding rig moves and oversize/overweight loads on state and county roads used as haul roads. All contractors are required to permit their oversize/overweight roads through said entities. Marathon's contractors would be required to adhere to all local, county, tribal, and state regulations regarding rig moves, oversize/overweight loads, and frost restrictions.

The sites would require the installation of supporting electrical lines. In addition, if commercially recoverable oil and gas are discovered, a natural gas gathering system may need to be installed. It is expected that electric lines, telecommunication lines, and other pipelines would be constructed underground within the approved ROW, or additional NEPA analysis and BIA approval would be completed prior to their construction. To minimize potential impacts to water pipelines in the area, Marathon would consult with BOR prior to construction if any pipeline must be crossed to access the proposed project sites. Other utility modifications would be identified during design and coordinated with the applicable utility company.

Drilling operations at the proposed sites would 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. 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 project. It is anticipated that approximately 30 to 40 trips, over the course of several days, would be required to transport the drilling rig and associated equipment to the proposed sites. If commercial operations are established following drilling activities, the pumps 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 sites would depend upon the productivity of the wells. A 1,000 barrel per day well would require approximately seven tanker visits per day, while a 300 barrel per day well would require approximately two visits per day.¹² If produced water were to be hauled from the sites, a tanker would typically haul 110 barrels of water per load. The number of visits would be dependent upon daily water production¹³. Established load restrictions for state and BIA roadways would be followed and haul permits would be acquired. It is expected that the proposed wells will be tied into Saddle Butte's oil and gas gathering systems within a few months after completion, thereby reducing the need for long term truck traffic as a mode of transport.

3.15 Public Health and Safety

Health and safety concerns associated with this type of development include hydrogen sulfide (H₂S) gas¹⁴ and hazardous materials used or generated during well installation or production.

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 would submit H₂S Contingency Plans to the BLM as part of the APD process. The plans would establish safety measures to be implemented throughout the drilling process to prevent accidental release of H₂S into the atmosphere. The Contingency Plans would be designed to protect persons living and/or working within 3,000 feet (0.57 mile) 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 that there are no residences/buildings within 3,000 feet of the proposed site.

Hazardous Materials — The EPA specifies chemical reporting requirements under the Superfund Amendments and Reauthorization Act of 1986, as amended. No materials used or generated by this

¹²A 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.

¹³A 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.

¹⁴H₂S 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.

project for production, use, storage, transport, or disposal are on either the Superfund list or on the EPA's list of extremely hazardous substances in 40 CFR 355.

The SPCC 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.

Spill Response Plan — Marathon and Saddle Butte (for proposed pipelines) have committed to developing a spill response plan. The response plan would include monitoring protocols, notification procedures, spill detection and on-scene spill mitigation procedures, response activities, contacts, training and drill procedures, and response plan review and update procedures. The spill response plan would be submitted to the BIA prior to the commencement of construction activities.

Pipeline Marking Procedures — Saddle Butte would fully comply with the marking requirements specified in USDOT rules and regulations, specifically contained in 49 CFR Parts 192 and 195.

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 the 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 Reasonably Foreseeable Actions

Oil and gas development in western North Dakota has occurred with varying intensity for the past 100 years. Gas development began in the area in 1909, and the first recorded oil well was drilled in 1920. North Dakota's oil production has boomed twice prior to the current one; 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, occurring both within and outside the Fort Berthold Reservation, which has already far surpassed the previous booms in magnitude.

According to the NDIC, as of June 18, 2012, approximately 830 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 1,086 active and/or confidential oil and gas wells within a 20-mile radius of the proposed well site. Please refer to *Table 3.6, Summary of Permitted Confidential/Active Wells* and *Figure 3.6, Permitted Confidential/Active Wells*.

Table 3.6, Summary of Permitted Confidential/Active Wells

DISTANCE FROM WELL PADS	NUMBER OF PERMITTED CONFIDENTIAL/ ACTIVE WELLS
1 mile radius	3
5 mile radius	77
10 mile radius	302

20 mile radius	1,086
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As mentioned previously, the Bakken Formation 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 2.1 billion barrels of recoverable oil in each of the formations and that there will be 30–40 remaining years of production, or more if technology improves.

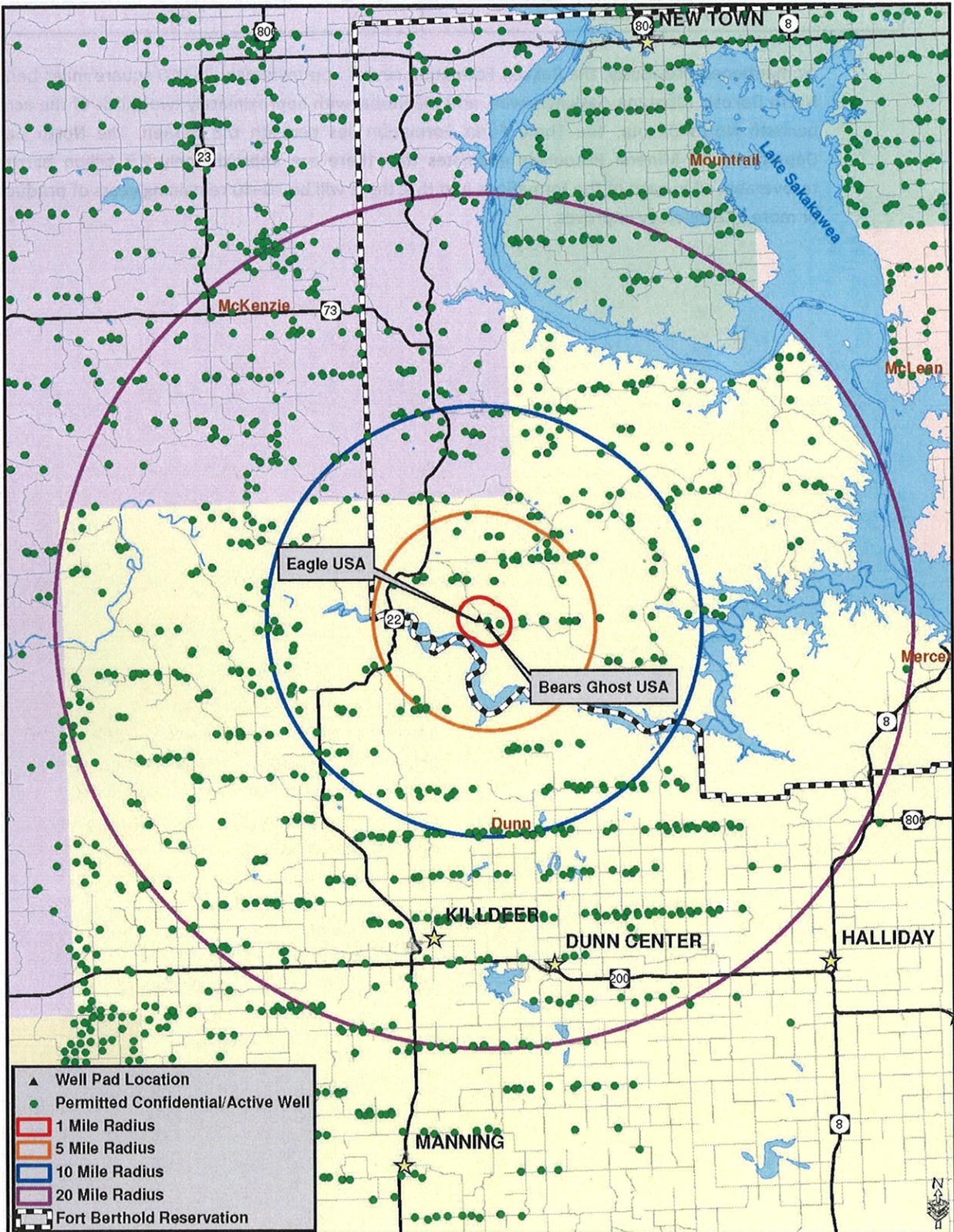


Figure 3.6, Permitted Confidential/Active Wells

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 constructed on the Fort Berthold Reservation, and many more laterals connecting current and future wells are in the planning process.

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, the 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, that the 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. In addition, a programmatic EA is currently being developed by the BIA that will assess the cumulative impacts of development on Fort Berthold.

Land Use — As oil and gas exploration and production of the Bakken and Three Forks Formations proceed, lands atop the formations are converted from existing uses (often agricultural or vacant) to industrial, energy-producing uses. The proposed project would convert grasslands to well pads, access roads, and associated infrastructure; however, the well pads and access roads have been positioned to avoid or minimize sensitive land uses and to maintain the minimum impact footprint possible. In addition, the BIA views the developments to be temporary in nature as impacted areas would be restored to original conditions upon completion of oil and gas activity. By placing seven wells on two pad locations, Marathon has minimized land conversion utilizing two locations instead of seven.

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

Threatened and Endangered Species — The potential for cumulative impacts to threatened and endangered species applies to listed and candidate species that may be impacted by the proposed project.

The proposed project occurs within the Central Flyway through which whooping cranes migrate and forage in adjacent cropland. Continual development (e.g., agriculture, oil and gas, and wind) within the Central Flyway has compromised whooping crane habitat both through direct impacts via conversion of potential habitat to other uses and indirect impacts due to disrupting the use of

potential stopover habitat, as whooping cranes prefer isolated areas and are known to avoid large-scale development. The indirect impact through the disruption of the use of this grassland may cause a cumulative impact when added to past, present, and reasonable foreseeable actions; however, the proposed action, when added to other development directly and indirectly impacting whooping cranes and their habitat, is not anticipated to contribute to significant 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, the Little Missouri River, and their shorelines. When added to other past, present, and reasonably foreseeable projects, such as oil and gas wells and water intake structures, the proposed project may have an indirect cumulative impact on potential habitat for said species due to potential leaks or spills; however, due to the implementation of a modified closed loop drilling system, as well as secondary and tertiary containment measures for the proposed project, the transfer of accidentally released fluids to the Little Missouri River and its associated habitats is unlikely; therefore, it is unlikely the project would contribute to significant cumulative impacts to the interior least tern, pallid sturgeon, and piping plover. In addition, any electrical lines would be buried to prevent the potential for electrical line strikes by the interior least tern and piping plover.

Wetlands, Wildlife, and Vegetation — The proposed project, when added to previously constructed and reasonably foreseeable oil and gas wells, would contribute to habitat loss and fragmentation associated with construction of well pads, access roads, and associated development. By placing multiple wells at each location, habitat loss has been minimized. The North Dakota Parks and Recreation Department notes in its undated publication, *“North Dakota Prairie: Our Natural Heritage”* that approximately 80 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 areas 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 would increase. Consequences 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 Sprague’s pipit, may experience population impacts due to the cumulative loss of habitat through conversion and fragmentation.

The proposed action and other similar actions are carefully planned to avoid or minimize impacts to wetlands, wildlife and vegetation resources. 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 situated to avoid sensitive areas such as surface water, wetlands, and riparian areas. Reclamation activities would 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 resource inputs and accommodate outputs such as fresh water, power, communications, site access, transportation of products to market, and disposal of produced water and other waste materials. As with the proposed action, many other well sites currently being proposed and/or built are positioned to make the best use of existing roadways and to minimize the construction of new roads; however, some length of new access roads are commonly associated with new wells. The proposed well pads have been positioned in close proximity to existing roadways to minimize the extent of access road impacts in the immediate area. 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 Irrecoverable 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 taken 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 areas. The areas dedicated to the access roads and well pads would be unavailable for livestock grazing, wildlife habitat, or other uses; however, allottees with surface rights would be compensated for loss of productive acreage and project footprints would shrink considerably once the wells were drilled and non-working areas reclaimed. 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 would 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
- *Section 10 Permit* – United States Army Corps of Engineers

3.20 Environmental Commitments/Mitigation

The following commitments have been made by Marathon:

- Topsoil would be segregated and stored to be used in the reclamation process.
- BMPs such as reseeding, erosion mats, and biologs would be implemented to minimize wind and water erosion of soil resources.
- The proposed well pads and access roads would avoid surface waters, including wetlands and riparian areas. The proposed project would not alter stream channels or change drainage patterns, except for storm water diversion purposes.
- BMPs such as earth berms, fiber rolls, and straw wattles would be utilized in all drainages in close proximity to the proposed wells to guard against accidental release of fluids from the sites.
- The entire perimeter of the Eagle USA well pad would be bermed and would be sloped to a retention area on the pad that would collect any fluids that accumulate on the pad due to precipitation and unlikely, but possible, undesirable events. All of the fluid would be handled and disposed in accordance with all applicable regulations, including stormwater and SPCC rules.
- Berming would be utilized around cut slopes of the Bears Ghost USA well pad to prevent run-on of fluids due to large precipitation or snow melt events. Where the BIA determines necessary, pit and soil stockpiles would be used to divert drainage outside of the cut and fill slopes.
- The proposed wells would be cemented and cased per BLM and NDIC regulations to isolate aquifers from potentially productive hydrocarbon and disposal/injection zones.
- A modified closed loop drilling system would be utilized whereby stabilized cuttings would be placed in earthen, reinforced lined cuttings pits. The pits would have a reinforced lining with a minimum thickness of 20 mil to prevent seepage into the surrounding bedrock.
- Any minimal free fluid present in the cuttings pits would be removed and disposed of in accordance with BLM and NDIC rules and regulations. All liquids from drilling would be transported off-site.
- Prior to their use, the cuttings pits would be fenced on the non-working sides. The pits would be closed or fenced and netted immediately after drilling and completion of the proposed wells to prevent wildlife and livestock from accessing the pits.
- Spills or leaks of chemicals and other pollutants would be reported to the appropriate regulatory agencies. The procedures of the surface management agency would be followed to contain leaks or spills.
- Storage tanks and heater-treaters would be surrounded by impermeable berms that would act as secondary containment to guard against possible spills. The berms would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production.
- Welds completed on the steel pipelines would be subjected to a 100 percent Non-Destructive Testing.

- Saddle Butte would develop a spill response plan for any pipeline construction to be submitted to the BIA prior to construction. The 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.
- Saddle Butte would fully comply with the marking requirements for any pipeline operations specified in USDOT rules and regulations, specifically contained in 49 CFR Parts 192 and 195.
- Marathon would provide dust control for their access roads and haul roads when necessary.
- An H₂S Contingency Plan would be submitted by Marathon to the BLM as part of the APD.
- In the event that construction should occur during the migratory bird nesting and breeding season, a qualified biologist would conduct pre-construction surveys for migratory birds and their nests within five days prior to the initiation of all construction activities. Mowing/grubbing of the sites prior to the nesting and breeding season may be completed in lieu of the pre-construction survey to deter birds from nesting in project areas.
- Measures implemented during construction to avoid the taking of migratory bird species would include: the use of suitable mufflers on all internal combustion engines and certain compressor components to mitigate noise; utilizing only approved roadways; placing wire mesh or grate covers on containers used to collect dripped oil under valves and spigots; maintaining open pits and ponds that are free from oil; reclaiming or netting (maximum mesh size of 1.5 inches) cuttings pits immediately after drilling and completion of the proposed wells; and burying of any electrical lines.
- If a whooping crane is sighted within one-mile of the well sites or associated facilities while under construction, all work would cease within one-mile of that part of the project and the USFWS would be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area.
- If a bald or golden eagle nest is sighted within 0.5 mile of the project construction areas, construction activities would cease and the USFWS would be notified for advice on how to proceed.
- Marathon would complete interim reclamation measures within six months of well completion; however, if circumstances prevent interim reclamation activities from occurring within this timeframe, Marathon would contact the BIA and BLM to request an extension.
- Pipeline corridor reclamation would occur promptly after construction. Topsoil separated during pipeline installation would be used for reseeding and reclamation of the disturbed area. If topsoil cannot be spread in a timely manner that allows vegetation to reestablish prior to winter, Saddle Butte would use erosion control measures such as sprayed reinforcement, lain matting reinforcement, spread and crimp straw, straw wattles and silt fences. All temporary reclamation measures would be inspected on a monthly basis, or more frequently as necessary, throughout the winter. Additional reclamation activities would occur throughout the life of the pipeline, due to routine maintenance or addition of infrastructure.
- Disturbed vegetation would be re-seeded in kind upon completion of the project, and a noxious weed management plan would be implemented. The re-seeded site would be maintained until such time that the vegetation is consistent with surrounding undisturbed

areas and the site is free of noxious weeds. Seed would be obtained from a BIA/BLM approved source.

- Prior to mobilization, drilling rigs and associated equipment would be pressure washed or air blasted off Tribal lands to prevent the possible transportation of noxious or undesirable vegetation onto Tribal lands as well as USACE managed lands.
- The proposed well pads and access roads would avoid impacts to cultural resources. If cultural resources are discovered during construction or operation, work would immediately be stopped, the affected site secured, and the BIA and THPO notified. In the event of a discovery, work would not resume until written authorization to proceed was received from the BIA.
- Project workers would be prohibited from collecting artifacts or disturbing cultural resources in any area under any circumstances.
- The wells and associated facilities would be painted in earth tones, based on standard colors stipulated by the BLM in the approved federal APD, to allow them to better blend in with the natural background color of the surrounding landscape.
- Marathon would ensure all contractors working for the company adhere to all local, county, tribal, and state regulations and ordinances regarding rig moves, oversize/overweight loads, and frost law restrictions.
- Established load restrictions for State and BIA roadways would be followed and haul permits would be acquired.
- Utility modifications would be identified during design and coordinated with the applicable utility company.

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

KL&J prepared this EA under a contractual agreement with Marathon Oil Company. 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
	Bill Groffy	Senior Regulatory Representative	
	Darrell Nodland	Operations Specialist	
	Brenda Rettinger	HES Professional	
Kadrmass, Lee & Jackson, Inc.	Mikayla Boche	Environmental Planner	Impact assessment principal author, exhibit creation
	Mike Huffington	Environmental Planner	Field resources surveys
	Brian O'Donnchadha	Archaeologist	Cultural resources surveys
	Grady Wolf	Environmental Scientist	Project Manager, senior review
William H. Smith & Associates P.C.	William H. Dolinar	Surveyor	Site 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 May 17, 2012. This scoping package included a brief description of the proposed project, as well as a location map. Pursuant to Section 102(2) (D) (IV) of NEPA, a solicitation of views was requested to ensure that social, economic, and environmental effects were considered in the development of this project.

At the conclusion of the 30-day comment period, eleven responses were received. The 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. Please refer to *Appendix A for Agency Scoping Materials* and *Appendix B for Agency 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. The 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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- "Dakota Skipper Fact Sheet." Apr. 2007. U.S. Fish and Wildlife Service, Midwest Region. 27 May 2012. <<http://www.fws.gov/midwest/Endangered/insects/dask.html>>.
- "Fact Sheet: Pallid Sturgeon (*Scaphirhynchus albus*)." 6 Mar. 2012. U.S. Department of Interior, U.S. Fish and Wildlife Service, Midwest Region. 27 May 2012. <http://www.fws.gov/midwest/endangered/fishes/palld_fc.html>.
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Appendix A

Agency Scoping Materials

Appendix A

Agency Scoping Materials

May 17, 2012

«CTitle» «First» «Last»
«Title»
«Department»
«Agency»
«Address»
«City», «State» «Zip»

**RE: Marathon Oil Company
Eagle and Bears Ghost Well Pads
Fort Berthold Reservation
Dunn County, North Dakota**

Dear «CTitle» «First» «Last»;

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

- Bears Ghost USA (three well) located in Section 4, T147N, R94W, 5th P.M.
- Eagle USA (four well) located in Section 32, T148N, R94W, 5th P.M.

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 pads have been positioned to utilize existing roadways for access to the extent possible. Construction of the proposed well pads and access roads is scheduled to begin in summer 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.

Page 2 of 2

Please provide your comments by **June 18, 2012**. We request your comments by that date to ensure that we will have ample time to review them and incorporate them into the EA.

If you would like further information regarding this project, please contact me at (701) 271-2100. Thank you for your cooperation.

Sincerely,

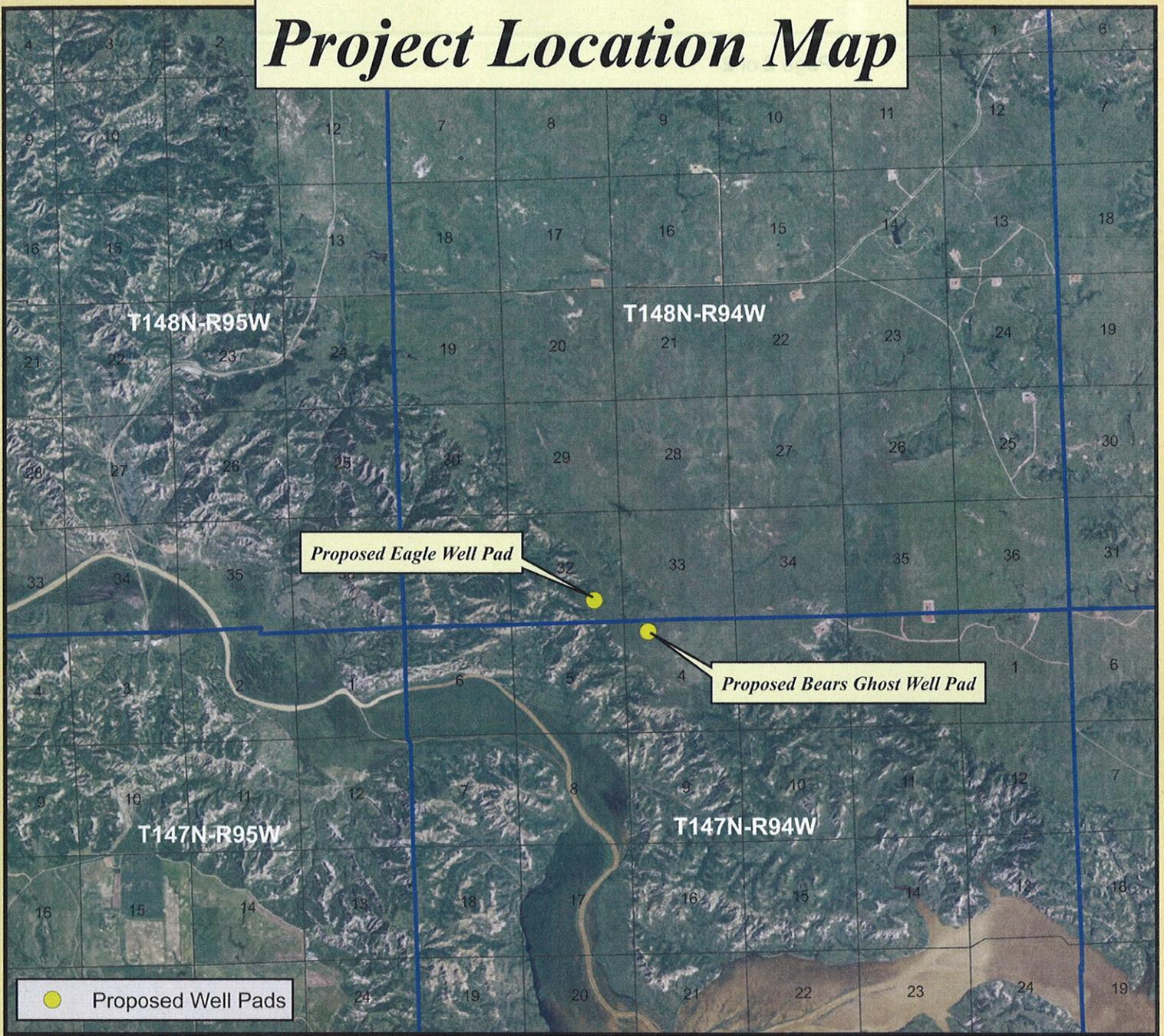
Kadmas, Lee & Jackson, Inc.

A handwritten signature in black ink, appearing to read "Mike Huffington", with a stylized flourish at the end.

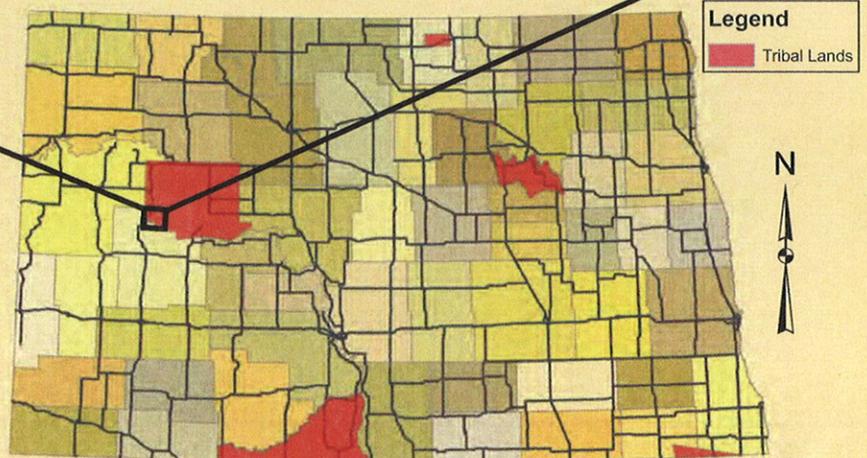
Mike Huffington
Environmental Planner

Enclosure (Project Location Map)

Project Location Map



**Marathon Oil Company
Bears Ghost & Eagle
Proposed Well Pads
Dunn County, ND**



May 17, 2012

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

**Re: Marathon Oil Company
Eagle and Bears Ghost Well Pads
Fort Berthold Reservation
Dunn County, North Dakota**

Dear Mr. Towner,

On behalf of Marathon Oil Company (Marathon), Kadmas, Lee & Jackson, Inc. (KL&J) is preparing an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) for the Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM). The proposed action includes approval by the BIA and BLM for the development of two well pads (one three well pad and one four well pad), resulting in the drilling and completion of seven oil and gas wells in Dunn County, North Dakota on the Fort Berthold Reservation. These well pads are proposed to be positioned in the following locations:

- Bears Ghost USA (three well) located in Section 4, T147N, R94W, 5th P.M.
- Eagle USA (four well) located in Section 32, T148N, R94W, 5th P.M.,

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 pads have been positioned to utilize existing roadways for access to the extent possible; however, each well pad would require the construction of a new access road. Construction of the proposed well pads and access roads is scheduled to begin in summer 2012.

An intensive, pedestrian resource survey of each proposed well pad and access road was conducted on July 27, 2011 by KL&J, with revisits of the proposed Eagle well pad conducted on October 4, 2011 and April 17, 2012. The purpose of these surveys was to gather site-specific data and photos with regards to botanical, biological, threatened and endangered species, eagle, and water resources. A study area of 10 acres centered on each well pad center point and a 200-foot wide access road corridor were evaluated for each site. In addition, two follow-up eagle surveys were conducted on July 28, 2011 and April 30, 2012 by KL&J. A 0.50 mile wide buffer around all areas of project disturbance was used to evaluate the presence of eagles and eagle nests. Resources were evaluated using visual inspection and pedestrian transects across the sites. ***Please refer to the enclosed Study Area Map and Eagle Buffer Map.***

Eagle and Bears Ghost Well Pads
Marathon Oil Company
Fort Berthold Reservation

The BIA-facilitated EA on-site assessment of the well pads and access roads were conducted on July 27, 2011 with the BIA also present for the Eagle well pad revisits conducted on October 4, 2011 and April 17, 2012. The BIA Environmental Protection Specialist, as well as representatives from the Tribal Historic Preservation Office, Marathon, and KL&J were present. During these assessments construction suitability with respect to topography, stockpiling, drainage, erosion control, and other surface issues were considered. The well pad and access road locations were finalized, and the BIA gathered information needed to develop site-specific mitigation measures and best management practices (BMPs) to be incorporated into the final APDs. Those present at the on-site assessments agreed that the chosen locations are positioned in areas which would minimize impacts to sensitive wildlife and botanical resources and that the environmental commitments made by Marathon would further minimize harm to the environment. BMPs and other commitments Marathon has made to avoid, minimize, or mitigate impacts are listed at the end of this letter.

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

Whooping cranes use shallow, seasonally and semi-permanently flooded palustrine (marshy) wetlands for roosting, and various cropland and emergent wetlands for feeding. There were no wetlands observed on or near either of the proposed well pad sites. Both sites occur on open rangeland that is moderately grazed by livestock. The proposed projects are located within 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. Therefore, the proposed project may affect but is not likely to adversely affect whooping cranes. Per USFWS recommendations on previous projects of a similar nature, if a whooping crane is sighted within one-mile of a well site or associated facilities while under construction, all work would cease within one-mile of that part of the project and the USFWS would be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area.

Suitable habitat for the interior least tern and critical habitat for the piping plover are largely associated with the shoreline of the Little Missouri River or back bay of Lake Sakakawea depending on water elevations. Potential habitat for these

Eagle and Bears Ghost Well Pads
Marathon Oil Company
Fort Berthold Reservation

species exists approximately 1.07 miles southwest of the proposed sites at the nearest point (Eagle Well Pad), or about 1.44 miles away following the shortest drainage pattern to the Lake (Bears Ghost Well Pad). The well pads and access roads are located on upland bluffs of rangeland with the Little Missouri River and its shoreline located approximately 500 feet below the bluffs. The topographic features of the area and distance from the shoreline should assist in providing sight and sound buffers for shoreline-nesting birds.

Suitable habitat for the pallid sturgeon is found within the Little Missouri River/Lake Sakakawea, located approximately 1.44 miles away following the shortest drainage pattern to the River (Bears Ghost Well Pad).

The proposed projects are located 1.44 miles from the Little Missouri River/Lake Sakakawea (following the shortest drainage pattern), making the potential for significant quantities of accidentally released fluids reaching the River unlikely, but reasonably feasible. Storage tanks and the heater/treaters would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from each site. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. Berming would be utilized around cut slopes to prevent run-on at each pad and, where BIA determines necessary, pit and soil stockpiles would be used to divert drainage outside of the cut slopes. 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 the Little Missouri River/Lake Sakakawea and its associated habitats is reasonably feasible but unlikely. Therefore, the proposed project may affect but is not likely to adversely affect the interior least tern, pallid sturgeon, or piping plover. The proposed project is not likely to impact critical habitat for the piping plover.

The black-footed ferret historically could be found throughout the Rocky Mountains and Great Plains. Preferred habitat for the black-footed ferret includes areas around prairie dog towns, as ferrets rely on prairie dogs for food and live in prairie dog burrows. Black-footed ferrets require at least an 80-acre prairie dog town to survive. In North Dakota, the southwestern corner of the state provided suitable habitat and supported the black-footed ferret. However, this species has not been confirmed in North Dakota for nearly 30 years and is presumed extirpated. The proposed Eagle and Bears Ghost well pads are located approximately ½ mile west of an active prairie dog town. This town is greater than 80-acres in size but was previously cleared by the BIA and USFWS for a previous well pad project. Due to a lack of known populations within North Dakota, the proposed project is anticipated to have no effect to the black-footed ferret.

Eagle and Bears Ghost Well Pads
Marathon Oil Company
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Historically, the gray wolf's preferred habitat includes biomes such as boreal forest, temperate deciduous forest, and temperate grassland. While the gray wolf is not common in North Dakota, occasionally individual wolves do pass through the state. The project sites are located far from other known wolf populations and are positioned on open rangeland that would not likely provide sufficient cover for gray wolves. No wolves or indications of wolves were observed during the field survey. Due to a lack of preferred habitat characteristics and known populations, the proposed project is anticipated to have no effect to the gray wolf.

The preferred habitat for the Dakota skipper consists of undisturbed, flat, moist bluestem prairies and upland prairies with an abundance of wildflowers. The proposed sites consist of moderately grazed rangeland that could potentially provide suitable Dakota skipper habitat as grazing patterns change. Upland prairie and wildflower species were observed. No Dakota skippers were observed during the field survey; however, the survey took place outside of the brief adult flight period for the Dakota skipper. Due to the presence of potential habitat for the Dakota skipper within the project area, the proposed action may impact individuals or habitat. An "effect determination" under Section 7 of the Endangered Species Act has not been made due to the current unlisted status of the species.

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 of intermediate height with high plant species diversity. The Sprague's pipit breeds in habitat with minimal human disturbance. The proposed project areas consist of moderately grazed upland mixed-grass prairie. Although the overall health and productivity of the site compared to historical conditions are unknown, as grazing patterns change, the site may contain the prairie habitat necessary for the Sprague's pipit. No Sprague's pipit were observed during the field survey. Due to the presence of potential habitat for the Sprague's pipit within the project area, the proposed action may impact individuals or habitat. An "effect determination" under Section 7 of the Endangered Species Act has not been made due to the current unlisted status of the species.

Botanical Resources: The Eagle well site study area consisted of native and non-native upland grasses and shrubs that have been disturbed by livestock grazing. The proposed well pad was dominated by Kentucky bluegrass (*Poa pratensis*), needle and thread (*Hesperostipa comata*), fringed sage (*Artemisia frigida*), prairie coneflower (*Ratibida columnifera*), and prairie junegrass (*Koeleria macrantha*). Small patches of creeping juniper (*Juniperus horizontalis*) were also observed along with Missouri goldenrod (*Solidago missouriensis*). No wetlands or noxious weeds were observed within the study area. There are no threatened or endangered plant species listed for Dunn County.

Eagle and Bears Ghost Well Pads
Marathon Oil Company
Fort Berthold Reservation

The Bears Ghost well site study area also consisted of native and non-native upland grasses and shrubs that have been disturbed by livestock grazing. The proposed well pad was dominated by Kentucky bluegrass, needle and thread, fringed sage, and common ragweed (*Ambrosia artemisiifolia*). Little bluestem (*Schizachyrium scoparium*) and goats beard (*Tragopogon dubius*) were also observed in small patches. Western snowberry (*Symphoricarpos occidentalis*) was observed in small patches along the proposed access road and throughout the proposed well site. No wetlands or noxious weeds were observed in the study area.

Biological Resources: The project areas contain suitable habitat for mule deer, whitetail deer, sharp-tailed grouse, turkey, ring-necked pheasant, golden eagle, bald eagle, red tail hawk, kestrel, badger, song birds, coyote, red fox, cottontail rabbit, jackrabbit, mountain lion, and North American porcupine. The following wildlife and/or migratory bird species were observed during the field survey/on-site assessment and eagle survey:

- Eagle Well Pad – Turkey Vulture
- Bears Ghost Well Pad– Red-Tailed Hawk

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

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% of the capacity of the largest storage tank plus one full day's production. BMPs to minimize wind and water erosion of soil resources, as well as implementation of a semi-closed mud/cuttings system with an on-site cuttings pit during drilling, would be put into practice. A berm would also be installed around the entire Eagle well pad and a retention area would be installed in the northwest corner of the pad. The entire pad would be sloped towards the retention area which would collect any fluids that accumulate on the pad due to precipitation and other unlikely but possible undesirable events. All fluid would be handled and disposed of in accordance with applicable regulations.

It is anticipated that construction of the proposed sites would take place after July 15 and would therefore avoid the migratory bird nesting and breeding season

Eagle and Bears Ghost Well Pads
Marathon Oil Company
Fort Berthold Reservation

(between February 1 and July 15). In the event that construction is delayed and should occur during future migratory bird nesting and breeding seasons, a qualified biologist would conduct pre-construction surveys for migratory birds or their nests within five days prior to the initiation of all construction activities. The findings of these surveys would be reported to USFWS.

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

Eagles: Ground surveys for eagle nests were conducted on July 27, 2011 and July 28, 2011. During these surveys, no eagles or eagle nests were observed. 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 (last updated in 2010), the closest recorded golden eagle nest is located approximately 1.6 miles south of the proposed Bears Ghost site. During the eagle survey, an attempt to locate this site was unsuccessful and it was concluded that the nest is no longer present. If a bald or golden eagle nest is sighted within 0.5 miles of the project area during construction, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.

Water Resources: The Eagle well site is situated on an upland area with drainages to the southwest and north. The entire Eagle pad would be bermed and would be sloped to a retention "area" on the pad that would collect any fluids that accumulate on the pad due to precipitation (freshwater) and other unlikely but possible undesirable events. All of this fluid would be handled in accordance with all applicable regulations including stormwater and Spill Prevention Control and Countermeasure (SPCC) rules and disposed of properly. The topography of the area, the pad configuration, and berming would prevent the site from draining towards these areas. In the event that runoff were to flow off of the well pad, it would drain into a series of ravines located southwest and north of the proposed well pad. From here, it would flow in a generally southern direction into the Little Missouri River/Lake Sakakawea. The total traveled drainage distance from the proposed well site to the Little Missouri River/Lake Sakakawea would be approximately 1.48 miles. The nearest wooded draw is approximately 100 feet north of the proposed well pad. Culverts along the proposed access roads would be implemented as necessary to avoid drainage impacts. ***Please refer to the enclosed Drainage Map.***

Eagle and Bears Ghost Well Pads
Marathon Oil Company
Fort Berthold Reservation

The Bears Ghost well site is also situated on an upland area. Runoff from the well pad would flow overland for approximately 0.25 miles before draining into a series of ravines located southwest of the proposed well pad. From there, it would continue to flow in a generally southwest direction, draining into the Little Missouri River/Lake Sakakawea for a total traveled distance of approximately 1.44 miles. The nearest wooded draw is approximately 0.30 miles southwest of the proposed well pad. Culverts along the proposed access roads would be implemented as necessary to avoid drainage impacts.

Best Management Practices: BMPs for soil and wind erosion would be implemented as needed to include over-seeding of cut areas and spoil piles, as well as the use of diversion ditches, silt fences, and/or mats. Any woody vegetation removed during site construction would be chipped and incorporated into topsoil stockpiles. The alteration of drainages near the proposed well pads would be avoided. Berming would be utilized around cut slopes to prevent pad run-on, and, where BIA determines necessary, pit and soil stockpiles would be used to divert drainage outside of the cut slopes. Culverts to maintain drainage along the access roads would also be installed where needed. Upon well completion, a portion of each well pad would be reclaimed to further avoid environmental areas of concern. In addition, a retention area would be installed at the Eagle well site to prevent rain water from running off site.

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

- A semi-closed mud/cuttings system with an on-site cuttings pit would be used during drilling at each site. Drill cuttings would be stabilized before being placed in the reinforced lined cuttings pit. The reinforced lining of the cuttings pit would have a minimum thickness of 20 mil to prevent seepage and contamination of underlying soil. Any minimal fluids remaining in drill cuttings pit would be removed and disposed of in accordance with BLM and NDIC rules and regulations. All liquids from drilling would be transported off-site. The drill cuttings pit would be reclaimed to BLM and North Dakota Industrial Commission (NDIC) standards immediately upon finishing completion operations.
- Prior to their use, the cuttings pits 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 pits.
- Berming would be utilized around cut slopes to prevent runoff from entering the pads and, where BIA determines necessary, pit and soil stockpiles would be used to divert drainage outside of the cut slopes.

Eagle and Bears Ghost Well Pads
Marathon Oil Company
Fort Berthold Reservation

- The entire Eagle pad would be bermed and would be sloped to a retention "area" on the pad that would collect any fluids that accumulate on the pad due to precipitation (freshwater) and other unlikely but possible undesirable events. All of this fluid would be handled in accordance with all applicable regulations including stormwater and Spill Prevention Control and Countermeasure (SPCC) rules and disposed of properly.
- It is anticipated that construction of the proposed sites would take place after July 15 and would therefore avoid the migratory bird nesting and breeding season (between February 1 and July 15). In the event that construction is delayed and should occur during future migratory bird nesting and breeding seasons, a qualified biologist would conduct pre-construction surveys for migratory birds or their nests within five days prior to the initiation of all construction activities. The findings of these surveys would be reported to USFWS.
- Measures implemented during construction to avoid the taking of migratory bird species would include: the use of suitable mufflers on all internal combustion engines; certain compressor components to mitigate noise; only utilizing approved roadways; placing wire mesh or grate covers over barrels or buckets placed under valves and spigots to collect dripped oil; maintaining open pits and ponds that are free from oil, and netting the cuttings pits with netting that has a maximum mesh size of 1.5 inches.
- Per USFWS recommendations on previous projects of a similar nature, if a whooping crane is sighted within one-mile of either well site or associated facilities while under construction, all work would cease within one-mile of that part of the project and the USFWS would be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area.
- 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% of the capacity of the largest storage tank plus one full day's production. BMPs would be implemented to minimize wind and water erosion of soil resources and a semi-closed loop mud/cuttings system would be used during drilling. Berming would be utilized around cut slopes to prevent run on, and, where BIA determines necessary, pit and soil stockpiles would be used to divert drainage outside of the cut slopes.
- Per BIA guidance, interim reclamation measures would 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 would contact BIA to request an extension.
- All utility/pipelines would be installed belowground

Eagle and Bears Ghost Well Pads
Marathon Oil Company
Fort Berthold Reservation

- When deemed necessary, Marathon would provide dust control for their access roads and haul roads.

To ensure that social, economic, and environmental effects are considered in the development of this project, we are soliciting your views and comments on the proposed development of this project, pursuant to Section 102(2) (D) (IV) of the National Environmental Policy Act of 1969, as amended. We 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. Any information that might help us in our study would be appreciated.

It is requested that any comments or information be forwarded to our office on or before **June 18, 2011**. We request your comments by that date to ensure that we would have ample time to review them and incorporate them into the necessary environmental documentation.

If you would like further information regarding this project, please contact me at (701) 271-2100. Thank you for your cooperation.

Sincerely,

Kadmas, Lee & Jackson, Inc.



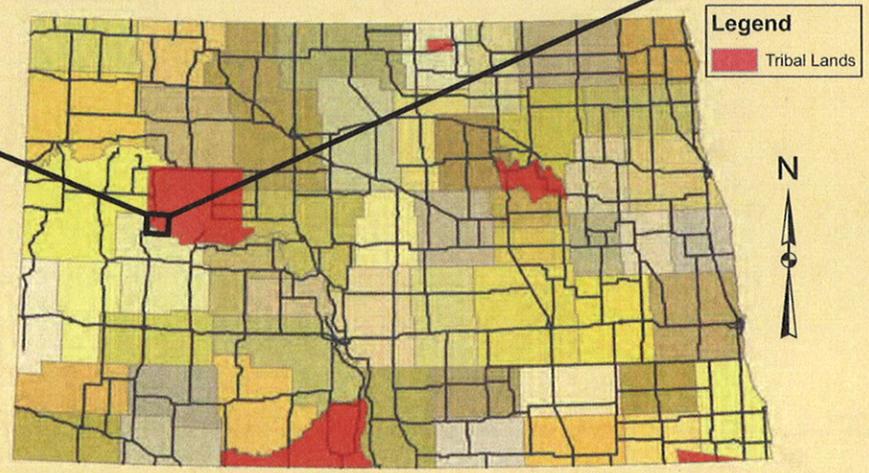
Mike Huffington
Environmental Planner

Enclosures (Maps)

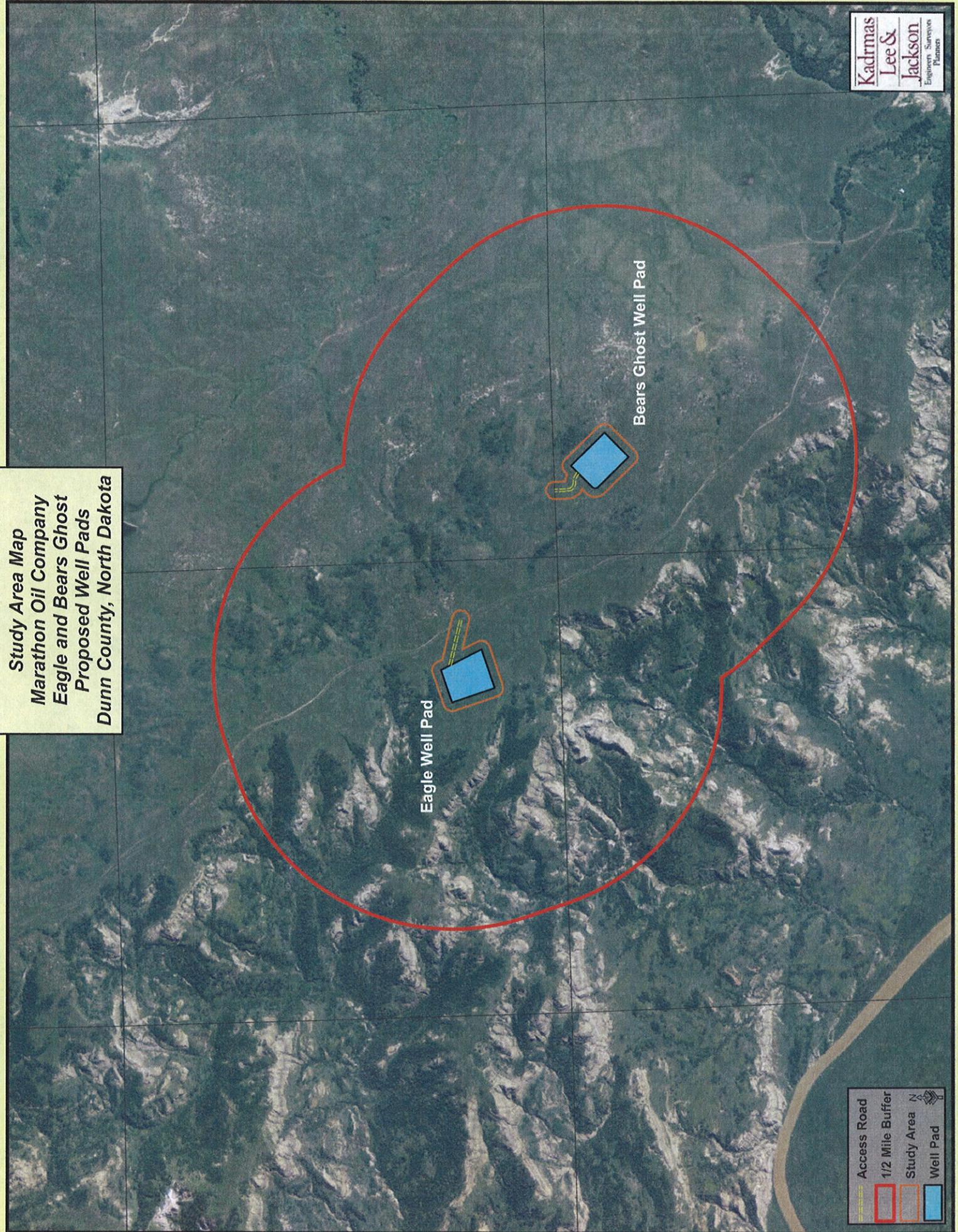
Project Location Map



**Marathon Oil Company
Bears Ghost & Eagle
Proposed Well Pads
Dunn County, ND**



Study Area Map
Marathon Oil Company
Eagle and Bears Ghost
Proposed Well Pads
Dunn County, North Dakota

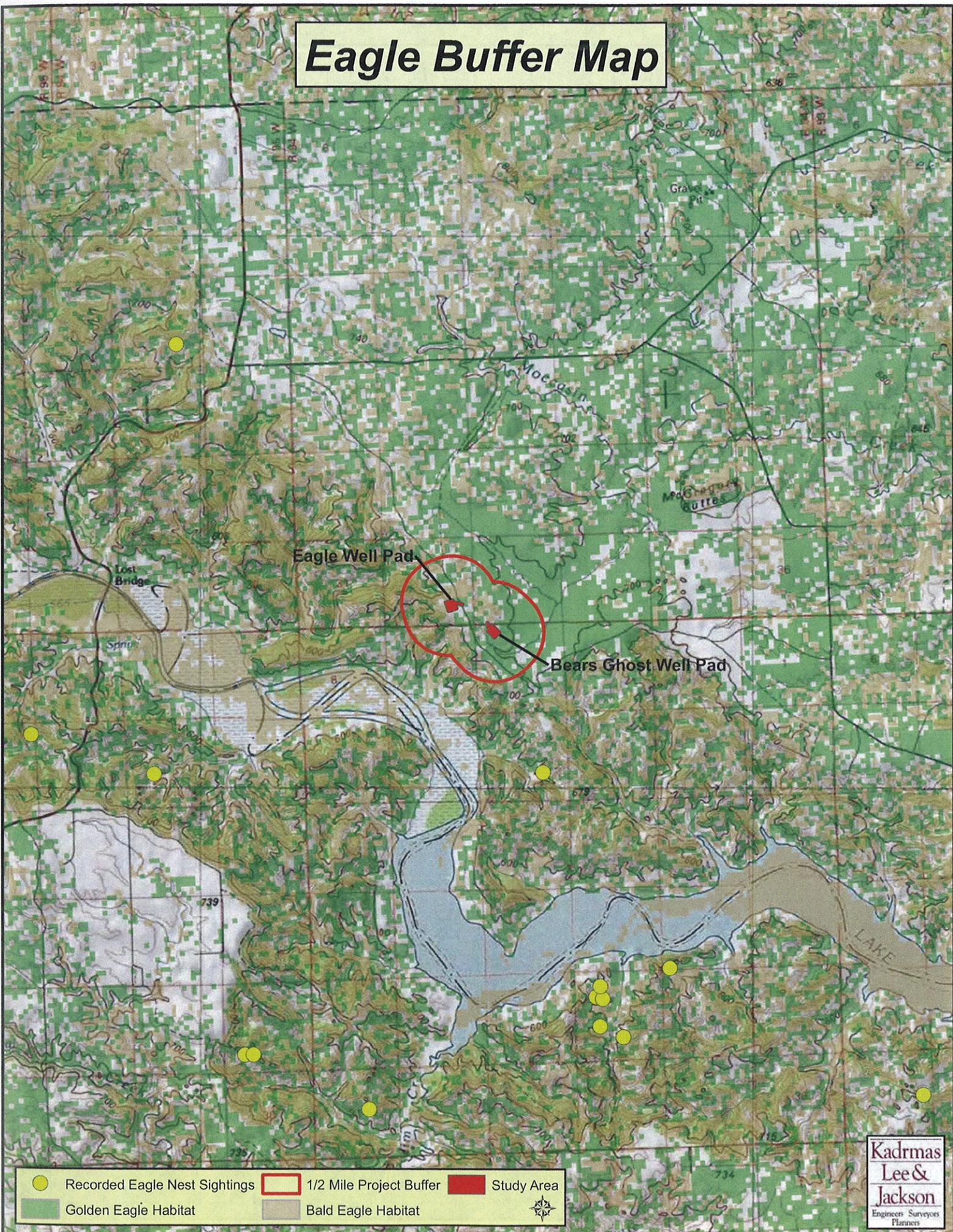


Eagle Well Pad

Bears Ghost Well Pad

Access Road
1/2 Mile Buffer
Study Area
Well Pad

Eagle Buffer Map



Eagle Well Pad

Bears Ghost Well Pad

- Recorded Eagle Nest Sightings
- Golden Eagle Habitat
- 1/2 Mile Project Buffer
- Bald Eagle Habitat
- Study Area

Drainage Map

Eagle Well Pad

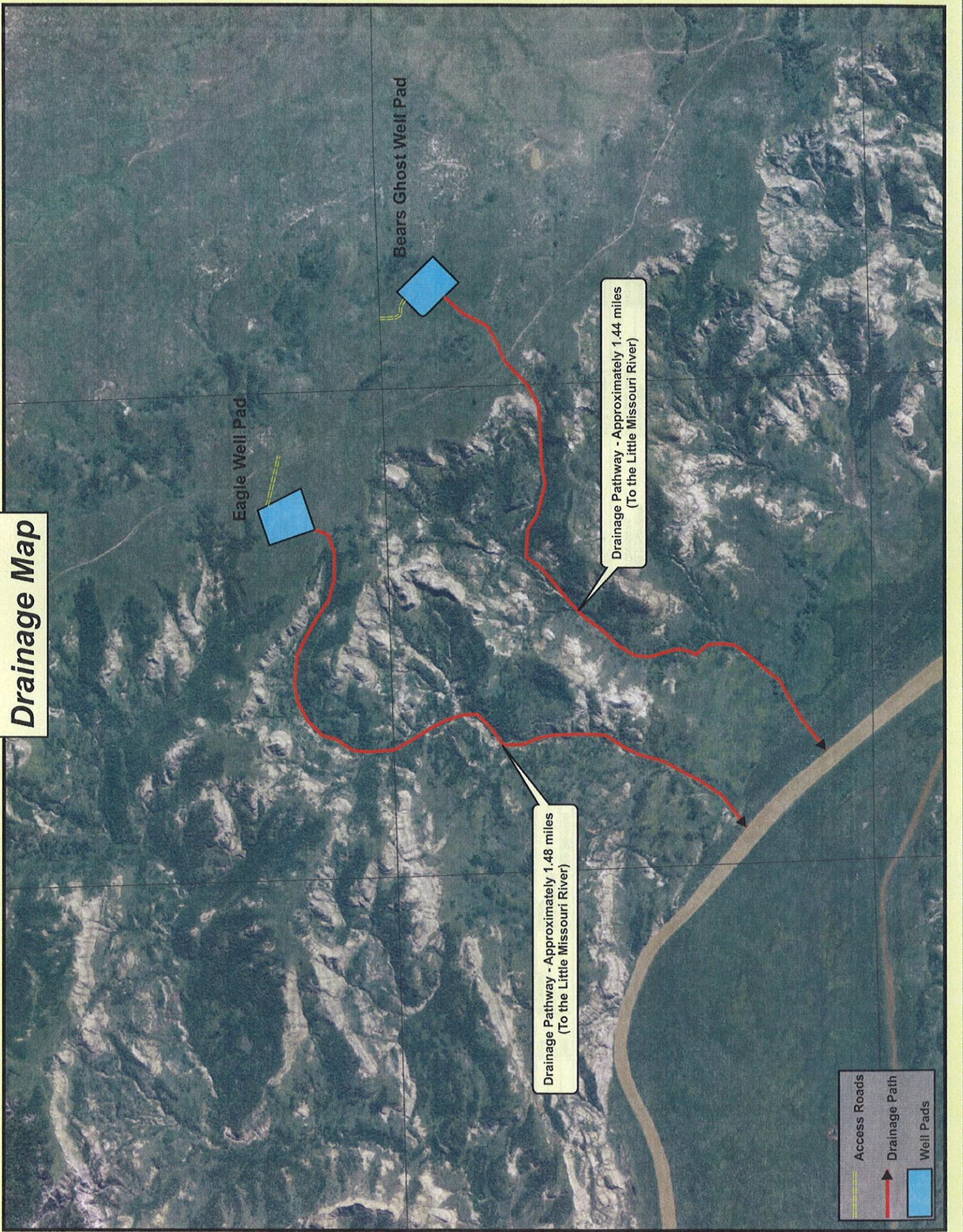
Bears Ghost Well Pad

Drainage Pathway - Approximately 1.44 miles
(To the Little Missouri River)

Drainage Pathway - Approximately 1.48 miles
(To the Little Missouri River)

Legend:

- Access Roads (dashed yellow line)
- Drainage Path (red line with arrowhead)
- Well Pads (blue square)



Marathon Oil Company
Scoping Mailing List

CTitle	First	Last	Title	Department	Agency	Address	City	State	Zip
Mr.	Weldon Jeffrey	Loudermilk	Regional Director		Bureau of Indian Affairs	115 4th Ave. SE	Aberdeen	SD	57401
Mr.	Thomas Schauer	Desjardis	Environmental Protection Specialist		Bureau of Indian Affairs	202 Main Street	New Town	SD	58763
Sir	Dan Cimarcosi	or Madam	Manager	Environmental Management Division	Bureau of Reclamation	PO Box 1017	Bismarck	ND	58502-1017
Mr.	Charles Sorensen		Manager	Bismarck Airports District Office	Federal Aviation Administration	2301 University Drive, Bldg 23B	Bismarck	ND	58504
Mr.	Charles Sorensen		Natural Resource Specialist	ND Regulatory Office	US Army Corps of Engineers	1513 S. 12th St.	Bismarck	ND	58504
Sir	Mary Podol	or Madam	CENWQ-PM-AC	Rivendale Field Office	US Army Corps of Engineers	PO Box 527	Rivendale	ND	58565
Ms.	Gerald Paulson		State Conservationist	Environmental Resources MRRP Plan Formulation	US Army Corps of Engineers, Omaha District	1616 Capital Avenue	Omaha	NE	68102
Ms.	Suzanne Bohan		Director, Transmission Line Substations	ND Maintenance Office	Natural Resources Conservation Service	220 East Rosser Avenue	Bismarck	ND	58501
Mr.	Richard Clark		Director	NEPA Program, Region 8	US Department of Energy	PO Box 1173	Bismarck	ND	58502-1173
Mr.	Jeffrey Towner		Wellbore Coordinator	Region 8, EPR-EP	Western Area Power Admin.		Denver	CO	80202-1129
Mr.	Irvin Russell		Field Supervisor	ND Field Office	US Environment Protection Agency	1595 Wynkoop Street	Denver	CO	80202-1129
Mr.	Scott Davis		Assistant State Conservationist		US Fish & Wildlife Service	3425 Miram Ave.	Bismarck	ND	58501
Mr.	Gregg Wicha		Executive Director		US Department of Agriculture	PO Box 1458	Bismarck	ND	58502-1458
Mr.	L. David Glatt		Director	Water Resources Division	Indian Affairs Commission	600 E. Blvd. Ave.	Bismarck	ND	58505-0300
Mr.	Steve Dyke		Chief	Environmental Health Section		1st Floor, Judicial Wing, Rm 117	Bismarck	ND	58501
Mr.	Ed Murphy		Conservation Section Supervisor	Gold Seal Center		821 E. Interstate Ave.	Bismarck	ND	58501-1947
Mr.	Mark Todd	Zimmerman	State Geologist			918 E. Divide Ave., 4th floor	Bismarck	ND	58501-1947
Mr.	Scott Hochhalter		State Engineer			100 Bismarck Expressway	Bismarck	ND	58501-5095
Mr.	Bill Boyd		Soil Conservation Specialist	NDSU Extension Service		600 E. Blvd. Avenue	Bismarck	ND	58505-0840
Mr.	Doug Dixon		Construction Manager			1600 E. Century Ave., Suite 3	Bismarck	ND	58503-0649
Mr.	John Skunupay	or Madam	General Manager	Badlands Region		900 E. Blvd. Ave.	Bismarck	ND	58505-0850
Sir	Mary Massad	or Madam	General Manager			2718 Gateway Ave., # 104	Bismarck	ND	58503
Ms.	David C. Schalkoph		CEO			719 Memorial Hwy	Bismarck	ND	58501
Sir	Joe Gillies	or Madam	Manager	Right of Way Department		PO Box 1406	Williston	ND	58802-1406
Sir	Lomy Bagley		District Engineer			PO Box 649	Warford City	ND	58854-0649
Mr.	Michael Seavage		Assistant Field Office Manager			13710 FNB Parkway, Suite 300	Omaha	NE	68154
Ms.	Charles Murphy		Tribal Chairman			4665 2nd St. SW.	Dickinson	ND	58601
Mr.	Elgin Crows Breast		Tribal Chairman			PO Box 1038	Dickinson	ND	58602-1038
Mr.	Tex Hall		Tribal Chairman			PO Box 2747	Fargo	ND	58108-2747
Mr.	Merle Williams	St. Claire	Tribal Chairman			355 Main St.	New Town	ND	58763
Mr.	Damon Fox		Tribal Attorney			1700 3rd Ave W, Suite 101	Dickinson	ND	58601-3009
Ms.	Fred V. Judy		Director			99 23rd Ave W, Suite A	Dickinson	ND	58601
Mr.	Arnold Strabs		Representative			PO Box 509	Sisston	SD	57262-0267
Mr.	Scott Eagle		Representative			PO Box 359	Fl. Totten	ND	58325
Mr.	Mervin Packineau		Representative			PO Box D	Fort Yates	ND	58538
Mr.	Frank Whitecalf		Representative			404 Frontage Road	New Town	ND	58763
Mr.	Berry Benson		Representative			H-C3 Box 2	New Town	ND	58763
Mr.	Fred Poltra		Representative			H-C3 Box 2	New Town	ND	58763
Mr.	Leslie Crowsheart		Director			PO Box 900	Belcourt	ND	58316-0900
Mr.	Brooks Goodall		Operations Manager			404 Frontage Road	New Town	ND	58763
Mr.	Reinhard Hauck		Auditor			404 Frontage Road	New Town	ND	58763
Mr.	Glen Eckelberg		Chairman			PO Box 665	Mandaree	ND	58757
Mr.	Darrell Nodland		Operations Specialist			404 Frontage Road	New Town	ND	58763
Mr.						PO Box 468	Parshall	ND	58770
Mr.						70879 E Ave NW	New Town	ND	58636
Mr.						404 Frontage Road	Halliday	ND	58636
Mr.						308 Four Bears Complex	New Town	ND	58763
Mr.						PO Box 68	Parshall	ND	58770-0688
Mr.						PO Box 105	Manning	ND	58642
Mr.						266 2nd Avenue NW	Killeer	ND	58640
Mr.						3172 ND 22	Dickinson	ND	58601

Appendix B

Agency Scoping Responses

List of Scoping Responses

Marathon Oil Company

Environmental Assessment for Drilling of

*21-5H, 21-5TFH, 41-5H, 41-5TFH (Eagle USA Well Pad)
11-4H, 11-4TFH, and 21-4TFH (Bears Ghost USA Well Pad)*

Oil & Gas Wells

*Fort Berthold Indian Reservation
Dunn County, North Dakota*

Federal

U.S. Department of Agriculture – Natural Resources Conservation Service

U.S. Department of the Army – Corps of Engineers, Garrison Dam/Lake Sakakawea Project

U.S. Department of the Army – Corps of Engineers, North Dakota Regulatory Office

U.S. Department of the Army – Corps of Engineers, Planning, Programs, and Project Management Division

U.S. Department of the Interior – Bureau of Reclamation

U.S. Department of the Interior – Fish and Wildlife Service

U.S. Department of Transportation – Federal Aviation Administration

State

North Dakota Department of Health

North Dakota Game and Fish Department

North Dakota Parks and Recreation Department

North Dakota State Water Commission

Local

N/A

United States Department of Agriculture



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

June 1, 2012

Mike Huffington
Kadmas, Lee & Jackson
128 Soo Line Drive
PO Box 1157
Bismarck, ND 58502-1157

RE: Marathon Oil Company
Eagle and Bears Ghost Well Pads
Dunn County, ND

Dear Mr. Huffington:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated May 17, 2012, concerning the Eagle and Bears Ghost well pads on the Fort Berthold Reservation in Dunn County, North Dakota.

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

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

Helping People Help the Land

An Equal Opportunity Provider and Employer

Mr. Huffington
Page 2

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

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

Sincerely,



ACTING FOR

STEVEN J. SIELER
State Soil Scientist/MO 7 Leader (Acting)

From: [Sorenson, Charles G. NWO](#)
To: [Mike Huffington](#)
Cc: [Ames, Joel O. NWO](#)
Subject: Marathon Oil Companies Bear Ghost, and Eagle (UNCLASSIFIED)
Date: Friday, May 18, 2012 3:42:17 PM

Classification: UNCLASSIFIED
Caveats: NONE

Mike

Thank you for letting the U.S. Army Corps of Engineers Garrison Dam/Lake Sakakawea Project comment on Marathon Oil Companies Bear Ghost, and Eagle well pad location within the boundaries of the Fort Berthold Indian Reservation.

At this time, the U.S. Army Corps of Engineers Garrison Dam/Lake Sakakawea Project would request that Marathon Oil Company consider and implement the following management practices during the exploration phase of the aforementioned well.

Due to the close proximity of the well location to lands managed by the U.S. Army Corps of Engineers (USACE) there is a high risk that any storm water runoff from the well location will enter the Little Missouri River/Lake Sakakawea. As such, the USACE would request that Marathon Oil Company construct an impervious lined trench located on the down sloping side of each of the well pads to catch and hold any storm water runoff from the well pads. Fluids that accumulate in the trench should be pumped/removed from the trench and disposed of properly. In addition to the catch trench, the USACE also recommends that the well pad have an impervious type liner placed on the pad location prior to the construction of the pad.

As the proposed well site is adjacent to lands managed by the USACE, there exists a high possibility of contamination to the Little Missouri River/Lake Sakakawea from both storm water runoff as well as the possibility of oil and or salt water should the well be a producer. The possibility of contamination from both the well pad and a possible producing well on the well pad locations is a great concern to this agency. To aid in the prevention of hazardous wastes from possibly entering the Little Missouri River/Lake Sakakawea, the USACE would strongly recommend that a Closed Loop Drilling Method be used in the exploration phase of the well to include all drilling fluids and cuttings.

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

Should additional fill material required for the construction of the well pad and access road that said material must be obtained from a private supplier, whose material has been certified as being free of all noxious weeds.

Prior to the construction the well pad, all equipment associated in construction of the well pads, must be either pressure washed or air blasted to remove any existing dirt or vegetation from the machinery in an effort to prevent the transportation of noxious or undesirable vegetation onto Tribal lands as well as USACE managed lands. The cleaning of the equipment should be done prior to the equipment entering tribal lands. The same cleaning requirement should be adhered to for equipment associated with the drilling and production phase of the well also.

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

If possible, all construction activities should occur between August 15 and April 1.

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

- a. Has the project area already been degraded, and if so, to what extent?
- b. Are other ongoing activities in the area causing impacts, and if so, to what extent?
- c. What is the likelihood that this project will lead to a number of associated projects?
- d. What are the trends for activities and impacts in the area

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

Classification: UNCLASSIFIED
Caveats: NONE



REPLY TO
ATTENTION OF

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

RECEIVED
MAY 29 2012
BY: JB

May 18, 2012

North Dakota Regulatory Office

Kadmas Lee and Jackson
Attn: Mike Huffington
128 Soo Line Drive
Bismarck, ND 58502-1157

Dear Mr. Huffington:

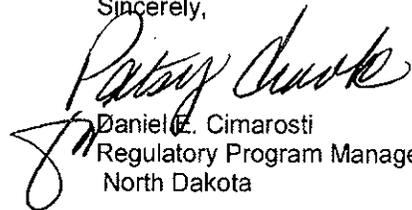
This is in response to your letter dated May 17, 2012 on behalf of Marathon Oil Company, under the National Environmental Policy Act for the Bureau of Indian Affairs and Bureau of Land Management, requesting U.S. Army Corps of Engineers (Corps) comments in regards to the development of two oil pads, one three well pad and one four well pad, resulting in the drilling and completion of seven oil and gas wells on the Fort Berthold Indian Reservation. The Bear Ghost USA (three well) is located in Section 4, Township 147 North, Range 94 West and the Eagle USA (four well) is located in Section 32, Township 148 North, Range 94 West in Dunn County, North Dakota.

Corps Regulatory Offices administer Section 10 of the Rivers and Harbors Act (Section 10) and Section 404 of the Clean Water Act (Section 404). Section 10 regulates work in or affecting navigable waters. This would include work over, through, or under Section 10 waters. Section 10 waters in North Dakota are the Missouri River (including Lake Sakakawea and Lake Oahe), Yellowstone River, James River south of the railroad track in Jamestown, North Dakota, Bois de Sioux River, Red River of the North, and the Upper Des Lacs Lake. Section 404 regulates the discharge of dredge or fill material (temporarily or permanently) in waters of the United States. Waters of the United States may include, but is not limited to, rivers, streams, ditches, coulees, lakes, ponds, and their adjacent wetlands. Fill material includes, but is not limited to, rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mines or other excavation activities and materials used to create any structure or infrastructure in waters of the United States.

For any proposed well where the well line and/or bottom hole is under or crosses under Lake Sakakawea, regardless of depth, we require that project proponent submit a completed permit application (ENG Form 4345) to the Corps. Include a location map and description of all work associated with the proposal, i.e., well bore, road construction, utility lines, etc. Send the completed application to the U.S. Army Corps of Engineers; North Dakota Regulatory Office; 1513 South 12th Street; Bismarck, North Dakota; 58504.

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

Sincerely,


Daniel Z. Cimarosti
Regulatory Program Manager
North Dakota

Enclosure
ENG Form 4345

CF w/o encl
EPA Denver (Brent Truskowski)

**APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT
(33 CFR 325)**

**OMB APPROVAL NO. 0710-0003
EXPIRES: 31 August 2012**

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

PRIVACY ACT STATEMENT

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

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

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
--------------------	----------------------	------------------	------------------------------

(ITEMS BELOW TO BE FILLED BY APPLICANT)

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

STATEMENT OF AUTHORIZATION

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

APPLICANT'S SIGNATURE

DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)			
13. NAME OF WATERBODY, IF KNOWN (if applicable)		14. PROJECT STREET ADDRESS (if applicable) Address	
15. LOCATION OF PROJECT Latitude: °N Longitude: °W		City -	State - Zip -
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) State Tax Parcel ID Municipality Section - Township - Range -			
17. DIRECTIONS TO THE SITE			

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

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

20. Reason(s) for Discharge

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

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

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

Acres
Or
Liner Feet

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

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

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

Address --

City -- State -- Zip --

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

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

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

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

SIGNATURE OF APPLICANT

DATE

SIGNATURE OF AGENT

DATE

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

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

**Instructions for Preparing a
Department of the Army Permit Application**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DRAWINGS AND ILLUSTRATIONS

General information.

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

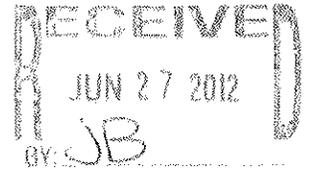
Please submit one original, or good quality copy, of all drawings on 8½ x11 inch plain white paper (electronic media may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations.

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



REPLY TO
ATTENTION OF

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



May 30, 2012

Planning, Programs, and Project Management Division

Kadmas Lee & Jackson
Attention: Mr. Mike Huffington
128 Soo Line Drive
P.O. Box 1157
Bismarck, North Dakota 58502

Dear Mr. Huffington:

The U.S. Army Corps of Engineers, Omaha District (Corps) has reviewed your letter dated May 17, 2012, regarding Marathon Oil Company's proposed development, drilling and completion of seven wells on two tiered well pads on the Fort Berthold Reservation in Dunn County, North Dakota.

As a member of the Working Group established by Executive Order (EO) #13605 by President Barack Obama, the Departments of Interior and Defense support the safe discovery and development of domestic natural oil and gas resources and have the right to regulate such activities on public and Indian trusts lands. Potential degradation to natural resources and the impact that may have on humans should be considered in order to responsibly develop our oil and gas resources. The Working Group must address other members, including the Corps, concerns to ensure our natural resources and public health and safety is preserved in order for these unconventional domestic natural gas and oil programs to be successful. The Corps requests that full consideration be given in the Environmental Assessment (EA) to the following comments.

The Corps requests the BIA complete a thorough cumulative impact evaluation this action would have when combined with other past, present and reasonably foreseeable actions regarding oil and gas development on the Fort Berthold Reservation (40 CFR §1508.7). Since August of 2009, the Omaha District has received scoping letters requesting comments on the construction of over 500 wells. Many of these wells are very close to Lake Sakakawea, which is managed by the Corps. From a cumulative impacts perspective, the risk of adverse cumulative impacts to Lake Sakakawea may increase with each well constructed within such a close proximity to the lake. Setting back wells and locating them away from drainages that connect directly to the lake should be considered in the alternative analysis.

The Corps is aware of recent reports that describe environmental impacts associated with the use of open drilling waste pits in North Dakota. These open pits may be susceptible to flooding, which may threaten drinking water supplies, wildlife, soil and other water resources. Due to the proximity of the proposed wells to Lake Sakakawea, a significant drinking water resource, the Corps strongly encourages the applicant to use a complete closed loop drilling system. A

proximity of the proposed wells to Lake Sakakawea, a significant drinking water resource, the Corps strongly encourages the applicant to use a complete closed loop drilling system. A complete closed loop drilling system may reduce or eliminate the discharge of toxic drilling wastes and their potential negative impacts to the environment.

The Corps is also aware that the Bureau of Indian Affairs is currently developing a programmatic EA for oil and gas development on the Fort Berthold Reservation. The Corps requests Marathon Oil Company include some information about the programmatic evaluation in the site specific EA. It is important for the reader to know that an overarching analysis is currently underway that will address the scale and rapid development of oil and gas wells within this region.

In addition to the comments provided above, it is recommended for Marathon Oil Company to complete the following actions:

a. Your plans should be coordinated with the state water quality office in which the project is located to ensure compliance with federal and state water quality standards and regulations mandated by the Clean Water Act and administered by the U.S. Environmental Protection Agency (EPA). Please coordinate with the North Dakota Department of Health concerning state water quality programs.

b. Consult with the U.S. Fish and Wildlife Service and the North Dakota Game and Fish Department regarding fish and wildlife resources. In addition, the North Dakota State Historic Preservation Office should be contacted for information and recommendations on potential cultural resources in the project area.

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

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

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

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

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

Sincerely,



Randal P. Sellers
Acting Chief, Environmental Resources and Missouri
River Recovery Program Plan Formulation Section



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

MAY 31 2012

Mr. Mike Huffington
Environmental Planner
Kadmas, Lee, & Jackson, Inc.
P.O. Box 1157
Bismarck, ND 58502-1157

Subject: Solicitation for an Environmental Assessment by BIA and BLM for the Construction of a Triple Well Pad and a Quadruple Well Pad for Multiple Oil and Gas Wells by Marathon Oil on the Fort Berthold Reservation in Dunn County, North Dakota

Dear Mr. Huffington:

This letter is written to inform you that we received your letter of May 17, 2012, and the information and map have been reviewed by Bureau of Reclamation staff.

Your well pads are located at:

Bears Ghost Section 4, T147N, R94W, Mandaree SW, North Dakota, Dunn County
Eagle Section 32, T148N, R94W, Mandaree SW, North Dakota, Dunn County

It appears there are Federal, Reclamation facilities in Sections 4, T147N, R94W and Section 32, T148, R94W and your map lacks sufficient detail to determine where access roads might be located. Therefore, I have provided you with a map of the general vicinity of your proposed well pads to assist you in determination of potential effects due to your proposed action (red line indicates water lines). Please note that rural water system pipelines commonly follow roads as in this case.

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

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.

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,

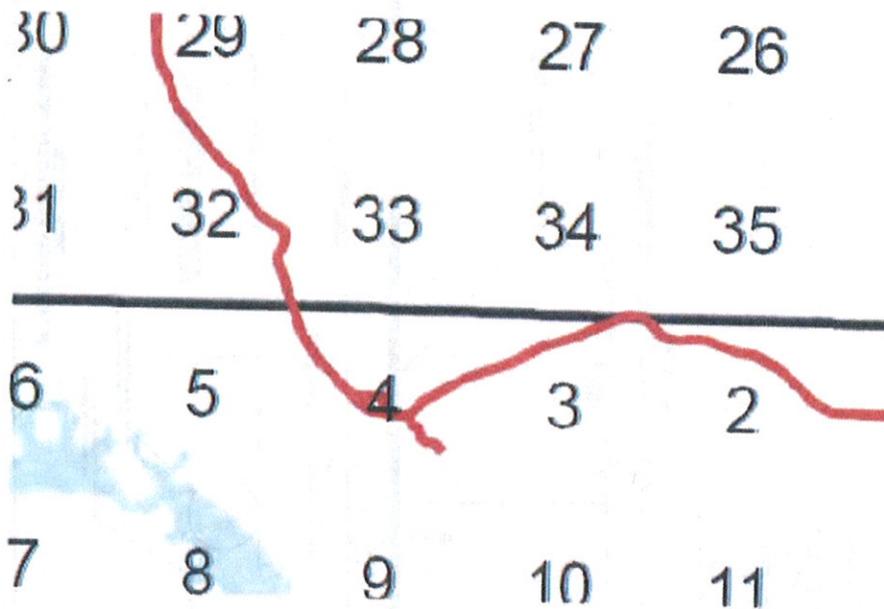
Kelly B. McPhillips
Environmental Specialist

Enclosure

Subject: Solicitation for an Environmental Assessment by BIA and BLM for the Construction of Triple Well Pad and Quadruple Well Pad for Oil and Gas Wells by Marathon Oil on the Fort Berthold Reservation in Dunn County, North Dakota

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)



Eagle Section 32, T148N, R94W, Mandaree SW, North Dakota, Dunn County
Bears Ghost Section 4, T147N, R94W, Mandaree SW, North Dakota, Dunn County

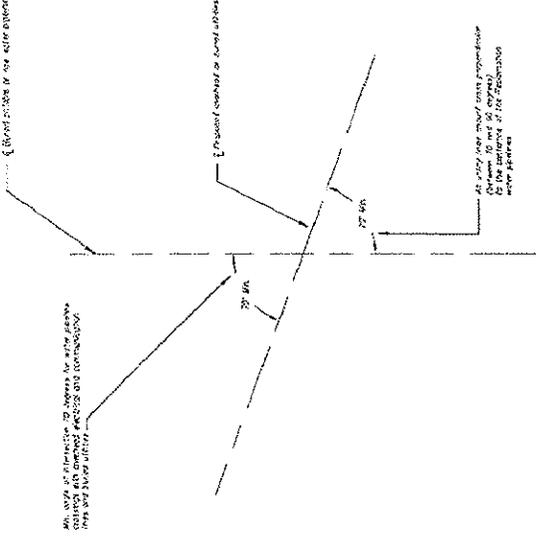
NOTES

1. Drawing is not to scale.
2. Contractor shall maintain 25% minimum for all conditions.
3. Any additional permits required/needed for construction shall be provided by the contractor.
4. Detailed contractor addresses shall be for 120 employees and five vehicles.
5. Final cost estimates, including re-inspection, shall be implemented after completing construction activities.
6. The applicant shall submit a project description and detailed construction plan showing plan, section, and grading plans if final cost estimates and other information.
7. The applicant shall submit preliminary construction plan, and schedule for construction.
8. All the construction of construction activities shall be subject to AS-BUILT drawings that include the construction and vertical alignment of all structures, areas, and structures during construction within the project limits.
9. Applicant shall provide materials of construction (i.e., soil, gravel, natural gas, construction water, and construction water, etc.) shall be subject to a detailed list of materials and quantities to be used in the project.
10. The applicant shall provide an estimate of the amount of material to be used in the project.
11. The applicant shall provide an estimate of the amount of material to be used in the project.
12. The applicant shall provide an estimate of the amount of material to be used in the project.
13. The applicant shall provide an estimate of the amount of material to be used in the project.

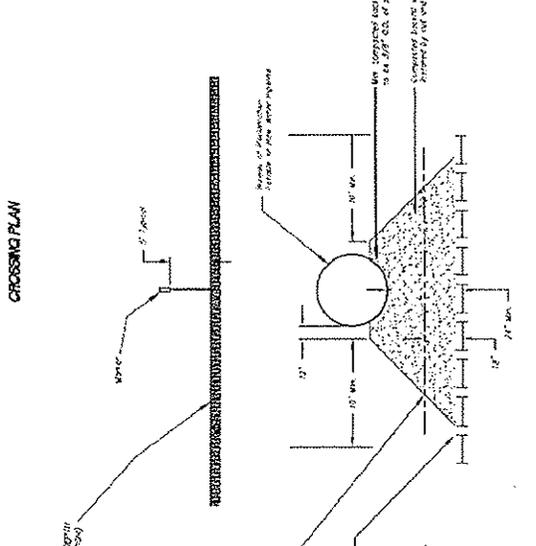
DETECTABLE WARNING TAPE

- A. For installation, the warning tape shall be installed in accordance with the following instructions:
- B. For installation, the warning tape shall be installed in accordance with the following instructions:
- C. For installation, the warning tape shall be installed in accordance with the following instructions:
- D. For installation, the warning tape shall be installed in accordance with the following instructions:
- E. For installation, the warning tape shall be installed in accordance with the following instructions:
- F. For installation, the warning tape shall be installed in accordance with the following instructions:

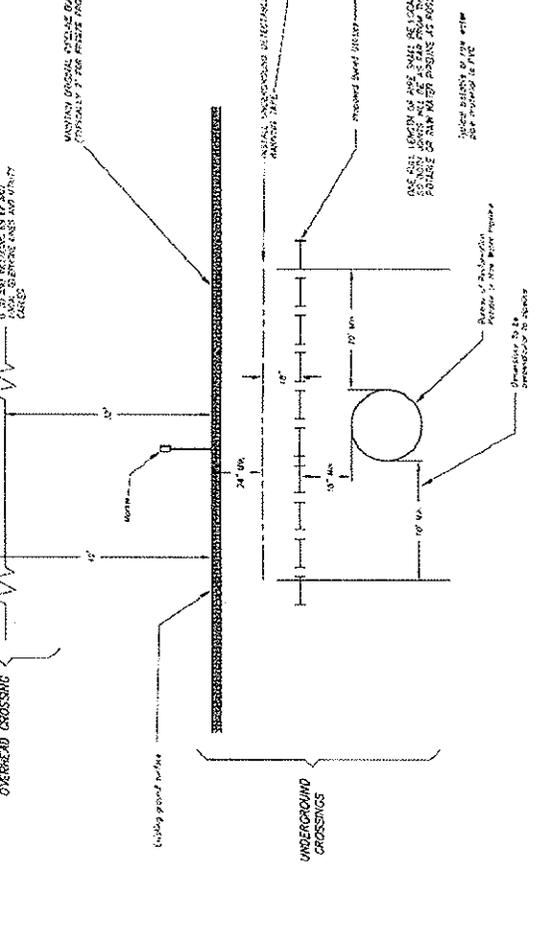
CROSSING PLAN



CROSSING PLAN



TYPICAL SECTION POTABLE OR RAW WATER PIPELINE CROSSING





United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
3425 Miriam Avenue
Bismarck, North Dakota 58501

JUN 14 2012



Mr. Mike Huffington
Environmental Planner
Kadrmass, Lee, & Jackson, Inc.
128 Soo Line Drive
PO Box 1157
Bismarck, North Dakota 58502-1157

Re: Marathon Oil Company Eagle and Bears Ghost Well
Pads, Fort Berthold Reservation
Dunn County, North Dakota
In response, please reference Tails # 2012-CPA-0601

Dear Mr. Huffington:

This is in response to your May 17, 2012, request for concurrence, regarding a proposed construction, drilling, completion, and production of two wells pads (one three-well pad and one four-well pad), resulting in the completion of seven oil and gas wells in Dunn County, North Dakota on the Fort Berthold Reservation.

Specific locations for the proposed pads are:

Bears Ghost USA: T. 147 N., R. 94 W., Section 33
Eagle USA: T. 148 N., R. 94 W., Section 32

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 May 30, 2012, the Bureau of Indian Affairs (BIA) designated Kadrmass Lee & Jackson, Inc. 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 stated that the closest proposed well pad (Bears Ghost) is located approximately 1.44 stream miles northeast of potential habitat for interior least tern (*Sterna antillarum*), pallid sturgeon (*Scaphirhynchus albus*), and piping plover (*Charadrius melodus*). 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 (3.07 miles at the nearest point) should also assist in providing sight and sound buffers for plovers and terns. Additionally, Marathon Oil Company (Marathon) will implement a semi-closed drilling system for the two proposed pads. To minimize or eliminate the potential for pit leaching, the dry and stackable drill cuttings would be placed in the earthen, 20 millimeter reinforced lined cutting pit. Marathon will implement secondary containment measures, including a containment berm that will be of sufficient size to hold in excess of 100% of the capacity of the daily volume to prevent hazardous runoff or spills. 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) (*Grus americana*) 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. Therefore, the Service concurs with your "may affect, is not likely to adversely affect" determination for whooping crane.

As a matter of policy, the Service does not concur with "no effect" determinations. However, we acknowledge your "no effect" determination for the black-footed ferret and gray wolf.

The Dakota skipper (*Hesperia dacotae*) and Sprague's pipit (*Anthus spragueii*) 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 MBTA prohibits the taking, killing, possession, and transportation, (among other actions) of migratory birds, their eggs, parts, and nests, except when specifically permitted by regulations. While the MBTA has no provision for allowing incidental take, the Service realizes that some birds may be killed during project construction and operation even if all known reasonable and effective measures to protect birds are used. The Service Office of Law Enforcement carries out its mission to protect migratory birds through investigations and enforcement, as well as by fostering relationships with individuals, companies, and agencies that have taken effective steps to avoid take of migratory birds, and by encouraging others to implement measures to avoid take of migratory birds. It is not possible to absolve individuals, companies, or agencies from liability even if they implement bird mortality avoidance or other similar protective measures. However, the Office of Law Enforcement focuses its resources on investigating and prosecuting individuals



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

DEC 19 2011

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

Dear Mr. Crows Breast:

We have considered the potential effects on cultural resources of an oil well pad and access road in Dunn County, North Dakota. Aside from the surface survey of the proposed well pad, this investigation consisted in the excavation of 66 shovel test probes in the vicinity of and within the boundary of previously recorded archaeological site 32DU313. No cultural materials whatsoever were found in these excavations. Site 32DU313 does not 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 adverse effect** for this undertaking. Catalogued as **BIA Case Number AAO-1994/FB/11**, the proposed undertaking, location, and project dimensions are described in the following report:

Ó Donnchadha, Brian

(2011) Eagle USA 31-4H, Eagle USA 31-4RTFH, Eagle USA 41-4H & Eagle USA 41-4TFH Well Pad and Access Road: Phase 2 Archaeological Testing in Dunn 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,

Regional Director

Enclosure

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



United States Department of the Interior

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



IN REPLY REFER TO:
DESCRM
MC-208

SEP 23 2011

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

Dear Mr. Crows Breast:

We have considered the potential effects on cultural resources of three oil well pads, a battery pad and an access road in Dunn County, North Dakota. Approximately 113.1 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the areas depicted in the enclosed reports. No historic properties were located which appear to possess the quality of integrity and meet at least one of the criteria (36 CFR 60.4) for inclusion on the National Register of Historic Places. No properties were located that appear to qualify for protection under the American Indian Religious Freedom Act (42 USC 1996).

As the surface management agency, and as provided for in 36 CFR 800.5, we have therefore reached a determination of **no historic properties affected** for these undertakings. Catalogued as **BIA Case Number AAO-1924/FB/11**, the proposed undertakings, locations, and project dimensions are described in the following reports:

Ó Donnchadha, Brian

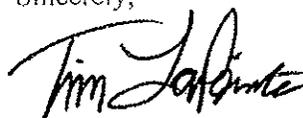
- (2011a) Lincoln USA 16-1TFH & Hopkins USA 15-1MBH Well Pad, Battery Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for Marathon Oil and Gas, Dickinson, ND.
- (2011b) Bears Ghost USA 11-4H & Bears Ghost USA 11-4TFH Well Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for Marathon Oil and Gas, Dickinson, ND.
- (2011c) Fox USA 14-1H & Fox USA 14-1TFH Well Pad and Access Road: A Class III Cultural Resource Inventory, Dunn County, North Dakota. KLJ Cultural Resources for Marathon Oil and Gas, 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

Enclosures

Notice of Availability and Appeal Rights

Marathon Oil Company: 21-5H, 21-5TFH, 41-5H, 41-5TFH (Eagle USA Well Pad)
11-4H, 11-4TFH, and 21-4TFH (Bears Ghost USA Well Pad)
Oil & Gas Wells

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

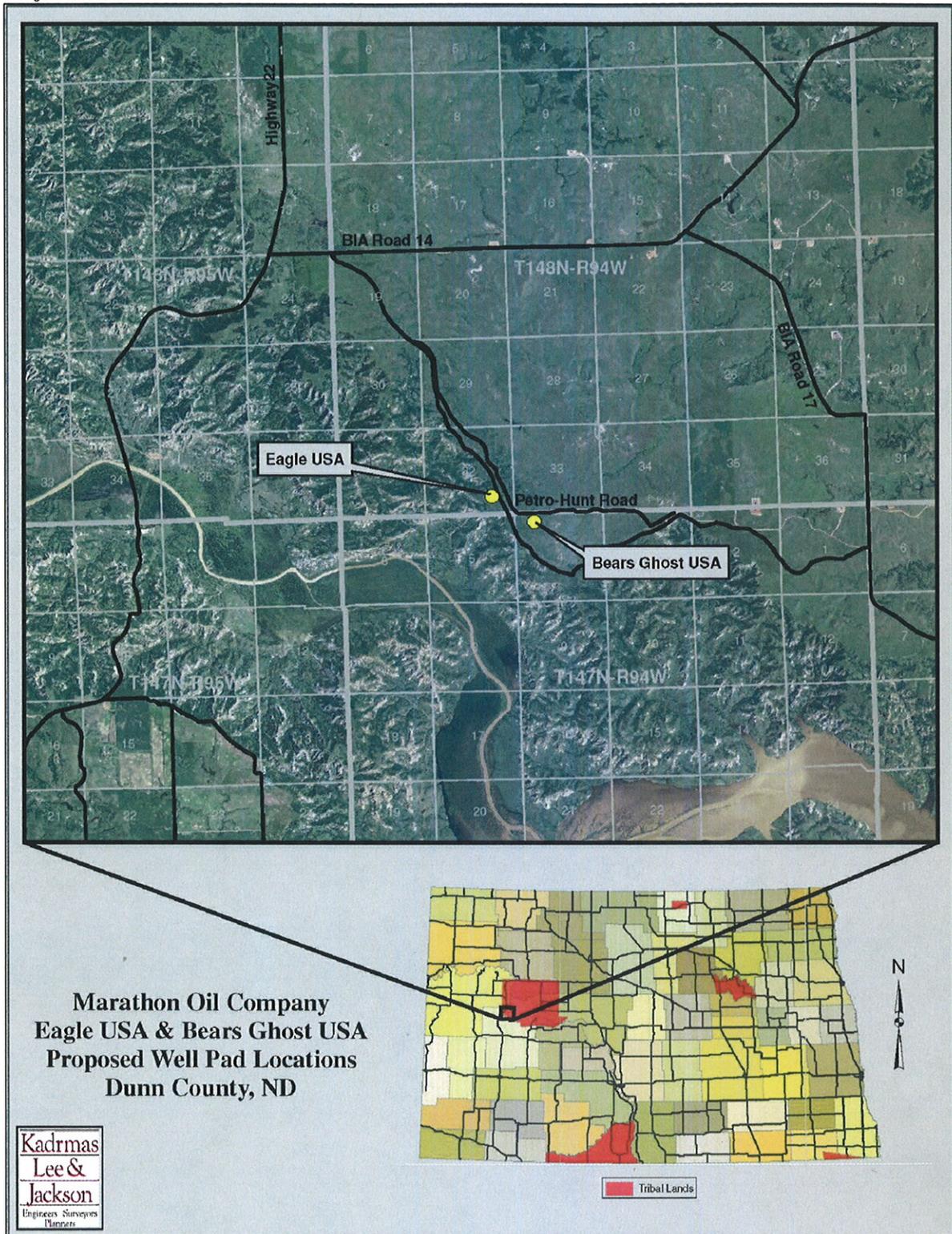
An environmental assessment (EA) determined that proposed activities will not cause significant impacts to the human environment. An environmental impact statement is not required. Contact Earl Silk, Superintendent at 701-627-6570 for more information and/or copies of the EA and the Finding of No Significant 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 September 7, 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.



**Marathon Oil Company
Eagle USA & Bears Ghost USA
Proposed Well Pad Locations
Dunn County, ND**

**Kadmas
Lee &
Jackson**
Engineers Surveyors
Planners

Tribal Lands