



United States Department of the Interior

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




IN REPLY REFER TO:
DESCRM
MC-208

JAN 24 2011

MEMORANDUM

TO: Superintendent, Fort Berthold Agency

FROM: Regional Director, Great Plains Region 

SUBJECT: Environmental Assessment and Finding of No Significant Impact

In compliance with the regulations of the National Environmental Policy Act (NEPA) of 1969, as amended, for two proposed exploratory oil and gas drilling wells by Marathon on the Fort Berthold Reservation, an Environmental Assessment (EA) has been completed and a Finding of No Significant Impact (FONSI) has been issued.

All the necessary requirements of the National Environmental Policy Act have been completed. Attached for your files is a copy of the EA, FONSI and Notice of Availability. The Council on Environmental Quality (CEQ) regulations require that there be a public notice of availability of the FONSI (1506.6(b)). Please post the attached notice of availability at the agency and tribal buildings for 30 days.

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

Attachment

cc: Tex Hall, Chairman, Three Affiliated Tribes (with attachment)
Elgin Crows Breast, THPO (with attachment)
Derek Enderud, BLM, Dickenson, ND (with attachment)
John Shelman, US Army Corps of Engineers
Jeffrey Hunt, Virtual One Stop Shop

Finding of No Significant Impact

Marathon Oil Company (Marathon)

Environmental Assessment for Goodbird USA 34-7H and Goodbird USA 44-7H Oil & Gas Wells

Fort Berthold Indian Reservation McLean County, North Dakota

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

- Goodbird USA 34-7H and Goodbird USA 44-7H located in T150N, R90W, 5th P.M., Section 7 (McLean County)

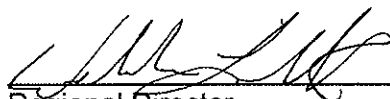
Associated Federal actions by BIA include determinations of effect regarding environmental resources and positive recommendations to the Bureau of Land Management (BLM) regarding the Applications for Permit to Drill.

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 (NEPA). 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 (EIS) is required for any portion of the proposed activities.

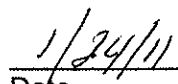
This determination is based on the following factors:

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 United States Fish and Wildlife Service (USFWS) has been fully considered regarding wildlife impacts, particularly in regard to threatened or endangered species. This guidance includes the Migratory Bird Treaty Act (16 United States Code [U.S.C.] 703 et seq.) (MBTA), the NEPA of 1969, as amended (42 U.S.C. 4321 et seq.), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250) (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 socioeconomic condition of the affected Indian community.



Regional Director



Date

ENVIRONMENTAL ASSESSMENT

United States Bureau of Indian Affairs

**Great Plains Regional Office
Aberdeen, South Dakota**



Marathon Oil Company

Goodbird USA 34-7H and Goodbird USA 44-7H Oil & Gas Wells

Fort Berthold Indian Reservation

January 2011

For information contact:
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CHAPTER 1 PURPOSE AND NEED FOR ACTION

1.1 Introduction

Marathon Oil Company (Marathon) is proposing to drill two oil and gas wells on the Fort Berthold Indian Reservation in McLean County, North Dakota (Goodbird USA 34-7H and Goodbird USA 44-7H). For projects located on the Fort Berthold Indian Reservation, the Bureau of Indian Affairs (BIA) has trust responsibilities to administer the surface natural resources, and the Bureau of Land Management (BLM) has the responsibility for managing the mineral resources. This Environmental Assessment (EA) is prepared to inform decision-makers and the public of the potential environmental consequences of the Proposed Action and the No Action Alternative. It is prepared in accordance with National Environmental Policy Act (NEPA) of 1969, as amended, and the regulations of the Council on Environmental Quality (CEQ), 40 Code of Federal Regulations (CFR) parts 1500 through 1508.

1.2 Description of the Proposed Action

The Fort Berthold Reservation encompasses 988,000 acres (ac), 457,837 of which are in tribal and individual Indian ownership by the Three Affiliated Tribes (Mandan, Hidatsa, and Arikara, also referred to as “the Tribes”) 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 Fort Berthold Reservation. It occupies portions of six counties: Dunn, McKenzie, McLean, Mercer, Mountrail, and Ward. The target of the two proposed wells is the Bakken Formation which underlies the Fort Berthold Reservation.

The Bakken Formation is a geologic formation within the Williston Basin that is rich in oil and gas deposits. It extends approximately for 25,000 square miles beneath North Dakota, and Montana in the United States and Saskatchewan and Manitoba in Canada, with approximately two-thirds of the acreage beneath North Dakota. It has been estimated by the United States Geological Survey that there are approximately 3.0 to 4.3 billion barrels of undiscovered, technically recoverable oil in the Bakken Formation (USGS 2008).

The Proposed Action consists of drilling two oil and gas wells (Goodbird USA 34-7H and Goodbird USA 44-7H) from a single pad, construction of approximately 147 feet of access road, and construction of associated infrastructure to include approximately 200 feet of buried pipeline and a utility line of similar length. The proposed well pad and access road are located in the SE1/4 of the SE1/4 of Section 7, T150N, and R90W, 5th PM, in McLean County (Figure 1-1).

Both wells are part of the same spacing unit in which the minerals are to be efficiently developed. Proposed activities include acquisition of rights-of-way (ROWS), infrastructure for the proposed wells, and roadway improvements. The mineral rights are held in trust for the Three Affiliated Tribes and its members by the BIA. The Application for Permit to Drill (APD) is submitted to the BLM for review. Approval for drilling operations is authorized by the BIA and the BLM.



Figure 1-1:
 Proposed Location Map
 Goodbird USA 34-7H and
 Goodbird USA 44-7H
 T150N R90W Section 7
 5th Principal Meridian
 McLean County, ND
 1:40,000

1.3 Need for the Proposed Action

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

Furthermore, the Proposed Action gives the US 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 develop their oil and gas resources on the identified lands within the Reservation. Additionally, the purpose is to determine if there are commercially recoverable oil and gas resources on the lands leased by Marathon by drilling two 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 APD. 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 US 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.

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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. The criteria used for determining viable alternatives for consideration in this EA include:

- Minimizing adverse impacts to land, water, air and other natural resources;
- Avoiding impacts to threatened and endangered plant and animal species;
- Minimizing adverse impacts to tribal members and their cultural resources;
- Providing economic benefits to the Three Affiliated Tribes; and
- Complying with existing tribal, Federal, and state laws and regulations.

The EA for this project analyzes potential impacts from construction, drilling, completion, and production of the wells, and construction and operation of access roads, and associated facilities, on the human environment. 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 construction of a dual well pad or related activities at the location under consideration. Existing environmental conditions and current trends at the location would remain. However, the potential recovery and commercial production of oil and gas resources that have been targeted for domestic use would not occur, and the Three Affiliated Tribes would not receive potential royalties on production or other economic benefits from oil and gas development on the Reservation.

2.3 Alternative B Proposed Action

Under the Proposed Action (Alternative B), the BIA and BLM would authorize the construction of a well pad, the drilling and completion of two oil and gas wells (Goodbird USA 34-7H and Goodbird USA 44-7H) on the well pad, and construction of a section of new access road and other necessary infrastructure. Infrastructure would include oil and gas gathering pipelines and buried electrical lines, both of which would be located within the access ROW. The objective of drilling is to tap oil and gas resources within the Bakken/Three Forks Formation approximately 10,000 ft. below the surface. The Three Affiliated Tribes hold both the surface and mineral rights for the Goodbird USA 34-7H and Goodbird USA 44-7H wells. The BIA holds the surface lands in trust for the Tribes and the BLM regulates development of the underlying minerals.

The proposed well pad would be located approximately 10.5 miles southwest of the town of Parshall in the SE1/4 of Section 7, T150N, R90W, 5th P.M., McLean County, North Dakota (Figure 2-1). The two wells would be horizontally drilled approximately 100 ft. apart from a single well pad within a 1,280 acre spacing unit, with associated access road and infrastructure. The bottom holes of the two wells would be located in the NW 1/4 and the NE 1/4 of Section 6, T150N, and R90W within the spacing unit that encompasses Sections 6 and 7. Access to the well pad would be via a 147 foot long



access road off an existing improved road that extends in an east-west direction to the south of the proposed well pad (Figure 2-2).

Surface disturbance would be restricted to the well pad and the access road. Initial disturbance from construction of the well pad and access road would amount to approximately 5.76 acres. The amount of disturbed acreage would be reduced upon completion of the wells through interim reclamation measures approved by the BIA and BLM. Final reclamation of all disturbed areas would be in accordance with BIA requirements and BLM specifications identified in the APD.

Biological, botanical, soil, and water resources surveys were conducted by TEC Inc. on October 20, 2010. The purpose of these surveys was to gather site-specific data and photos with regard to natural resources in the project area. An intensive, pedestrian cultural resource survey of the proposed well pad and access road was conducted on October 25, 2010 by Kadmas Lee & Jackson (KL&J) to determine if cultural resources were present. The study area for the surveys consisted of 10 ac centered on the proposed well pad center point and a 200 ft. wide corridor along the proposed access road. Cultural, biological, botanical, and water resources were evaluated using visual inspection and pedestrian transects across the site. Soil resources were evaluated through excavation of two probes at the location using a soil auger with a 6 inch (in.) bucket. In addition, a survey for raptors and raptor nests was conducted within 0.5 mi of the project area. This survey consisted of pedestrian transects focusing specifically on potential nesting sites, including cliffs and wooded draws. Wooded draws were observed both from the upland areas overlooking the draws and from bottomlands within the actual draws.

The BIA on-site for the well pad and access road was conducted on October 21, 2010. The BIA Environmental Protection Specialist and representatives from Marathon, TEC Inc., and KL&J participated in the on-site. Construction suitability with respect to topography, stockpiling, drainage, erosion control, and other surface issues were evaluated. 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 agreed that the selected location, along with the impact minimization measures Marathon plans to implement, would effectively reduce impacts to sensitive wildlife and botanical resources. In addition, comments received from the United States Fish and Wildlife Service (USFWS) have been considered in the development of this project.

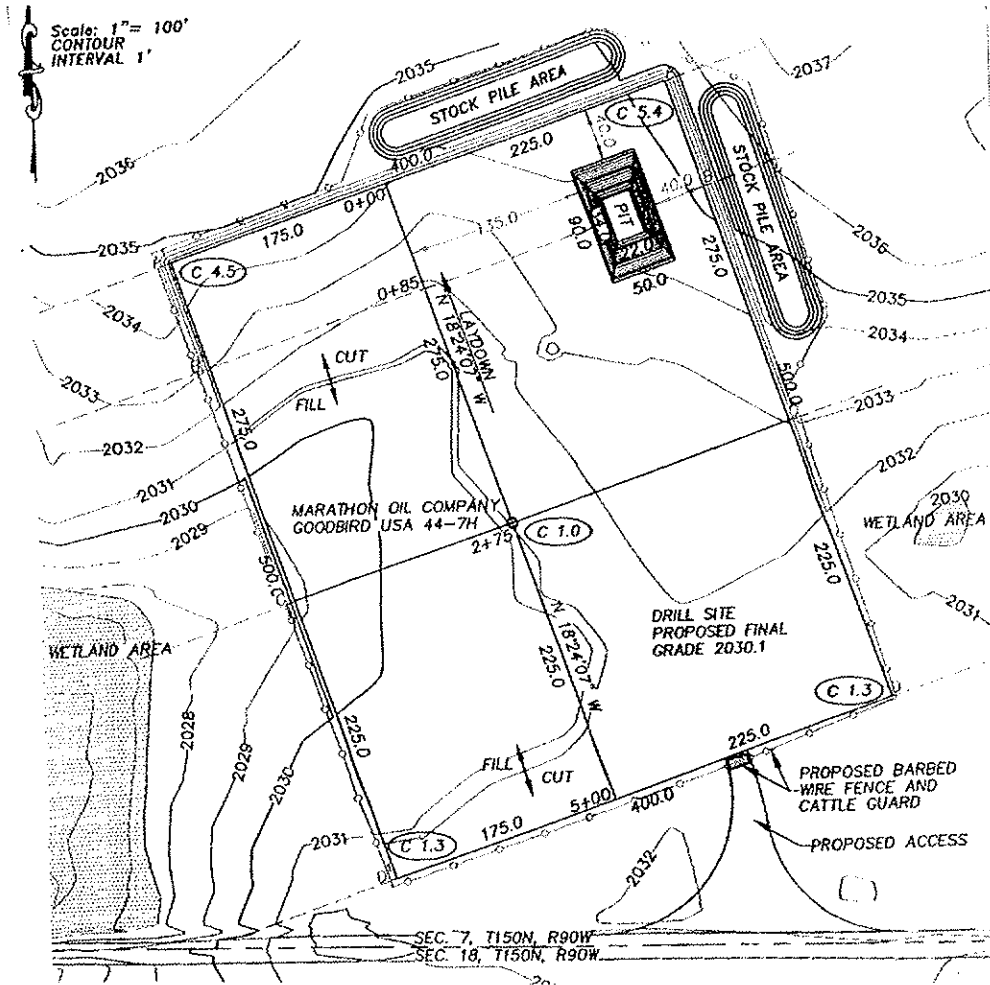


Figure 2-2: Goodbird USA 34-7H and Goodbird USA 44-7H Well Pad Overview

2.3.1 Activities that Apply to Development of Both Wells

Following is a discussion of items that would be consistent for construction of the proposed dual well location:

2.3.1.1 Well Pad

Under the Proposed Action, Marathon proposes to utilize a balanced cut and fill design using native materials. The proposed well pad would measure approximately 500 feet by 400 feet, including cut and fill areas, and occupy roughly 4.84 acres. It would be graded to an elevation of 2,030 feet, and would contain all equipment and facilities necessary to drill and complete both wells. Cut and fill slopes on the edge of the well pad would be constructed at a ratio of 2:1. Vegetation would be cleared from the pad, and the topsoil would be stripped and stockpiled on site for future reclamation. Testing of the topsoil on the pad indicates that at least 8 inches of topsoil are available for salvage and reclamation. Excavated subsoil would be used in the construction of the well pad, which would be graded to drain water away from the drill site. BMPs would be implemented to minimize wind and water erosion of the topsoil. They may include, but not be limited to, water bars, silt fences, hydro-seeding, erosion mats, and biologs. Berms would be constructed on the cut sides (north and east sides) of the well pad to prevent run-on. Additional berms would be constructed if the BIA determines it is necessary. Soil stockpiles from the pad and pit excavations would also be positioned at the northeast (cut) corner of the well pad to help divert runoff around the well pad. The pad would be covered with approximately 6 inches of crushed scoria and later by gravel if so requested by the BIA. The proposed access road would also be covered with gravel. The pad and topsoil stock piles would be contained within a barbed wire fence to prevent wildlife and domestic livestock from entering. The total area within the fencing would be approximately 5.42 acres. Construction of the well pad is expected to take 7-10 days and would be carried out using standard heavy equipment, such as earthmover and bulldozer.

A pit to contain drill cuttings from both wells would be excavated in the cut portion (northeast corner) of the pad, away from shallow ground water sources. This pit would be approximately 140 feet x 60 feet and approximately 14 feet deep. The pit would be lined with a reinforced synthetic liner with a minimum thickness of 20 mil to prevent leakage of cuttings into the soil. The pit would be netted when not actively being used to prevent wildlife from entering. The netting would have a maximum mesh size of 1.5 inches to keep out birds and other small animals.

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

All efforts would be made to avoid well pad construction during migration, breeding, and nesting season for migratory birds in the area which generally occurs between February 1 and July 15. A survey for migratory birds and their nests would be required at least five days prior to the initiation of construction if it was going to occur during migration and nesting season. However, because the current land use is as cultivated cropland and because of a lack of trees in the area that could provide breeding or nesting habitat for migratory birds, no pre-construction survey would be required (USFWS 2010b). If any migratory bird nests are found at the site during construction, all construction activities

would cease and the USFWS would be contacted for advice on how to proceed. If during construction a whooping crane is sighted within 1 mi of the well pad or its associated facilities, all work would cease and the USFWS would be contacted immediately. Work would not be allowed to resume until the bird has left the area.

2.3.1.2 Access Roads

A 147 foot long access road and associated infrastructure would be constructed within a 100 foot ROW from the existing improved road immediately to the south to the well pad (see Figure 2-2). Access road construction would follow road design standards outlined in the BLM's Gold Book. The running surface of the access road would be covered with crushed gravel or scoria, and erosion control measures would be installed as necessary. A cattle guard would be installed in the access road at the entrance to the well pad to prevent livestock from entering. A maximum ROW width of 100 feet would be disturbed, consisting of a 20 foot wide road top, with the remainder of the ROW utilized for borrow ditches and construction slopes, gathering pipelines, electrical infrastructure, and when necessary, for snow removal storage. A total of approximately 0.34 acres would be disturbed by ROW construction. Construction of the access road is expected to take less than one week and would be carried out using standard heavy equipment, such as earthmover and bulldozer.

Oil and gas gathering pipelines and an electrical utility line would be constructed from the well location to tie-ins with existing buried oil and gas pipelines and electrical utility lines located within previously approved ROWs on either side of the existing improved road. The pipelines and electrical line corridor would be approximately 200 feet long in total length. A majority of the corridor would be located within the 100 foot wide ROW of the access road that extends from the southern edge of the well pad to the northern edge of the existing improved road, a distance of approximately 147 feet. The proposed pipeline/electrical utility line corridor would then extend an additional short distance on previously approved ROW to Questar Exploration and Production Company (QEP) pipelines and McLean County Electric Coop electric utility lines extending east-west along the north and south sides (respectively) of the existing improved road.

2.3.1.3 Drilling

Drilling operations would commence after construction of the well pad and access road and would consist of three phases: set up, drilling of the two wells, and tear down. During the set-up phase, several truckloads of equipment would be brought to the location including the drill rig, drill pipe, drilling mud, and related support equipment. It is estimated that 90 truckloads would be needed to bring the necessary equipment to the location. Additional vehicle traffic would occur from transport of personnel and expendable supplies such as fuel, drilling fluid additives, and water to the location. Vehicles would access the location several times a day to bring this equipment and personnel to the location and remove them at the end of the drilling operations. All local, county, tribal, and state regulations and ordinances regarding rig moves, oversize/overweight equipment, and frost law restrictions will be adhered to during all phases of the drilling operations. Established load restrictions for state and BIA roadways would be observed and haul permits would be acquired as appropriate. Suitable mufflers would be installed on all internal combustion engines and certain compressor components to minimize noise levels. It is expected to take approximately 60 days to set up the rig, drill the wells, and tear the rig down.

The two wells would first be drilled vertically to a depth of approximately 9,200 feet, at which point they would angle horizontally and be drilled for another 10,000 feet to the target bottom hole locations. Drilling will target the Middle Bakken dolomite member.

A freshwater-based mud system would be used for the first 2,000 feet drilled into each well. Fresh water would be obtained from private sources near New Town. After setting and cementing the surface casing, an oil-based mud system would be used to drill the remainder of the vertical hole and curve. Once the 7 inch production casing is set and cemented through the curve, a saltwater-based drilling mud would be utilized for the horizontal portion of the wellbore. Oil-based mud and saltwater would be transported to the location from various local sources.

Marathon would use a semi-closed loop drilling system at the location. This would include the use of 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, stabilized, and placed in the lined cuttings pit on-site. Any free fluid remaining in the cuttings pit would be removed and disposed in accordance with BLM and North Dakota Industrial Commission (NDIC) regulations. The stabilization process would take place within 30 days after well completion. The pit would then be reclaimed and covered with at least 4 ft. of backfill and surface sloped, when practicable, to promote surface drainage away from the reclaimed area.

2.3.1.4 Casing and Cementing

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

2.3.1.5 Completion and Testing

After each well is drilled, completion and evaluation operations would commence. Completion and evaluation activities include cleaning out the well bore, perforating and fracturing to stimulate the horizontal portion of the well, pressure testing the casing, and running production tubing for potential future commercial production. Fracturing of the production zone would be done with hydraulic fluids consisting of water, sand, and minor amounts of additives. Water would be trucked to the location and stored in onsite flat tanks prior to completion and testing. Fluids used in the completion process would be stored in tanks and would be disposed in accordance with BLM and NDIC rules and regulations.

Once each well is drilled and cased, approximately 30-45 additional days would be needed to complete, fracture, and test the well. A workover rig, flowback crew, and several pump trucks would be utilized in the operation. Hydraulic fracturing would take approximately 3-4 days. Vehicle traffic would increase during hydraulic fracturing operations to deliver personnel, equipment, and materials (including water) utilized during the process to the location. Once the well is completed, site activity and vehicle traffic would decrease.

2.3.1.6 Oil Production

If commercially recoverable oil and gas resources are found, a production well(s) would be established. It is expected that both wells would flow naturally, but should either one fail to do so, a well pumping unit (pumpjack) would be installed. Both oil and natural gas pipelines from the well location are expected to be tied in with existing QEP pipelines located adjacent to the Goodbird well pad along the north side of the existing road. Short

term trucking of oil to regional terminals off of the Fort Berthold Reservation may occur while the tie in is completed.

Production equipment including vertical heater/treater, storage tanks (typically four 400 barrel steel tanks for oil and one 400 barrel fiberglass tank for saltwater, per well), and a flare/production pit with associated piping would be installed at the site. Secondary containment vessels with wire mesh or grate covers would be placed under load out lines, and valves to collect dripped oil. The heater/treater and storage tanks would be surrounded by an impermeable berm 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. Oil would be collected in the storage tanks and periodically shipped via adjacent pipeline or trucked to an existing oil terminal off of the Fort Berthold Indian Reservation to be sold. Produced water would also be collected in storage tanks and periodically trucked to an approved disposal site. The frequency of trucking activities for both liquid resources would be dependent upon the volumes and rates of production. Approval of all haul routes would be obtained by local governing tribes, township, county, and/or state entities for the type of transportation use. All associated applicable permits would be obtained and restrictions complied with.

Large volumes of gas are not expected at this location. In the event that the proposed QEP gas pipeline is not in place when the wells go into production, the expected small volumes of gas would be flared on site in accordance with the BIA's Notice to Lessees 4A and NDIC regulations which prohibit flaring for more than one year of operation.

Any future oil, gas, or saltwater pipelines would be constructed within the existing access road ROW, or additional NEPA analysis and approval from the BIA would be undertaken. Maintenance operations would occur on a year-round basis for the life of the wells and would be conducted in accordance with industry standards for safe and efficient operations. The access road would be maintained by Marathon in accordance with BIA/BLM standards and would allow year-round access. All permanent above ground production facilities would be painted to blend with the surrounding landscape, as determined by the BIA, based on standard colors recommended by the BLM.

After production ceases, the wells would be plugged and abandoned, and the land would be fully reclaimed in accordance with BIA and BLM reclamation requirements. Marathon would mitigate the effects of the two wells by incorporating applicable conditions, mitigation measures, and BMPs from the BLM's regulations, BLM Gold Book (4th Edition), and applicable BLM Onshore Oil and Gas Orders, including Numbers 1, 2, and 7.

2.3.1.7 Reclamation

Reclamation would be conducted on all disturbed land in compliance with the BIA, Three Affiliated Tribes, and BLM reclamation requirements. There are two types of reclamation-interim and final. The goal of interim reclamation would be to reduce and stabilize disturbed areas as rapidly as possible. The goal of final reclamation would be to return the land to conditions approximately equal to those that existed prior to surface disturbance. Interim reclamation would commence upon completion of drilling and completion operations. Final reclamation would commence after the wells are plugged and abandoned.

If one or both wells are determined to be commercially viable, production equipment would be installed and the well pad would be reduced in size to accommodate the production facilities, while leaving adequate room to conduct normal well maintenance

and potential recompletion operations. Interim reclamation activities would include leveling, re-contouring, treating, backfill, and re-seeding. Erosion control measures would be installed as appropriate. Stockpiled topsoil would be redistributed and reseeded as recommended by the BIA. Re-seeding would be done with native vegetation. A noxious weed management plan would be implemented to prevent and control noxious weeds.

If no commercial production results from either of the proposed wells, or after final plugging and abandonment of the wells, all disturbed areas would be reclaimed. 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 road and well pad area would be re-contoured to match topography of the original landscape, and reseeded with a native grass seed mixture consistent with surrounding native species to ensure a healthy and diverse vegetative community that is free of noxious weeds. Re-vegetation would occur at the first seasonal opportunity, generally after October 15 until the ground is frozen, or before May 15. Erosion control measures would be installed as appropriate. Grass seeding would continue until such time as productivity of the stand is consistent with surrounding undisturbed vegetation and the BIA has determined that reclamation is successful. Access roads would be reclaimed unless the BIA or landowner requests that the road remain in place.

2.3.2 Potential for Future Development

Development beyond the Goodbird USA 34-7H and Goodbird USA 44-7H wells is not proposed at this time. If future development is proposed, it 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 NEPA review.

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CHAPTER 3 DESCRIPTION OF THE AFFECTED ENVIRONMENT AND IMPACTS

3.1 Introduction

This section describes the affected environment of the project area as well as the environmental consequences, cumulative impacts, and mitigation measures for adversely affected resources. Affected environment refers to the baseline environmental conditions currently present in the project area. Environmental consequences refer to the direct and indirect effects of the Proposed Action on the affected environment. Cumulative impacts refer to the impacts of the Proposed Action on the affected environment when combined with other foreseeable actions. The mitigation measures refer to methods and procedures that will be followed to reduce environmental impacts to less than significant levels for those resources that would be impacted by the Proposed Action.

3.2 Climate, Geologic Setting, and Land Use

The climate of North Dakota varies widely on a seasonal basis. Summers are generally warm with extremes in excess of 80 degrees Fahrenheit (°F) common. Winters are cold with temperatures frequently falling below 0°F. Based on climate data from the Parshall climate station between 1971 and 2000, the average daily temperature varied from less than 10°F in January to approximately 70°F in July (United States Department of Commerce [USDC] 2010). The average daily maximum during the same time period varied from 16.5°F in January to 83.2°F in July while the average daily minimum during the same period varied from -4.4°F in January to 53.9°F in July (USDC 2010). North Dakota receives approximately 16 inches of rain annually, primarily during the summer months, and approximately 32 inches of snow annually primarily between the months of November and March. Based on climate data from the Parshall station between 1971 and 2000, the average total monthly precipitation varied from a low of 0.32 inches in January to a high of 3.62 inches in June. The annual average precipitation was 17.01 inches (USDC 2010). The average total monthly snowfall at the Parshall station between 1916 and 1979 varied from a low of 0.3 inches in June and September to 3.9 inches in January. The annual average snowfall over the same period was 22.1 inches (USDC 2010).

Geologically, the project area lies within the Williston Basin that occupies much of western North Dakota, and portions of eastern Montana and the Canadian Provinces of Saskatchewan and Manitoba. The Williston Basin is a structural basin containing rocks that are more than 570 million years old. The oldest sedimentary rocks present in the basin (Paleozoic era) consist of carbonates and evaporates with minor amounts of shales (Gerhard and Anderson 1988:221). Overlying these rocks are sandstones, silts, and shales of Mesozoic era (270 to 65 million years old) and Tertiary Period (65 million to 2 million years old). These deposits are overlain by glacial deposits and river deposits of the Pleistocene that are 2 million to 10,000 years old. The shale units associated with the Upper Devonian-Lower Mississippian Period (Paleozoic era) Bakken Formation are well known sources for oil and gas resources (hydrocarbons) within the Williston Basin (Blumle 2000).

In the immediate project area sediments exposed at the surface are generally of Tertiary aged Ft. Union Group, overlain locally by younger Pleistocene aged glacially derived deposits.

The project area is located on the rolling uplands above Lake Sakakawea on its east side. The primary land use in the area is cropland (Figure 3-1). The terraces and tributaries that compose the more rugged breaks closer to Lake Sakakawea are primarily used for livestock grazing. Other land uses in the area include road corridors that provide access to the State Wildlife Area around Lake Sakakawea and to the numerous oil and gas facilities in the area. The proposed well pad would be located in cropland. Small wetland areas with crop furrows through them are located approximately 100 feet to the west and 50 feet to the east of the proposed well pad disturbance.

3.2.1 Climate, Geologic Setting and Land Use Impacts/Mitigation

Alternative A (No Action) - The No Action alternative would have no impact on land use, climatic conditions, or geological conditions. The existing environmental conditions and current trends would continue.

Alternative B (Proposed Action) – The climate of the project area would not be impacted by the Proposed Action.

The geology of the area would not be impacted by the Proposed Action, but the oil and gas resources would be depleted. The depletion of the oil and gas resources would be considered an irreversible impact.

The Proposed Action would convert approximately 5.76 acres of land from its present use as cropland to oil and gas production. Of this, 5.42 acres would be as a result of well pad construction and 0.34 acres would be result of access road and pipeline/utility line construction.

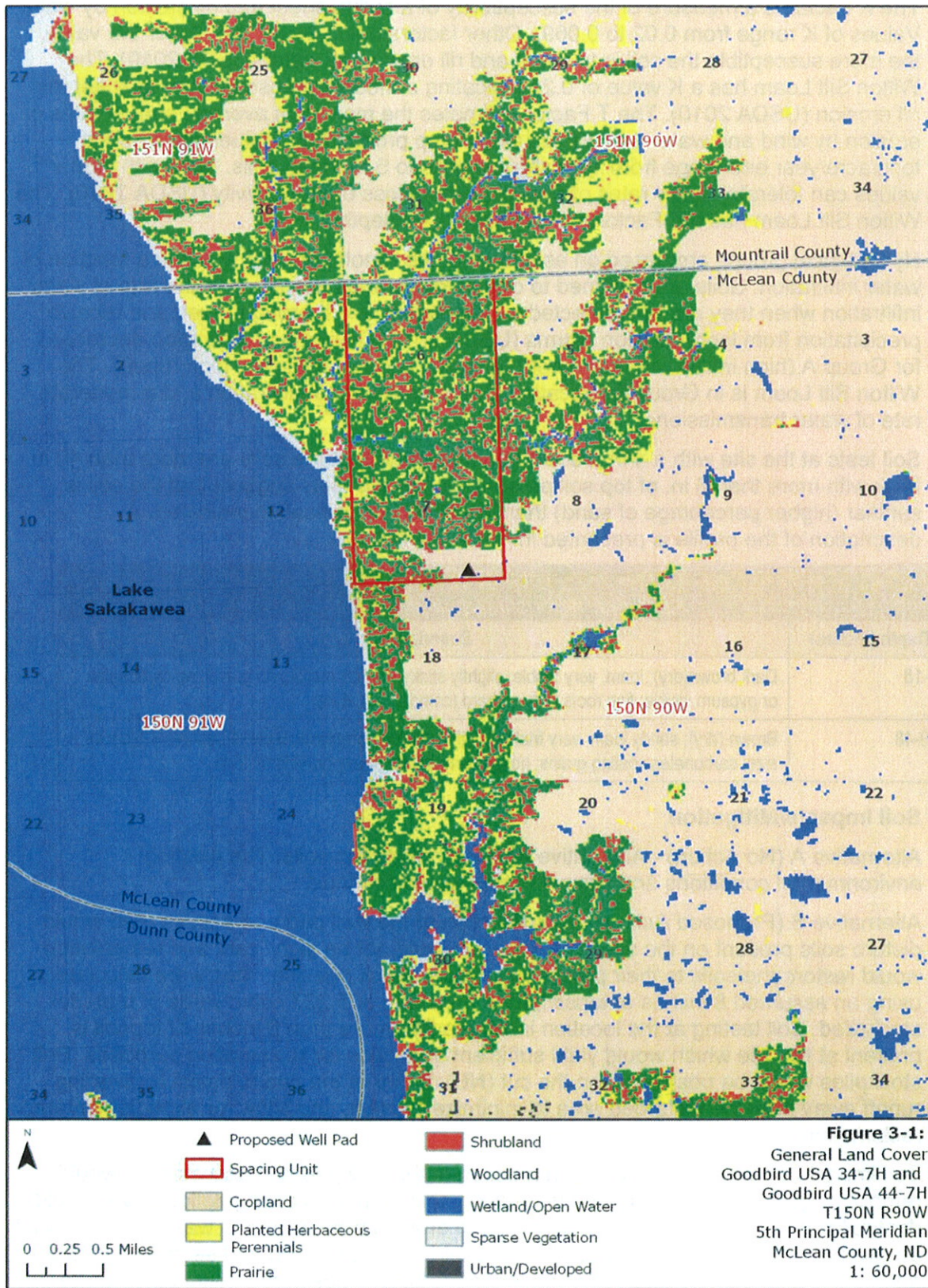
3.3 Soils

The Natural Resource Conservation Service (NRCS) Web Soil Survey indicates that the soils on the proposed pad consist of Wilton Silt Loam (United States Department of Agriculture [USDA] 2010). The salient characteristics of the soil are presented in Table 3-1 below.

**Table 3-1:
General Soil Characteristics**

Map Unit Symbol	Well Pad Acres	Percent Slope	Composition (in upper 60 in.)			Erosion Factor		Hydrologic Soil Group
			% sand	% silt	% clay	Tf	Kf	
WsA	Wilton Silt Loam	0 to 3	11.26	66.8	22.0	5	0.28	B

The Wilton Silt Loam is a deep, well-drained soil that is more than 80 in. thick. It forms in the silty loess mantle that overlies glacial till on slopes of less than 3% (USDA 2010). It consists primarily of silt (66.8%) with generally low amounts of clay and sand (22% and 11.2%, respectively). It has slow to medium runoff and moderate permeability.



The K Factor is a measure of the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.069. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water (USDA 2010). The Wilton Silt Loam has a K value of 0.28 indicating a moderate susceptibility to sheet and rill erosion (USDA 2010). The T Factor estimates the maximum average annual rates of erosion by wind and water that will not affect crop productivity. Values are given in tons/acre/year and range from 1 for shallow soils to 5 for deep soils. Soils with higher T values can tolerate higher rates of erosion without loss of productivity (USDA 2010). The Wilton Silt Loam has a T Factor of 5 because of its depth.

Hydrological groups are based on estimates of the runoff potential which is a function of water infiltration. Soils are assigned to one of four groups according to the rate of water infiltration when they are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms (USDA 2010). The rate of infiltration decreases for Group A (high infiltration, low runoff) to Group D (low infiltration, high runoff). The Wilton Silt Loam is in Group B indicating a moderate rate of infiltration and a moderate rate of water transmission.

Soil tests at the site with a 4 in. bucket auger indicate that the soils are more than 40 in. thick with more than 6 in. of top soil present. These soil tests suggest that the soil is sandier (higher percentage of sand) than the NRCS classification indicated. A description of the profile is presented in Table 3-2 below.

Table 3-2:
Soils characteristics at well pad site

Depth (inches)	Description
0-18	Dark brown(dry); loam; very friable; slightly sticky; slightly plastic; no gravel; no carbonates or gypsum visible; fine roots to 4 in.; hard (compacted) at top
18-48	Brown (dry); sandy loam; very friable; slightly sticky; non-plastic; sparse pebbles 3-5 cm in size; carbonates coating grains; no gypsum visible; heavy gravels at 48 in.

3.3.1 Soil Impacts/Mitigation

Alternative A (No Action) - Alternative A would not impact soils. The existing environmental conditions and current trends would continue.

Alternative B (Proposed Action) – Construction of the well pad and access road would disturb soils present on the site. The impacts would not be significant and reclamation would restore the soils to their present condition. Stock pile quantities were calculated using an assumed 8 inches of topsoil, for a minimum of 5,227 cubic yards of material stockpiled. Soil testing at the location indicates that more than 8 inches of topsoil is present at the site which would yield sufficient quantities for reclamation purposes. Soil stockpiles would be positioned on the cut (NE) corner of the pad to assist in diverting runoff away from the disturbed area to minimize erosion, and allow for expedient interim reclamation.

Soil impacts would be localized. Construction of the well pad and access road would remove vegetation and disturb the underlying soils. The loss of vegetation cover would destabilize the soil and make it more prone to erosion from wind and water. BMPs would be used at the site to reduce impacts and would include erosion and sediment control during and after construction, segregating topsoil from subsurface material for future reclamation, re-seeding of disturbed areas immediately after construction activities are

complete, use of construction equipment appropriate for the size and scale of the project, ensuring the road gradient fits closely with the natural terrain, and maintaining proper drainage. As part of the reclamation process, all disturbed areas would be re-contoured as close as possible to their original elevations. BMPs would be used to minimize wind and water erosion and may include, but will not be limited to, hydro-seeding, erosion mats, and biologs.

Soil compaction may occur as a result of the use of heavy machinery during well pad construction. Compacting of soils decreases permeability and increases runoff, especially in silt and clay soils. Soil compaction would also mix the soil horizons. The soil tests performed at the site indicate that they are slightly sandier than the NRCS data would suggest which would help increase permeability and decrease the potential for runoff. Soil compacting and the mixing of soil horizons would be minimized by topsoil segregation.

Soil contamination from various chemicals or other pollutants is unlikely to occur given the precautions that would be taken (i.e., berm around storage tanks). In the rare event that such contamination does occur, the event shall immediately be reported to the BLM, BIA, the NDIC, and where appropriate the North Dakota Department of Health (NDDH). BLM and BIA procedures would be followed to contain any leaks and spills.

3.4 Water Resources

In 1974, the Safe Drinking Water Act (SDWA) was established to protect the quality of drinking water in the U.S. This law is administrated by the Environmental Protection Agency's (EPA) for the purpose of protecting water that is actually or potentially designed for drinking, whether it is surface water or ground water. The SDWA authorizes EPA to establish minimum standards to protect tap water and requires all owners or operators of public water systems to comply with health-related standards. The Act requires EPA to consider a detailed risk analysis and cost assessment, and best available peer-reviewed science, when developing these standards. Under the Act, EPA also establishes minimum standards for state programs to protect underground sources of drinking water from endangerment by underground injection of fluids through the Underground Injection Control Program and the Ground Water Rule. Protection of drinking water is overseen by the Office of Ground Water and Drinking Water along with EPA's ten regional programs, and the support of states, tribes, and numerous partners

In 1977, Congress enacted the Clean Water Act (CWA) which amended the Federal Water Pollution Act of 1972. The CWA is the cornerstone for protection of surface water in the US. The Act gives authority to the EPA and other Federal agencies (i.e., the United States Army Corps of Engineers [USACE]) to employ a variety of regulatory and non-regulatory tools to develop waste treatment plans, finance municipal wastewater treatment facilities, and manage polluted runoff by controlling direct discharges into waterways. EPA has also set water quality standards for all contaminants in surface waters.

3.4.1 Surface Water

The project area is located within the Lake Sakakawea sub-basin about 1 mile east of Lake Sakakawea itself. The well pad is located in an area just east of the divide separating the Lower Van Hook Arm sub-watershed in the Van Hook State Wildlife Area watershed and the Lucky Mound Creek Bay sub-watershed in the Saddle Butte watershed. According to the North Dakota State Water Commission, two intermittent drainages are located in close proximity to the well pad, one approximately 340 feet to

the west of the well pad and one approximately 527 feet to the north (Figure 3-2). Drainage in the immediate vicinity of the pad is south and west into a borrow ditch that extends east-west along the north side of an existing improved road located less than 200 feet to the south. The borrow ditch drains westward to the head of the intermittent drainage approximately 340 feet from the well pad centerstake. The drainage then flows westward into Lake Sakakawea, a distance of approximately 4,774 feet. The second intermittent drainage located to the north of the well pad also flows south and then west from its head into Lake Sakakawea from its head in adjacent Section 8, a distance of approximately 9,557 feet. Both intermittent drainages are within the Lower Van Hook Arm sub-watershed.

3.4.1.1 Surface Water Impacts/Mitigation

Alternative A (No Action) – Alternative A would not result in any impact to surface water.

Alternative B (Proposed Action) – No significant impacts to surface water are expected to result from the Proposed Action. The proposed Goodbird USA 34-7H and Goodbird USA 44-7H wells have been sited to reduce direct impacts to surface water and to minimize disruption of drainage patterns across the landscape. To avoid pooling at the well pad, rain or snow-melt would be diverted around the construction site by a berm of topsoil on the cut sides (north and east) of the pad. If necessary, culverts would be implemented as needed. Erosion on the fill sides (west) would be minimized by implementation of proper engineering, waddles or straw barriers, and other BMPs to inhibit sediment bearing runoff from the pad.

3.4.2 Ground Water

The nearest active ground water well is located approximately 1 mile south of the proposed Goodbird USA 34-7H and Goodbird USA 44-7H wells (North Dakota State Water Commission). The White Shield aquifer is located less than 1 mile south of the project area (Figure 3-3). Currently there is no sole source aquifer designated for North Dakota and no pending petition for one. There are no ground water well pipelines or water pipelines on the east side of Lake Sakakawea near the proposed well site.

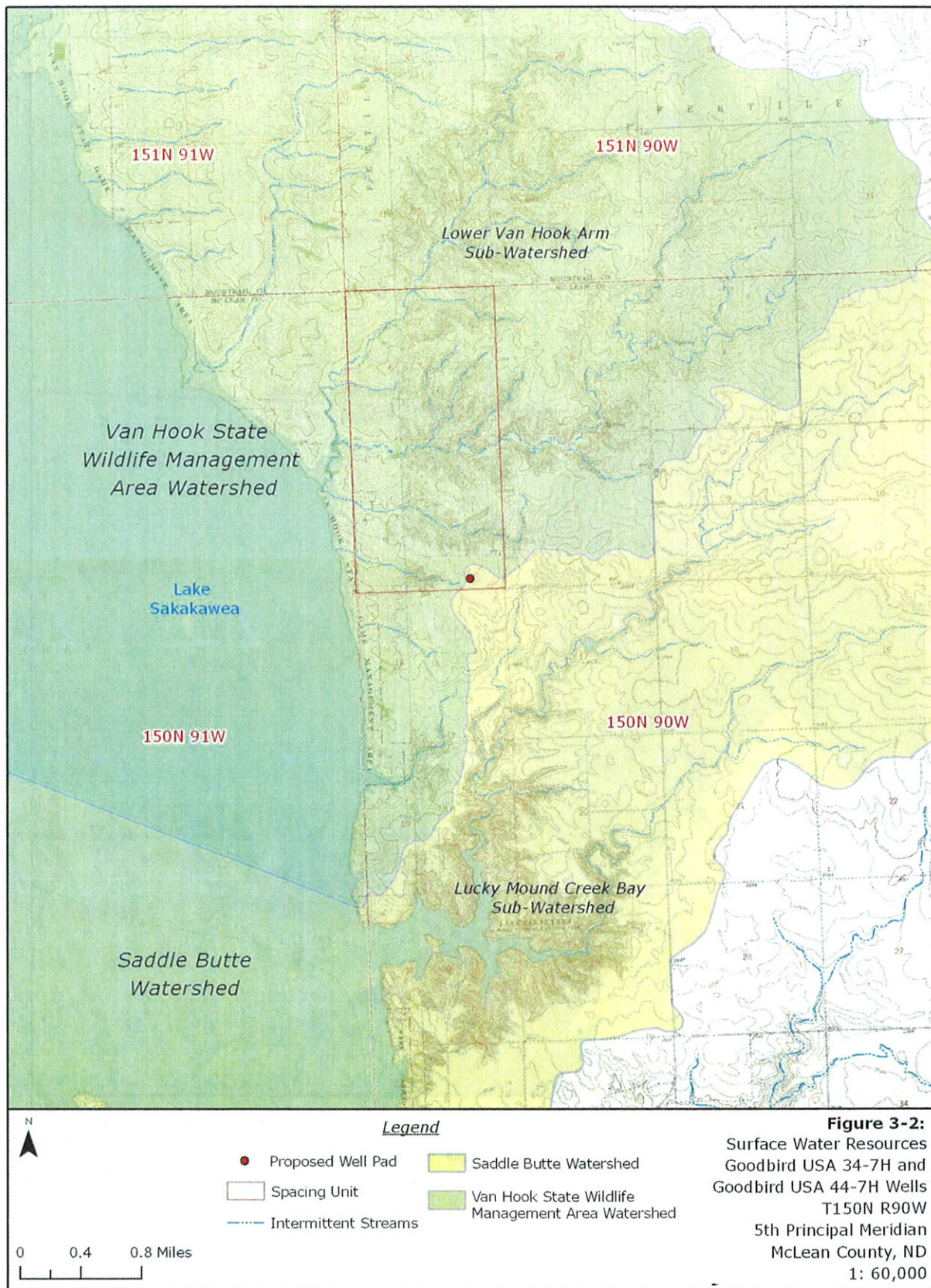
3.4.2.1 Ground Water Impacts/Mitigation

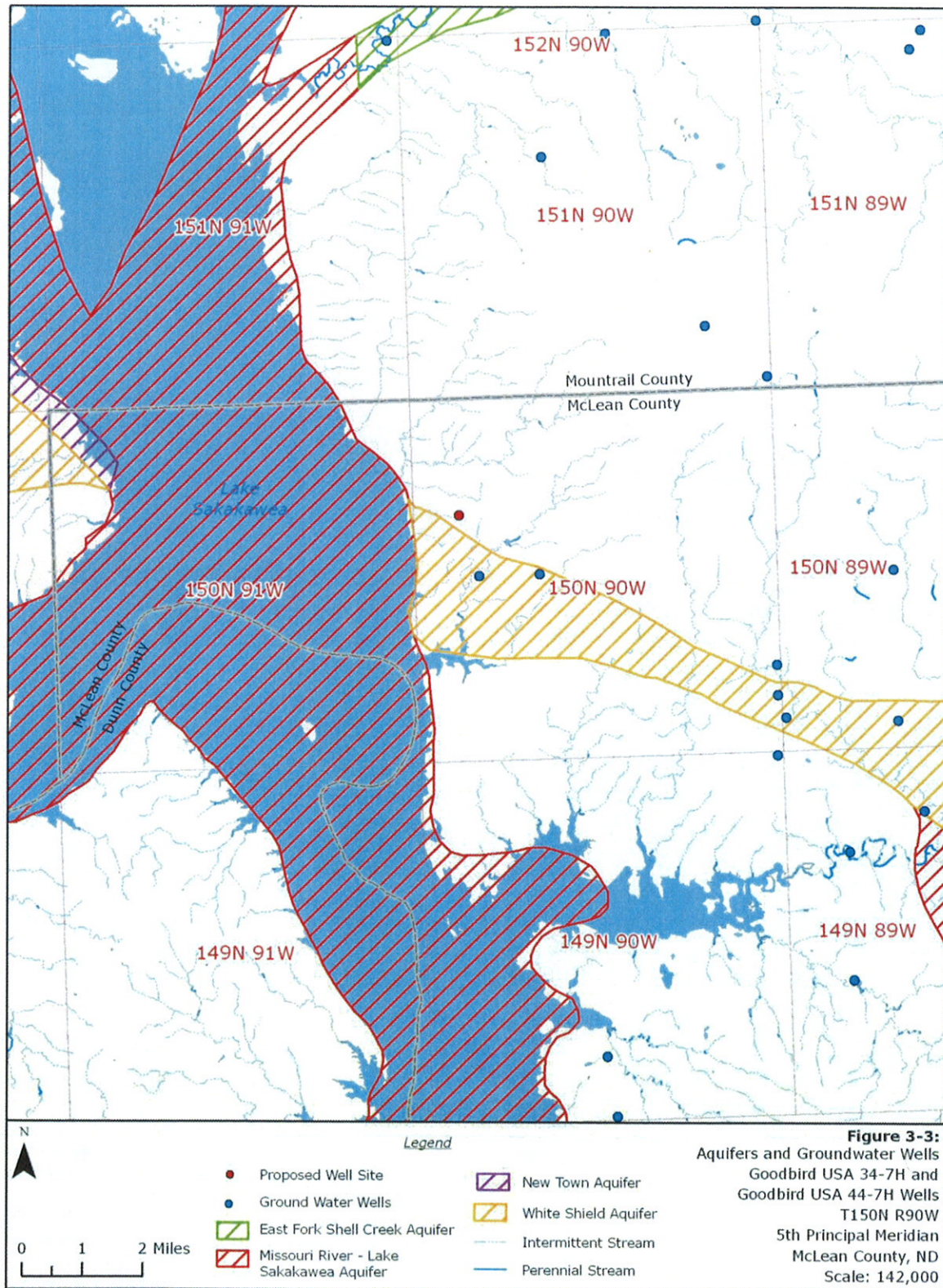
Alternative A (No Action) – Alternative A would not result in any impacts to ground water.

Alternative B (Proposed Action) – No significant impacts to ground water are expected to result from Alternative B. The proposed oil and gas wells would be cased and cemented as required by applicable law. This would isolate aquifers from potentially productive hydrocarbon and disposal/injection zones.

3.5 Air Quality

In 1970, Congress passed the Clean Air Act (CAA) and created the EPA, giving the Federal government the authority to enforce the provisions of the CAA. The CAA was amended in 1977, 1990, and 2008. One of the many revisions in the 1990 amendments recognize that Indian Tribes have the authority to implement and enforce air pollution control programs and rules they feel are appropriate for Indian Country. Although states and local agencies are required to follow all provisions of the CAA, tribes may implement only parts of the CAA they feel are appropriate for their lands.





The NDDH operates and maintains a network of Ambient Air Quality Monitoring (AAQM) stations in North Dakota. There are no stations on the Fort Berthold Indian Reservation but a station nearest to the proposed Goodbird USA 34-7H and Goodbird USA 44-7H well pad is located 37.5 mi to the south-SW at Dunn Center, North Dakota. This station (380250003) tracks criteria pollutants listed in the National Ambient Air Quality Standards (NAAQS). The criteria pollutants tracked at this station are: sulfur dioxide (SO₂), particulate matter (PM), nitrogen dioxide (NO₂), ozone (O₃), lead (Pb), and carbon monoxide (CO) (NDDH, 2010).

A state may develop standards for pollutants that may be more stringent than Federal requirements but not less stringent. North Dakota has adopted requirements for two criteria pollutants (SO₂ and O₃) that are more stringent than the Federal requirements. In 2009, North Dakota was one of 13 states that was in attainment for all criteria pollutants and was also designated in attainment for both the 2.5 particulates and the 8-hour ozone standards (Table 3-3) (NDDH, 2010).

The CAA, as amended in 1990, provided air quality and visual protections to Class I areas that include National Parks over 6000 acres and Wilderness lands over 5000 acres. There are two Class I areas in North Dakota: Theodore Roosevelt National Park (>6000 acres) and Lostwood National Wildlife Refuge (26,904 acres) which contains the Lostwood National Wilderness Area (5,577 acres) (<http://lostwood.fws.gov>). The Lostwood monitoring station is 57 miles from the Goodbird USA 34-7H and Goodbird USA 44-7H oil and gas wells site and the Theodore Roosevelt National Park monitoring station is 52 miles from the Goodbird USA 34-7H and Goodbird USA 44-7H oil and gas wells site. The Fort Berthold Reservation is in compliance with the North Dakota state ambient air quality standards, NAAQS and visibility.

Table 3-3: Federal and State Air Quality Standards and Reported Data for Dunn Center

Pollutant	Averaging Period	EPA Air Quality Standard (EPA, 2006)		NDDH Air Quality Standard (NDDH, 2009)		2009 Dunn Center		2010 Avg. Quarter 1 & 2 at Dunn Center	
		µg/m ³	Parts per million	µg/m ³	Parts per million	µg/m ³	Parts per million	µg/m ³	Parts per million
SO ₂	24-Hour	365	0.14	260	0.099	--	0.005	--	0.035
	Annual Mean	80	0.030	60	0.023	--	0.0005	--	0.0007
PM ₁₀	24-Hour	150	--	150	--	44.5	--	31.0	--
	Annual Mean	50	--	50	--	11.3	--	9.7	--
PM _{2.5}	24-Hour	35	--	35	--	14.2	--	--	--
	Annual Mean	15	--	15	--	3.4	--	--	--
NO ₂	Annual Mean	100	0.053	100	0.053	--	0.0015	--	0.0016
CO	1-Hour	40,000	35	40,000	35	--	--	--	--
	8-Hour	10,000	9	10,000	9	--	--	--	--
Pb	3-Month	1.5	--	1.5	--	--	--	--	--
O ₃	1-Hour	240	0.12	235	0.12	--	0.064	--	0.063
	8-Hour	--	0.08	--	0.08	--	0.055	--	0.058

3.5.1 Air Quality Impacts/Mitigation

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

Alternative B (Proposed Action) – Data collected at the Dunn Center AAQM station indicate the air quality at the Fort Berthold Reservation is well below the federal and state ambient air standards. Emissions of CO, SO₂, NO₂, PM, and volatile compounds from construction activities at the Goodbird USA 34-7H and Goodbird USA 44-7H oil and gas wells site would be temporary and limited to the immediate project area. It is anticipated the emissions from construction and other activities would have no detectable long-term impact on air quality or contribute to a violation of federal or state air quality standards. Fort Berthold Reservation is in compliance with the North Dakota state ambient air quality standards, NAAQS, and visibility standards and no mitigation or monitoring measures are recommended.

3.6 Threatened and Endangered Species

In accordance with Section 7 of the ESA of 1970, each Federal agency is required to ensure the following two criteria. First, any action funded or carried out by an agency must not be likely to jeopardize the continued existence of any Federally listed endangered or threatened species or candidate species. Second, no action can result in the destruction or adverse modification of designated critical habitat for a listed species. An endangered species is one that is in danger of becoming extinct throughout all or a significant portion of its range. A threatened species is one that is likely to become endangered in the foreseeable future. A candidate species is a plant or animal for which the USFWS has sufficient information on its biological status and threats to propose it as threatened or endangered under the ESA, but for which listing is precluded by other higher priority listing activities. While candidate species are not legally protected under the ESA, it is within the spirit of the ESA to consider these species as having significant value and worth protecting.

The area around the proposed well pad was surveyed to determine the potential for occurrences of Federally listed threatened, endangered, and candidate species during the site visit on October 20, 2010. The survey area consisted of 10 ac centered on the proposed well pad center-point and a 200 ft. wide corridor along the access road. Listed species potentially present in McLean County are provided in Table 3-4 (USFWS 2010).

**Table 3-4:
Federally Listed Species Potentially Present in McLean County, ND.**

Common Name	Scientific Name	Status
Dakota skipper	<i>Hesperia dactotiae</i>	Candidate
Gray wolf	<i>Canis lupus</i>	Endangered
Interior least tern	<i>Sterna antillarum</i>	Endangered
Pallid sturgeon	<i>Scaphirhynchus albus</i>	Endangered
Piping plover ¹	<i>Charadrius melodus</i>	Threatened
Sprague's pipit	<i>Anthus spragueii</i>	Candidate
Whooping crane	<i>Grus americana</i>	Endangered

¹ Designated critical habitat is present in McLean County.

None of the listed species were observed during the site survey. Habitat requirements, the potential for suitable habitat within the Project Area, and other information regarding listed species are described as follows.

Dakota Skipper

The Dakota skipper is a small (1 in. wingspan) butterfly that historically ranged from southern Saskatchewan, across the Dakotas and Minnesota to Iowa and Illinois. This species is found in high quality native prairie containing a high diversity of wildflowers and grasses. Habitat includes two prairie types: low or wet prairie dominated by bluestem grasses, wood lily, harebell and smooth camas; and upland prairie dominated by bluestem grasses, needlegrass, pale purple and upright coneflowers, and blanketflower. Due to loss of habitat throughout its historical range, this species is thought to be extirpated from Iowa and Illinois (USFWS 2009).

The Project Area is currently used as cropland and lacks the presence of wildflowers necessary to support Dakota skipper. Due to the lack of suitable habitat, this species is not thought to occur in the Project Area and no individuals were observed during site surveys. The nearest potential habitat exists approximately 0.15 mile north of the project site in existing prairie habitat, though this prairie habitat shows evidence of heavy grazing and its habitat suitability may be marginal.

Gray Wolf

The gray wolf is the largest canid species in North America. Its range once included nearly all of North America but due to extensive eradication efforts, it now occurs primarily in Alaska, Minnesota, Wisconsin, Michigan, Montana, Wyoming, Idaho, and Washington. While not common, there have been recorded sightings of gray wolves in North Dakota since 1990. These sightings are sporadic and likely consist of dispersing individuals from Minnesota and Canada. Habitat for gray wolves is primarily the forested areas in north central and NE North Dakota, though they may occur anywhere (USFWS 2008).

Suitable habitat is lacking for gray wolves in the Project Area since the area is an open, cultivated cropland field. Some wooded draws exist to the north and west of the project site, though these areas are scattered and likely too small to support wolves.

Interior Least Tern

The interior least tern is an endangered species that nests along sparsely vegetated sandbars on the Missouri and Yellowstone rivers. In North Dakota, there are an estimated 100 breeding pairs. The primary threat to this species is from loss of nesting habitat from dam construction and river channelization that removes shoreline habitat. This species is often found with the piping plover as they share the same habitats (USFWS 2008).

Within the Project Area there is no existing or potential habitat for the interior least tern. The nearest habitat is approximately 0.8 mile west of the Project Area along the shore of Lake Sakakawea.

Pallid Sturgeon

The pallid sturgeon is a large fish (up to 80 pounds) that has a flattened snout and is armored with five bony plates along the body. It was once found in the Missouri, Mississippi, Yellowstone, Platte, Kansas, Ohio, Arkansas, Red, and Sunflower rivers in

North Dakota in areas of high turbidity and natural flows. Currently, their range is fragmented by dams on the Missouri and Yellowstone rivers. Reasons for its decline include habitat loss and modification from the construction of dams and channelization of rivers (USFWS 2008).

No habitat for pallid sturgeon exists in the Project Area. The nearest potential habitat is Lake Sakakawea, approximately 0.8 mile west of the Project Area.

Piping Plover

The piping plover is a small, stocky shorebird that inhabits barren sand and gravel shores of rivers and lakes. Piping plovers tend to avoid areas of dense vegetation. Nearly all of the lakes used by piping plovers in North Dakota are alkaline in nature and have salt-encrusted, white beaches. Typically, the beaches used by piping plovers are 30 ft. to 120 ft. wide. According to 1996 data, in North Dakota this species is found in 20 counties with an estimated 399 breeding pairs in 1996 (USFWS 2009). Critical habitat for this species has been designated by the USFWS and includes the Missouri River and Lake Sakakawea.

There is no existing or potential habitat for the piping plover in the Project Area. The nearest potential habitat is along the banks of Lake Sakakawea, approximately 0.8 mile west of the Project Area.

Sprague's Pipit

Sprague's pipit is a small songbird that is found in prairie areas throughout the Northern Great Plains. Its habitat includes rolling, upland mixed grass prairie habitat with a high plant species diversity. Sprague's pipit will nest on the ground, in clumps of native grasses. Areas where this species is found typically have minimal human disturbance (Natureserve 2010).

The Project Area consists of cultivated cropland and therefore does not contain any suitable habitat for the Sprague's pipit. The nearest potential habitat is approximately 0.15 mile north of the site in rolling grasslands. No Sprague's pipits were observed during the site survey.

Whooping Crane

The whooping crane is North America's tallest bird, standing 5 ft. tall with a wingspan of 7 ft. Currently, there are approximately 264 wild whooping cranes, most within the Aransas-Wood Buffalo flock. This flock winters along the coast of Texas and breeds in Wood Buffalo National Park in Canada. Whooping cranes may be seen in North Dakota during migration between these two areas. Habitat consists of shallow wetlands characterized by cattails, bulrushes, and sedges. They may also be found in upland areas, especially during migration (USFWS 2010).

The Project Area is within the Central Flyway where 75% of confirmed whooping crane sightings take place. While the Project Area does not contain any wetlands, two wetlands occur 150 ft. west and 250 ft. east of the project boundaries. These wetland areas did not contain any water during site visits in mid-October. The Project Area consists of cultivated cropland which may be used by whooping cranes as foraging sites during migration.

3.6.1 Threatened and Endangered Species Impacts and Mitigation

Alternative A (No Action) – Under Alternative A, the Proposed Action would not be authorized and no construction and drilling would take place. Therefore, there would be no impacts to threatened or endangered species or designated critical habitat.

Alternative B (Proposed Action) – Due to the lack of native prairie vegetation within the Project Area, the Proposed Action would not adversely impact Dakota skipper nor contribute to the future listing of Dakota skipper under the ESA.

While suitable habitat for gray wolf does not exist within the Project Area, gray wolves have large ranges and may occur in the vicinity of the Project Area. Construction at the well pad would result in increased noise and disturbance which would likely discourage any wolves from using the area. Additionally, vehicle traffic leading to the Project Area would also increase the potential for wolf mortality from vehicle collisions. Additionally, big game species (e.g., white-tailed deer) that are wolves' primary prey, would be displaced from the Project Area and vicinity which would indirectly impact any wolves in the area. Due to limited habitat available and the lack of sightings in the vicinity, the Proposed Action would have **no effect** on gray wolves.

Lake Sakakawea and its shoreline provide suitable habitat for the pallid sturgeon, interior least tern, and piping plover. This potential habitat is approximately 0.8 mile west of the Project Area and approximately 170 ft. lower in elevation. The horizontal and vertical distance of the Project Area to suitable habitat would reduce disturbance to least tern and piping plover.

Secondary containment measures and the cuttings pit parameters would minimize the potential for transfer of accidentally released fluids to Lake Sakakawea and associated habitats. Given the distance from the lake, construction methodologies, and the level of containment measures, the Proposed Action **may affect, but is unlikely to adversely affect** pallid sturgeon, interior least tern, and piping plover. Additionally, the Proposed Action would not jeopardize the continued existence of these species nor is it likely to remove or adversely modify designated critical habitat for the piping plover.

While there is no suitable habitat for Sprague's pipit (candidate species) within the Project Area, native prairie habitat that could potentially support this species exists approximately 0.15 mile north and west of the site. All efforts will be made to complete construction of the well pad prior to February 1 in order to avoid impacts to this species during potential breeding and nesting seasons. A pre-construction survey for the species and its nests is unnecessary because of current land use as cultivated cropland and because of a lack of trees to provide habitat (Personal Communication, H. Riddle, U.S. Fish and Wildlife Service Biologist to TEC Wildlife Biologist Neil Lynn December 10, 2010). Should a Sprague's pipit be found within the Project Area during construction, all activities shall cease and the USFWS shall be contacted for advice on how to proceed. It is determined that due to the lack of habitat within the Project Area, the Proposed Action would not affect Sprague's pipit or contribute to the future listing of this species under the ESA.

The Project Area is located within the Central Flyway and suitable cropland food sources are found on and surrounding the Project Area in the form of small-grain crops. Two small wetlands also exist near the Project Area that whooping cranes may use during migration. Per USFWS recommendations, if a whooping crane is found within 1 mile of the Project Area, all work would cease and the USFWS would be contacted immediately. In coordination with the USFWS, work may resume after the bird(s) leave the area. The

Proposed Action **may affect, but is not likely to adversely affect** whooping cranes nor would the Proposed Project jeopardize the continued existence of whooping cranes.

3.7 Wetlands, Eagles, Migratory Birds and Other Wildlife, and Vegetation

An intensive pedestrian survey of the Project Area and was conducted on October 20, 2010 by TEC. The purpose of this survey was to collect baseline information on vegetation and wildlife at the project site. The surveyed area consisted of 10 ac centered on the proposed well pad center-point and a 200 ft. wide corridor along the proposed access road. In addition, a survey for raptors and raptor nests was conducted within 0.5 mile of the well pad center point. This survey consisted of pedestrian transects focusing on potential nest sites including cliffs and wooded draws. Wooded draws were observed from both the upland areas overlooking the draws and from bottomlands within the actual draws. Resources were evaluated using visual inspection and pedestrian transects across the site.

A BIA-facilitated on-site assessment of the well pad was conducted on October 21, 2010. A BIA Environmental Protection Specialist, a representative from Marathon, and TEC personnel were present. During the on-site, construction suitability with respect to topography, stockpiling, drainage, erosion control, and other surface issues were considered. Those present at the on-site agreed that the project location, with the implementation of minimization measures, would minimize impacts to sensitive wildlife and vegetation resources compared to other nearby potential sites.

3.7.1 Wetlands

Wetlands are defined in both the 1977 Executive Order 11990, *Protection of Wetlands*, and in Section 404 of the CWA, 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 were identified within the proposed well pad and access road locations. However wetlands exist approximately 100 ft. to the west and 50 ft. to the east of the proposed well pad disturbance area. Based USGS GAP analysis, these wetlands are classified as freshwater, emergent vegetation and are relatively small (<0.5 ac). During the site visit, none of the identified wetlands contained standing water. It is apparent that these two small previously mapped wetlands have been utilized as cropland in the past.

3.7.1.1 Wetland Impacts/Mitigation

Alternative A (No Action) – Under Alternative A, no construction would take place. Therefore, there would be no impacts to wetlands.

Alternative B (Proposed Action) – Since there are no wetlands within the disturbance area of the proposed well pad or access road, there would not be any direct impacts to wetlands. Indirect impacts may occur from erosion or a spill. BMPs designed to minimize erosion include use of water bars, silt fences, hydroseeding, erosion mats, and biologs. The cuttings pit would be lined with a minimum 20-mil liner to prevent leakage into

surrounding soils. Additionally, the storage tanks and heater/treater would be surrounded with an impermeable berm that would act as secondary containment to guard against possible spills.

3.7.2 Bald and Golden Eagles

Protection for bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) is provided through the BGEPA and the Migratory Bird Treaty Act (MBTA). The BGEPA was written to protect and preserve bald and golden eagles, both of which are treated as species of concern by the Department of the Interior (DOI). 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 bald or golden eagles. The BGEPA defines "disturb" as 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.

Bald eagles are found throughout North Dakota but primarily nest along the Missouri river, Devils Lake, and the Red River areas. Preferred habitat for bald eagles includes large rivers and lakes bordered with mature stands or old-growth trees. Breeding habitat often will include some type of edge and a relatively open canopy with nests typically constructed close to water (less than 1.2 mi) (Hagen et al 2005). No bald eagles or bald eagle nests were observed within 0.5 mile of the proposed well pad and access road during the field survey conducted on October 20, 2010.

Golden eagles are found in the rugged portions of badlands, buttes overlooking native prairie, and large trees, and are often associated with prairie dog towns. In North Dakota, golden eagles are found in the badlands, Killdeer Mountains, and upper reaches of the Missouri River in the western portions of the state. Golden eagles will nest on cliffs and trees such as cottonwoods and green ash, or even near or on the ground. Nests are often reused in subsequent years (Hagen et al 2005). No golden eagles or nests were observed within 0.5 mile of the proposed well pad and access road during the field survey conducted on October 20, 2010.

The Gap Analysis Project (GAP) for North Dakota modeled bald and golden eagle habitat throughout the state. According to the GAP data, habitat for bald and golden eagles does not exist in the Project Area itself, though habitat is found in the wooded draws to the north and west of the site (Figure 3-4) (USGS 2005). In addition to mapped eagle habitat, the North Dakota Game and Fish Department (NDGFD) maintains a database of all known eagle nest locations. A review of this database indicates that there are no known nests within a 10 mile radius of the Project Area. The nearest nest is approximately 15 mi SW of the Project Area, near McKenzie Bay on Lake Sakakawea (S. Johnson, personal communication, NDGFD, November 30, 2010).

3.7.2.1 Bald and Golden Eagle Impacts/Mitigation

Alternative A (No Action) – Under Alternative A, no construction would take place. Therefore, there would be no impacts to bald and golden eagles.

Alternative B (Proposed Action) – No bald or golden eagles were observed during site surveys and no eagle nests were found within 0.5 mi of the Project Area. Therefore, no impacts to bald or golden eagles are anticipated to occur from implementation of the Proposed Action. Should any bald or golden eagle nests be subsequently found within

0.5 mile, all construction activities shall cease and the USFWS would be contacted for advice on how to proceed.

3.7.3 Migratory Birds and Other Wildlife

The MBTA provides protection for nearly all bird species in the US, with the exception of introduced or nonnative species. The MBTA regulates impacts to these species such as mortality, habitat degradation, and displacement of individual birds. The MBTA defines "take" to include any means or in any manner, hunting, pursuing, wounding, killing, possessing, or transporting any migratory bird, nest, egg, or part thereof, except when specifically permitted by regulations. Under the MBTA, active nests are also protected.

The Project Area lies within the Central Flyway of North America and as such, this area is used by many migrating birds during their spring and fall migrations. Many birds also breed and nest in the area. The nearby Audubon National Wildlife Refuge system has recorded 246 species of birds occurring in the area, with 98 species breeding in the vicinity (USFWS 2007). However, because the project area itself is currently used as a cultivated crop field and no trees exist there, the project area contains no habitat for nesting migratory birds (USFWS 2010b). A review of the NDGFD database does not show any known raptor nests within a 10 mile radius of the Project Area.

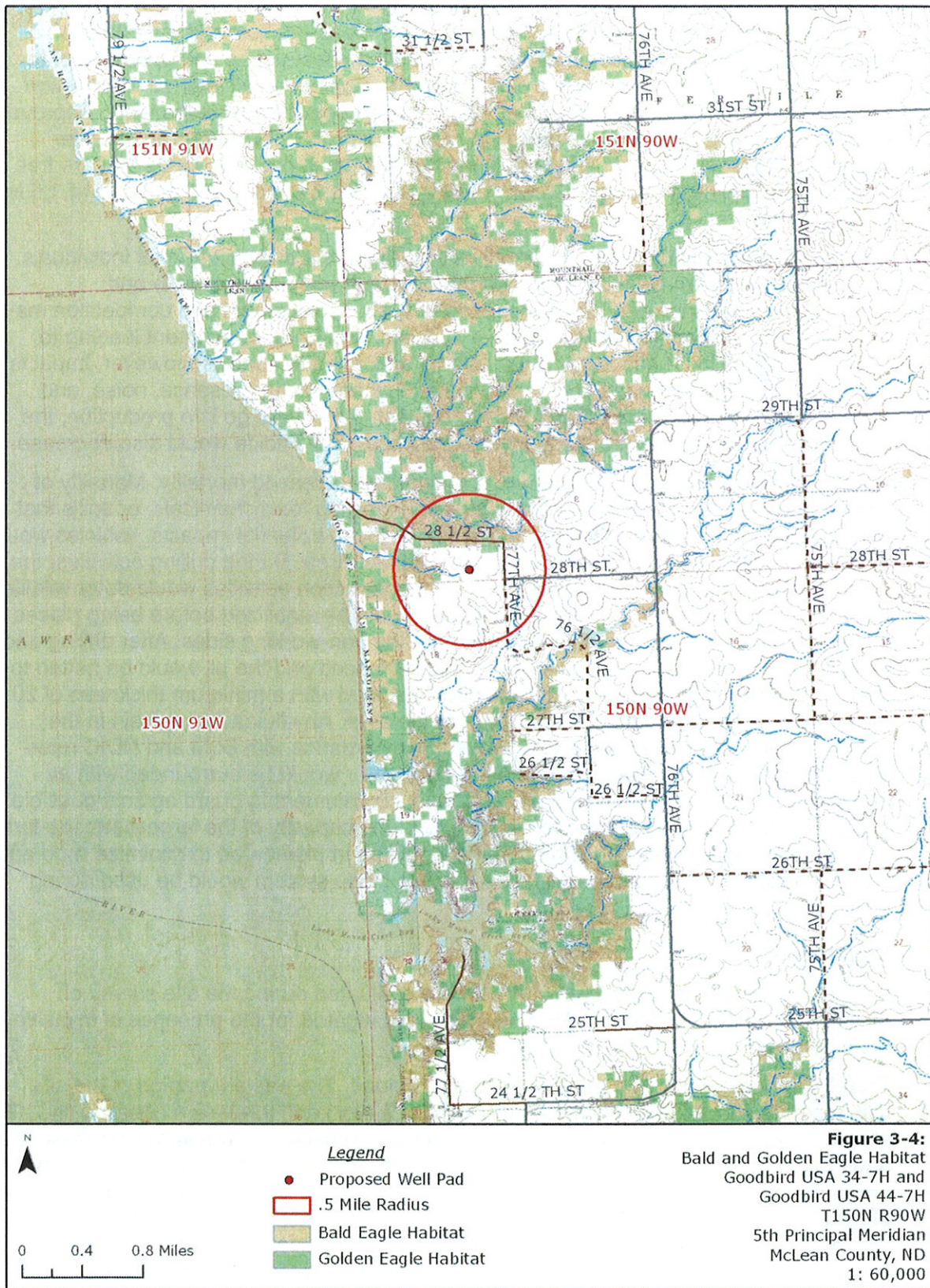
Numerous other wildlife species have the potential to occur in the Project Area. Common species include mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), sharp-tailed grouse (*Tympanuchus phasianellus*), badger (*Taxidea taxus*), song birds, coyote (*Canis latrans*), red fox (*Vulpes vulpes*), cottontail rabbit (*Sylvilagus* spp.), jackrabbit (*Lepus* spp.), and common porcupine (*Erethizon dorsatum*) (USFWS 2007). The only wildlife observed during the site survey was in the area surrounding the well pad and included white-tailed deer, various rodent burrows, northern harrier (*Circus cyaneus*), and horned lark (*Eremophila alpestris*)

3.7.2.2 Migratory Birds and Other Wildlife Impacts/Mitigation

Alternative A (No Action) – Under Alternative A, the Proposed Action would not be authorized and no construction would take place. Therefore, there would be no impacts to migratory birds and other wildlife.

Alternative B (Proposed Action) – The Project Area is situated within a cultivated field which provides habitat for some wildlife species. Therefore, ground clearing, drilling, and long-term production activities associated with the Proposed Action would potentially impact individuals by displacing them from suitable habitat. A lack of trees and other topographic relief in the Project Area limits nesting use in the Project Area to ground nesting species. Due to the current land use of the Project Area as cultivated cropland and the lack of trees in the area, no breeding or nesting habitat exists for migratory birds. As such, no pre-construction survey would be required if construction takes place after February 1, the beginning of the breeding season (USFWS 2010b). If any migratory bird is found on-site during construction, construction activities would cease and the USFWS shall be notified for advice on how to proceed.

The Project Area is located within an upland area that is approximately 1.0 mile east and 170 ft. higher than the nearest perennial source of water, Lake Sakakawea. This horizontal and vertical distance, along with shielding vegetation between the lake and Project Area, would minimize impacts to any shoreline nesting migratory birds by masking visual and noise disturbance resulting from the Proposed Action.



Additionally, all reasonable, prudent, and effective measures to avoid the taking of migratory bird species would be implemented during construction and operation of the wells. These measures include the use of suitable mufflers on all internal combustion engines; compressor components that would reduce noise; travel restricted to 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 covering cuttings pits with netting that has a maximum mesh size of 1.5 in. or less.

Impacts to other wildlife would occur primarily through the displacement of individuals. As a result, wildlife may utilize marginal habitat where population density and competition would increase. Consequences of such displacement and competition may include lower survival, lower reproductive success, and lower recruitment leading to population impacts. These impacts would vary according to species; however, impacts would be greatest during the construction phase when human presence, noise, and vehicle use in and near the Project Area is highest. If the wells go into production, the amount of human activity would decrease and impacts to wildlife would also decrease.

Another potential impact to wildlife would occur from increased mortality. Mortality of wildlife species may occur from vehicle strikes, ingesting toxic chemicals, or spills that contaminate individuals and habitat. To minimize these potential impacts, vehicles would observe all speed limits in and leading to the Project Area. During drilling activities, the noise, movements, and lights associated with construction activities would deter wildlife from entering the area. The cuttings produced would be stabilized before being placed in a lined cuttings pit. This pit would be fenced on the non-working sides. After drilling and completion operations, the access side would be fenced and the pit would be netted to prevent access by wildlife. The pit itself would be lined with a minimum thickness of 20-mil to prevent seepage and contamination of the area. Any fluids that remain in the cuttings pit would be removed and disposed in accordance with BLM and NDIC rules and regulations. The storage tanks and heater/treater would be surrounded with an impermeable berm that would act as secondary containment to guard against possible spills. This berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. Other BMPs would be implemented to minimize wind and water erosion of soil resources and a semi-closed loop system would be used during drilling.

3.7.3 Vegetation

Vegetation resources in the Project Area were evaluated during the site survey on October 21, 2010. The Project Area was also investigated for the presence of invasive plant species.

The Project Area is located within cultivated cropland. The eastern portion of the site was recently mowed and wild mustard (*Brassica kaber*) and three-awn (*Aristida* sp.) are present. Outside of the proposed well pad boundary, cultivated cropland extends south and east of the site. Approximately 0.15 mile north and west of the site, native vegetation exists on rolling hills (refer to Figure 3-1). These areas are classified by the GAP program as a mix of grasslands, including needlegrass prairie, sand prairie, and little bluestem bunchgrass prairie. Characteristic species in these areas include western wheatgrass (*Pascopyrum smithii*), green needlegrass (*Nassella viriula*), little bluestem (*Schizachyrium scoparium*), and junegrass (*Koeleria macrantha*). Shrubs and trees are present at the bottom and along the sides of some hills. These areas are classified by

the North Dakota GAP as green ash woodland, mixed deciduous and conifer woodland, and upland deciduous shrubland. Species observed in these areas include western snowberry (*Symphoricarpos occidentalis*), green ash (*Fraxinus pennsylvanica*), American elm (*Ulmus americana*), prairie rose (*Rosa arkansana*), and silver buffaloberry (*Shepherdia argentea*). No threatened or endangered plant species are listed for McLean County. Figure 3-5 depicts vegetation within the Project Area and Figure 3-6 depicts the rolling prairie areas north and west of the site.



Figure 3-5: Cultivated Cropland on Proposed Well Pad Site



Figure 3-6: Rolling Hills and Native Prairie North and West of the Project Area

In addition, the Project Area was surveyed to determine the presence of noxious weeds. The State of North Dakota has declared 11 species as noxious under the North Dakota Century Code. Of these species, five have been reported in McLean County, though none was found within the Project Area (Table 3-5).

*Table 3-5:
Noxious Weed Species in McLean County, ND*

Common Name	Scientific Name	2009 McLean County Reported Acres
Absinth wormwood	<i>Artemisia absinthium</i>	4,216
Canada thistle	<i>Cirsium arvense</i>	6,581
Dalmatian toadflax	<i>Linaria genistifolia</i>	0
Diffuse toadflax	<i>Centaurea diffusa</i>	0
Field bindweed	<i>Convolvulus arvensis</i>	14
Leafy spurge	<i>Euphorbia esula</i>	707
Musk thistle	<i>Carduus nutans</i>	126
Purple loosestrife	<i>Lythrum salicaria</i>	0
Russian knapweed	<i>Acroptilon repens</i>	0
Saltcedar	<i>Tamarix ramosissima</i>	0
Spotted knapweed	<i>Centaurea maculosa</i>	0
Yellow starthistle	<i>Linaria vulgaris</i>	0

Source: North Dakota Department of Agriculture 2010.

3.7.3.1 Vegetation Impacts/Mitigation

Alternative A (No Action) – Under Alternative A, the Proposed Action would not be authorized and no construction would take place. Therefore, there would be no impacts to vegetation.

Alternative B (Proposed Action) – Under the Proposed Action, construction of the well pad and access road would take place on approximately 5.05 ac within cultivated cropland so there would be no direct impact to native vegetation. Indirect impacts to native vegetation, such as erosion, near the site would be minimized through the use of water bars, hydro-seeding, erosion mats, and biologs.

Following initial construction and drilling, interim reclamation measures would be implemented and include reduction of cut and fill slopes, redistribution of stockpiled topsoil, and re-seeding of disturbed areas with a native grass seed mixture consistent with surrounding vegetation. If commercial production equipment is installed, the well site would be reduced in size to accommodate the production facilities, while leaving adequate room to conduct normal well maintenance and potential recompletion operations. The remainder of the well pad would be reclaimed. Reclamation activities would include leveling, re-countering, treating, backfill and re-seeding. Erosion control measures would be installed as appropriate. Stockpiled topsoil would be redistributed and reseeded as recommended by the BIA, utilizing native vegetation. A noxious weed plan would be implemented to reduce the potential for noxious weeds to become established in the Project Area.

If commercial production is not established at one or either of the proposed wells, or upon final abandonment of commercial operations, all disturbed areas would be promptly reclaimed. The access road and well pad area would be re-contoured to match topography of the original landscape, and reseeded with a native grass mixture that is consistent with surrounding native species to ensure a healthy and diverse vegetative community that is free of noxious weeds. Re-vegetation would take place at the first seasonal opportunity, generally before May 15 and after October 15. Erosion control measures would be installed as appropriate. Maintenance of the grass seeding would continue until such time that the productivity of the stand is consistent with surrounding vegetation and is free of noxious weeds.

3.8 Cultural Resources

Cultural resources is a broad term encompassing sites, objects, or practices of archaeological, historical, cultural, and religious significance. They are present within landscapes as districts, sites, buildings, structures, or objects (Little et al. et al 2000:43). Cultural resources also include Traditional Cultural Properties (TCPs) that are locations with enduring significance to the beliefs, customs, and/or practices of living communities. Cultural resources are protected by a variety of federal laws, regulations and agreements. Section 106 of the *National Historic Preservation Act of 1966* (16USC470 et seq.) requires federal agencies to take into account the effects of an undertaking on any district, site, building or object that is listed in, or is potentially eligible for listing in, the National Register of Historic Places (National Register) prior to the expenditure of any federal funds or issuance of any federal license. *The American Indian Religious Freedom Act of 1978* (42USC 1996) protects sites and practices of significance to Native Americans from a cultural and religious standpoint. Sacred sites may be identified by a tribe or an authoritative individual (Executive Order 13007). Special protections are afforded human remains, funerary objects, and objects of cultural patrimony under the *Native American Graves and Protection and Repatriation Act* (NAGPRA, 25USC 3001 et

seq.). Culturally sensitive locations called Areas of Native American Concern which may not be considered eligible for nomination to the National Register may still be protected under the *American Indian Religious Freedom Act* (Parker and King 1990:1).

The process of taking into account the effects of an undertaking on cultural resources is referred to as a "Section 106 review". The Section 106 review (also called a cultural resources inventory) identifies all cultural resources within the Area of Potential Effect (APE) for an undertaking, and evaluates them for eligibility to the National Register. The evaluation of National Register eligibility is based on a set of four criteria (A-D) for significance (36CFR60.6) and seven aspects of integrity (intactness). The eligibility criteria include association with significant events or persons, distinctive construction or artistic characteristics, and a record of yielding or potentially yielding information considered important to prehistory or history. The seven aspects of integrity include integrity of location, setting, materials, design, workmanship, feeling, and association.

Consultation with various parties is required throughout the process, most especially the State Historic Preservation Officer (SHPO) or the Tribal Historic Preservation Officer (THPO) if the proposed action is proposed within the exterior boundaries of a Native American Reservation, and a THPO has been appointed by Tribal Council resolution and the office and function has been certified by the National Park Service. The MHA Nation has appointed a THPO who operates with the same authority as the SHPO and with whom the BIA consults and corresponds regarding cultural resources on the Fort Berthold Reservation.

An intensive cultural resources inventory of the proposed Goodbird USA 34-7H and Goodbird USA 44-7H well pad and associated access road was completed on October 25, 2010 by personnel from KL&J. A 10 ac block was surveyed around the proposed well pad location and a 150 foot wide corridor was surveyed for the proposed access road. No historic properties were located that appear to possess the qualities of integrity and meet at least one of the criteria (36CFR60.6) for inclusion on the National Register. As the lead federal agency, and as provided for in 36CFR800.5, on the basis of the information provided, the BIA reached a determination of no historic properties affected for the undertaking. This determination was communicated to the THPO by the BIA on November 9, 2010 (Appendix C), but the THPO did not respond within the allotted 30 day comment period.

3.8.1 Cultural Resources Impacts/ Mitigation

Alternative A (No Action) – Under Alternative A (No Action), the proposed project would not occur and existing conditions would continue. Alternative A would have no direct or indirect impacts on cultural resources.

Alternative B (Proposed Action) – Alternative B is unlikely to impact cultural resources, as no cultural resource sites or TCPs were identified and recorded within the Project Area during the Class III cultural resources inventory and TCP survey. In the event of an inadvertent discovery, Marathon would immediately cease surface disturbance activities and notify the THPO and the BIA. The cultural property would be secured, the site(s) would be evaluated, and a determination made by the THPO and BIA regarding the implementation of mitigation measures for the site(s). Additional ground disturbance by Marathon at the site(s) would not occur until written authorization to proceed has been obtained from the BIA. The collection of artifacts or disturbance of cultural resources by project personnel is wholly prohibited.

3.9 Socioeconomic Conditions

Socioeconomic conditions are based on the social characteristics and economic status of the people living within and in the vicinity of the project area, as well as the composition of local and regional businesses employment, transportation, etc. Other factors that influence the socioeconomic characteristics of an area include geographic characteristics (e.g., location in relation to urban areas), natural resources (e.g., presence of oil and gas), and climate.

Six major communities are located within the Fort Berthold Reservation: New Town, White Shield, Mandaree, Four Bears, Twin Buttes, and Parshall. These communities provide small business amenities such as restaurants, grocery stores, and gas stations; however, they lack the major shopping centers typically found in larger cities of the region such as Minot and Bismarck. According to 2000 US Census data, educational/health/social services is the largest industry on the Reservation, followed by the entertainment/recreation/accommodation/food industry¹. The Four Bears Casino, Convenience Store, and Recreation Park are also major employers with over 320 employees, 90% of whom are tribal members. In addition, several industries are located on the Reservation, including Northrop Manufacturing, Mandaree Electrical Cooperative, Three Affiliated Tribes Lumber Construction Manufacturing Corporation, and Uniband.

Several paved state highways provide access to the Reservation including ND Highways 22, 23 and 27 as well as Highway 1804. These highways provide access to larger communities such as Bismarck, Minot and Williston. Paved and gravel BIA roads serve as primary connector routes within the Reservation. In addition, networks of rural gravel roadways are located throughout Reservation boundaries providing access to residences, oil and gas developments, and agricultural land. Major commercial air service is provided out of Bismarck and Minot, with small-scale regional air service provided out of New Town and Williston.

3.9.1 Socioeconomic Impacts/Mitigation

Alternative A (No Action) – Alternative A would not impact socioeconomic conditions in the project area. However, Alternative A would not allow for the development of oil and gas resources included under the Proposed Action, and therefore would preclude 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 would not have a substantial effect on socioeconomic conditions in the project area, although it would generate minor, beneficial impacts on tribal employment and income. Qualified individual tribal members may find employment and associated income as a result of the proposed oil and gas development. Additionally, the Proposed Action may result in indirect (secondary) economic benefits to tribal and other area business owners due to project expenditures on equipment and supplies (e.g., fuel) and from worker expenditures food, lodging, and other necessities.

¹ It should be noted that the most recent US Census data dates from 2000. Since 2000, there has been an increasing focus on oil and gas development on the Fort Berthold Reservation. As such, it is anticipated that these trends have likely shifted; however, new data from the 2010 US Census is not yet available.

Project related vehicle trips during construction, drilling, and operations would increase traffic on area roadways, although these increases would be minor overall, with construction and drilling traffic being temporary. Operations related traffic would be long-term, lasting for the duration of the project, but would likely be negligible. Marathon will follow Mountrail County, BIA, and North Dakota Department of Transportation rules and regulations regarding rig moves and oversize/overweight loads on state and county roads to maintain safe driving conditions.

3.10 Environmental Justice

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

Generally, the Three Affiliated Tribes qualify for environmental justice consideration as both a minority population and a low-income population. The population of North Dakota is predominantly White. Tribal members compromise 5.0% of North Dakota’s population but 30.0% of the population of Mountrail County.

In 2000, both the Fort Berthold Reservation and Mountrail County had per capita and median household incomes that were lower than statewide averages. Mountrail County has slightly lower unemployment rate than the state average, while Fort Berthold’s unemployment rate was substantially greater². See Table 3-6:, Employment and Income.

Location	Per Capita Income	Median Household Income	Unemployment Rate	Individuals Living Below Poverty Level
Mountrail County	\$13,422	\$27,098	3.4%	19.3%
Fort Berthold Reservation	\$10,291	\$26,274	11.1%	28.1%
Statewide	\$17,769	\$34,604	4.6%	11.9%

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

Population decline in rural areas of North Dakota has been a trend as individuals move toward metropolitan areas of the state, such as Bismarck and Fargo. While Mountrail County’s population has been slowly declining, the Fort Berthold Reservation has witnessed a steady increase in population. American Indians are the majority population on the Fort Berthold Reservation³ but are the minority population in Mountrail County and the state of North Dakota. See Table 3-7:, Demographic Trends.

² While more current data reflecting income, unemployment, and poverty levels within the Fort Berthold Reservation are not available, it is anticipated that 2010 numbers may show different trends. The exploration and production of oil and gas resources on the Reservation since 2006 have created employment opportunities that have likely affected these economic indicators. However, this assessment uses the best available data.

**Table 3-7:
Demographic Trends**

Location	Population in 2000	% of State Population	% Change 1990–2000	Predominant Race	Predominant Minority
Mountrail County	6,631	0.92%	-5.6%	White	American Indian (30.0%)
Fort Berthold Reservation	5,915	0.92%	+9.8%	American Indian ³	White (26.9%)
Statewide	642,200	--	+0.5%	White	American Indian (5.0%)

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

3.10.1 Environmental Justice Impacts/Mitigation

Alternative A (No Action) – Alternative A would not result in environmental justice impacts. However, it would also preclude potential beneficial impacts such as job creation that could benefit environmental justice 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 Action 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. As such the Proposed Action is not anticipated to result in disproportionately adverse impacts to minority or low-income populations. Oil and gas development of the Bakken Formation is occurring both on and off the Fort Berthold Reservation. Employment opportunities related to oil and gas development may lower the unemployment rate and increase the income levels on the Fort Berthold Reservation. In addition, the Three Affiliated Tribes and allotted owners of mineral interests may receive income from oil and gas development on the Fort Berthold Reservation in the form of royalties, if drilling and production are successful, as well as from TERO (Tribal Employee Rights Office) taxes on construction of drilling facilities. As such, the Proposed Action would potentially result in minor, beneficial impacts to environmental justice populations associated with the Reservation and Mountrail County.

3.11 Infrastructure and Utilities

The infrastructure of the Fort Berthold Indian Reservation includes roads, utilities, bridges, and facilities for water, wastewater, and solid waste. Paved and gravel roadways and electrical utility lines comprise the known existing infrastructure and utilities in the vicinity of the Project Area.

An existing improved gravel road is located approximately 150 feet south of the proposed Goodbird USA 34-7H and Goodbird USA 44-7H well pad, and State Highway 37 lies approximately 6.5 miles east of the Project Area and can be accessed via BIA or County gravel roads. Electrical utility lines run along the existing improved gravel road to the south of the Project Area.

³ According to the North Dakota Tourism Division, there are 10,400 enrolled members of the Three Affiliated Tribes.

Proposed infrastructure and utilities in the vicinity of the Project Area includes short extension and tie ins to existing QEP pipelines and electrical utility lines which run adjacent to the existing improved gravel road to the south of the proposed Project Area.

3.11.1 Infrastructure and Utility Impacts/Mitigation

Alternative A (No Action) – Under Alternative A (No Action), the proposed project would not occur and existing conditions would continue. Alternative A (No Action) would have no impacts on infrastructure and utilities.

Alternative B (Proposed Action) – Selection of Alternative B would result in the construction of a single, 147 foot long access road. The access road would be maintained by Marathon in accordance with BIA/BLM standards and would allow year-round access.

Alternative B would also result in an increase in vehicle traffic on local roadways, . Project related vehicle trips during construction, drilling, and operations would increase traffic on area roadways, particularly on County Road 29th Street NW. These increases would be minor overall, with construction and drilling traffic being temporary. Operations related traffic would be long-term, lasting for the duration of the project, but would likely be negligible.

Measures to minimize impacts on local roadways would include the utilization of private roads and/or the utilization of roads approved for usage as haul routes by applicable tribal, township, county, and/or state governing bodies. Additionally, all local, county, tribal, and state regulations and ordinances regarding rig moves, oversize/overweight equipment, and frost law restrictions would be adhered to during all phases of drilling. Established load restrictions for state and BIA roadways would be observed and haul permits would be acquired as appropriate.

In April 2010, as a result of prohibitive costs, the McLean County Commission opted to discontinue maintenance of roads severely impacted by oil operations. Signage on the affected roads will include "No Maintenance" and "Soft Grades." Additionally, a request has been made by the McLean County Road Superintendent that oil-related traffic avoid using roads to Deep Water Bay.

Additional infrastructure and utilities resulting from Alternative B includes the construction of oil and gas gathering pipelines and a buried electrical line approximately 200 feet in length from the well pad to tie-ins with existing Questar Exploration and Production Company (QEP) pipelines and McLean Electric Cooperative's electric utility lines extending east-west along the south side of the existing improved road immediately south of the proposed well pad. The pipeline/electrical utility corridor would be located within the new access ROW from the well pad to the edge of the existing road ROW, a distance of 147 feet. Pipelines would tie in with existing pipelines on the north side of the existing improved road. Electrical lines will also connect with existing utilities on the south side of the existing improved road. Any future additional oil, gas, or salt water pipelines would be constructed within the existing access road ROW, or additional NEPA analysis and approval from the BIA would be undertaken.

Any produced water generated by the proposed wells would be collected in storage tanks on-site and periodically trucked to an approved disposal site. The frequency of trucking activities would be dependent upon the volumes and rates of production.

All permanent above ground production facilities would be painted to blend with the surrounding landscape, as determined by the BIA, based on standard colors recommended by the BLM.

3.12 Public Health and Safety

Issues of concern which may contribute to public health and safety include hydrogen sulfide (H₂S) gas⁴, hazardous materials which may be used or produced in association with well construction and production, and traffic hazards related to increased traffic and heavy equipment.

3.12.1 Public Health and Safety Impacts/Mitigation

Alternative A (No Action) – Under Alternative A (No Action), the proposed project would not occur and existing conditions would continue. Alternative A (No Action) would have no direct or indirect impacts on public health and safety.

Alternative B (Proposed Action) – Impacts to public health and safety from H₂S gas, hazardous materials, and traffic are unlikely and would be minimized by project design and environmental mitigation measures as described below.

H₂S Gases

Alternative B is unlikely to result in the release of toxic levels of H₂S gas. Marathon has in place an H₂S Contingency Plan, which serves as a blanket plan for all sites. The H₂S Contingency Plan is required by the BLM and provides safety measures and response procedures to prevent accidental releases of H₂S and protect individuals living in the vicinity of well sites. In the case of the proposed Goodbird USA 34-7H and Goodbird USA 44-7H well pad, the nearest inhabited dwelling is located approximately 1.2- miles to the northeast of the project area.

Hazardous Materials

Hazardous materials regulations applicable to the Proposed Action include the Superfund Amendments and Reauthorization Act of 1986 as amended, which establishes EPA chemical reporting requirements, and the EPA's list of extremely hazardous substances (40 CFR 355). Marathon would not use any extremely hazardous materials as defined by the Superfund or EPA lists with regard to construction, drilling, or production operations.

The Spill Prevention, Control, and Countermeasure (SPCC) rule establishes requirements for spill prevention, preparedness, and response. The purpose of the SPCC rule is to prevent oil spills from reaching navigable waters and adjoining shorelines. Marathon establishes and implements an SPCC plan for each of its well pads on the Reservation, as would be the case for the proposed Goodbird USA 34-7H and Goodbird USA 44-7H.

⁴ H₂S is extremely toxic in concentrations exceeding 500 parts per million (ppm). High concentrations of H₂S have not been encountered in the Bakken Formation; however, in order to reach the targeted formation, drilling operations would have to break through other formations in which H₂S is known to occur in various concentrations.

Marathon will take preventative measures with regard to impacts that could result from potential spills of oil and other hazardous materials, as the proposed well pad is located less than 1 mile from Lake Sakakawea. These measures would include:

- A semi-closed loop drilling system would be utilized whereby drilling fluid is circulated from the well into steel mud tanks and the drill cuttings are separated from the drilling fluid, stabilized, and placed in the lined cuttings pit on-site. The drill cuttings pit would be lined with a reinforced synthetic liner with a minimum thickness of 20 mil to prevent leakage of cuttings into the surrounding soil. Any free fluid remaining in the cuttings pit would be removed and disposed of in accordance with BLM and NDIC regulations. The stabilization process would take place within 30 days after well completion. The pit would then be reclaimed and covered with at least 4 ft. of backfill and surface sloped, when practicable, to promote surface drainage away from the reclaimed area.
- Production equipment including a vertical heater/treater, and storage tanks (typically four 400 barrel steel tanks for oil and one 400 barrel fiberglass tank for saltwater, per well) would be installed at the site. The heater/treater and storage tanks would be surrounded by an impermeable berm 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.

Traffic

Traffic-related impacts to public health and safety would likely be short-term and minimal. Adherence to traffic measures for the project would minimize safety concerns associated with the project.

3.13 Cumulative Considerations

The NEPA and the CEQ regulations require consideration of the cumulative impacts of a proposed action. Cumulative impacts are the impacts on the environment which results from the incremental impacts from a proposed 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). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (CEQ Regulations 40 CFR Part 1508.7).

3.13.1 Past, Present, and Reasonably Foreseeable Actions

The environment of western North Dakota has been impacted by oil and gas development for approximately the past 100 years. Natural gas from glacial deposits was first utilized to light and heat homes in Bottineau County prior to 1910 and the first productive oil well was drilled in Williams County in 1951 (Blumle 2000:108-109). Two oil booms, of varying intensity, have occurred in that time including one in the 1950s and one in the 1970s after the Arab Oil Embargo that continued into the 1980s (Blumle 2000:109). The current oil boom which began in the late 1990s is the third one to occur in western North Dakota.

As of October 2010, there were more than 5,000 producing oil wells in North Dakota, producing more than 10 million barrels of oil per month. Of this total, approximately 40,000 barrels of oil per month are being produced in McLean County (NDIC, Oil and Gas Division, Oil Production Statistics). According to the North Dakota Department of Mineral Resources, there are 291 active wells within a 20 mile radius of the proposed

well pad (Figure 3-7), and there is one active well within 1 mile of the Goodbird USA 34-7H and Goodbird USA 44-7H wells (Table 3-8).

*Table 3-8:
Summary of Active and Proposed Wells*

Distance from Site	Number of Active Wells
1 mile radius	1
5 mile radius	8
10 mile radius	53
20 mile radius	291

Source: North Dakota Department of Minerals

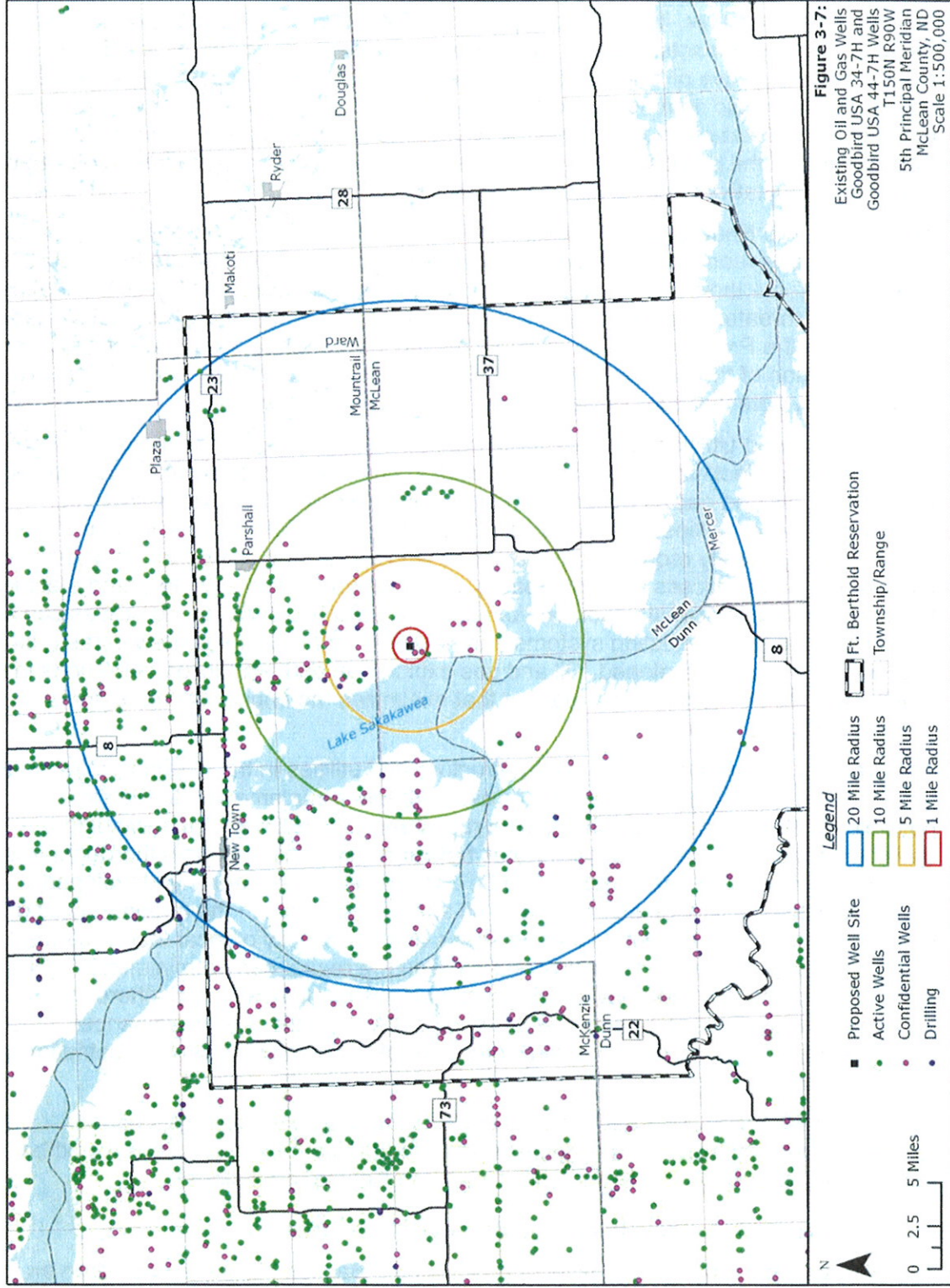
The Bakken Formation covers approximately 25,000 mi² underneath Montana, North Dakota, Saskatchewan, and Manitoba with roughly two-thirds of it beneath North Dakota. The USGS has estimated that there are 3.0 to 4.3 billion barrels of undiscovered, technically recoverable oil resources in the Bakken Formation within the Williston Basin Province of North Dakota and Montana (USGS 2008). Given the huge potential of the Bakken Formation, it can be reasonable anticipated that intensive development of oil resources in the Williston Basin of North Dakota will continue for the foreseeable future. Along with the development of oil resources, the development of natural gas resources can be expected to continue as well. In addition to the construction of oil and gas wells, the construction of the infrastructure to support development will likewise continue to include processing facilities, roads, pipelines, and utility lines.

3.13.2 Cumulative Impact Assessment

Potential cumulative impacts from past, present and foreseeable actions may occur to the following resources: Land Use; Air Quality; Wildlife and Vegetation; Threatened and Endangered Species; and Infrastructure and Utilities.

Land Use - Ongoing oil and gas development would continue to convert small amounts of surface acreage from agricultural production (crop fields) and livestock grazing lands (grasslands) to oil and gas exploration and production facilities. The Proposed Action would temporarily convert 5.76 acres of land from agricultural use to industrial use. The amount of converted acreage would be reduced over time as at least a portion of the disturbed acreage would be reclaimed and put back into agricultural production.

Air Quality — Air emissions from the proposed project, when related to past, present, or reasonably foreseeable future oil and gas construction activities, would have a negligible cumulative impact. Air quality in Mclean County is well below the ambient air quality standards listed by the NAAQS. It is anticipated that toxic air pollutants emitted from mobile sources and gas flaring would be minor and, therefore, the total contribution of toxic emissions to ambient air quality in the county would be insignificant.



Wildlife and Vegetation – The proposed project, when added to previously constructed and reasonably foreseeable future oil and gas wells, would contribute to habitat loss and fragmentation associated with construction of well pads, access roads, and associated development. However, the proposed project has been planned to avoid or minimize these cumulative impacts. Multiple components of the process used by the BIA to evaluate and approve oil and gas development, including biological surveys, on-site assessments, public comment, and the use of BMPs and site-specific environmental commitments are in place to ensure that environmental impacts are minimized. Additionally, as the proposed well pad and access road are located within a cultivated crop field, cumulative impacts would be negligible.

Threatened and Endangered Species – The proposed project, when added to previously constructed and reasonably foreseeable future actions, would contribute to cumulative impacts on some threatened, endangered, or candidate species. While suitable habitat for potential threatened and endangered species is not present and would not be directly impacted by the Proposed Action, suitable habitat is located near the project site. Implementation of the various BMPs and site-specific environmental commitments would minimize any potential cumulative impacts from the Proposed Action.

Infrastructure and Utilities- The proposed project, in conjunction with other oil and gas development projects in the region, may result in cumulative impacts to infrastructure and utilities. Oil and gas development projects often require utilization of existing infrastructure and utilities, as well as construction of new infrastructure. Infrastructure and utilities frequently required for oil and gas exploration and production operations can include roadways (access and haul roads), pipelines (oil, gas, and water), and electrical lines. In some cases construction and/or expansion of infrastructure and utilities can be limited through use of existing systems and networks; in other cases, new infrastructure and utilities must be developed. Oil and gas exploration and production operations in the region can often be located in a manner that minimizes the impact on the region's infrastructure and utilities.

The greatest cumulative impact to infrastructure and utilities in the region from oil and gas activities is on roads. While use of existing roads is implemented to the extent possible (often by improving existing side roads and/or two-tracks, thus avoiding the development of new roads), access roads between well pads and main thoroughfares or existing improved side roads must often be constructed in previously undeveloped areas. Additionally, increased traffic from oil and gas activities in the region may also result in a cumulative impact by placing stress on the capacity of local road systems. Cumulative impacts to road systems and traffic in the region can be minimized through the implementation of BMPs by individual oil and gas companies, and adherence to applicable tribal, township, county, state, and/or BIA regulations and ordinances regarding permitting, rig moves, oversize/overweight equipment, frost law restrictions, and load restrictions.

The Proposed Action has been planned to avoid impacts to waterways, cultural resources, and wetlands. Unavoidable impacts to these or other resources would be minimized and/or mitigated in accordance with applicable regulations.

3.14 Irreversible and Irrecoverable Commitment of Resources

The removal and consumption of oil or gas from the Bakken Formation would be an irreversible and irretrievable commitment of resources. Other potential resource commitments include acreage devoted to the disposal of cuttings, the loss of soil through wind and water erosion, cultural resources inadvertently destroyed, wildlife and domestic

stock killed or injured during earthmoving operations or in collisions with vehicles, and energy expended during construction and operation.

3.15 Short-term use of the Environment Versus Long-Term Productivity

The short-term use of the project area for the well pad and its associated infrastructure would not significantly detract from its long-term productivity. The acreage dedicated to the access road and well pad would be unavailable for crop production, wildlife habitat, or other uses. However, the 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 crop production, stabilize soil, and reduce the potential for erosion and sedimentation. The primary long-term resource loss would be the extraction of oil and gas resources from the Bakken Formation, which is the purpose of this project.

3.16 Permits

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

- APD – BLM
- APD – NDIC

3.17 Environmental Commitments/Mitigation

The following commitments have been made by Marathon:

- Topsoil will be segregated and stored on-site to be used in the reclamation process. All disturbed areas will be re-contoured to original elevations as close as possible as part of the reclamation process.
- BMPs (which may include, but are not limited to, water bars, silt fences, hydro-seeding, erosion mats and biologs) will be implemented to minimize wind and water erosion of soil resources. Soil stockpiles will be positioned to help divert runoff around the well pads.
- The proposed well pad and access road will avoid surface waters. The proposed project will not alter stream channels or change drainage patterns.
- The drill cuttings pit will be located on the cut side of the locations and away from areas of shallow ground water and have a reinforced synthetic liner to prevent potential leaks. All spills or leaks of chemicals and other pollutants will be reported to the BLM and NDIC. The procedures of the surface management agency shall be followed to contain leaks or spills.
- Both proposed wells will be cemented and cased to isolate aquifers from potentially productive hydrocarbon and disposal/injection zones.
- Wetlands and riparian areas will be avoided.
- Disturbed vegetation will be re-seeded in kind upon completion of the project, and a noxious weed management plan 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 will be obtained from a BIA/BLM approved source.

- The proposed well pad and access road will avoid impacts to cultural resources. If cultural resources are discovered during construction or operation, work shall immediately be stopped, the affected site secured, and BIA and THPO notified. In the event of a discovery, work shall not resume until written authorization to proceed has been received from the BIA.
- The access road will be located at least 75 ft. away from identified cultural resources. The boundaries of these 75 ft. "exclusion zones" would be pin-flagged as an extra measure to ensure that inadvertent impacts to cultural resources are avoided.
- All project workers are prohibited from collecting artifacts or disturbing cultural resources in any area under any circumstances.
- Marathon will ensure all contractors working for the company will adhere to all local, county, tribal, and state regulations and ordinances regarding rig moves, oversize/overweight loads, and frost law restrictions.
- Utility modifications will be identified during design and coordinated with the appropriate utility company.
- All utility lines will be buried to the depth and in a manner specified by the utility company.
- An H₂S Contingency Plan will be submitted to the BLM as part of the APD.
- Established load restrictions for state and BIA roadways will be followed and haul permits would be acquired as appropriate.
- Suitable mufflers will be put on all internal combustion engines and certain compressor components to mitigate noise levels.
- Well sites and associated facilities will be painted in earth tones, based on standard colors recommended by the BLM, to allow them to better blend in with the natural background color of the surrounding landscape.
- BMPs will be used during construction to ensure contaminants do not move off site.
- The cuttings pit will be netted while not actively being used.
- A semi-closed loop drilling system will be utilized. As part of this, Marathon would implement a closed circulation drilling mud system, whereby drilling fluid is circulated from the well into steel mud tanks and the drill cuttings are separated from the drilling fluid. The cuttings would then be stabilized, and placed in a cuttings pit on-site. 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 free fluid left in the cuttings pit would be removed and disposed of in accordance with BLM and NDIC regulations. All liquids from drilling would be transported off-site. The drill cuttings pit would be reclaimed to BLM and NDIC standards immediately upon finishing completion operations.
- The entire well pad will be fenced in order to prevent wildlife and livestock from accessing the pit. A cattle guard will be placed in the access road.
- If a whooping crane is sighted within 1 mile of a well site or associated facilities while it is under construction, all work will cease within 1 mile of that portion of

the project area and the USFWS will be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area.

- All efforts will be made for construction activities to begin prior to February 1, in order to avoid impacts to migratory birds during the breeding/nesting season. However, because the well location is in a fallow cultivation field and there are no trees present to provide suitable habitat for migratory birds or their nests, a pre-construction survey for migratory birds and their nests would be unnecessary should construction occur during breeding/nesting season (USFWS 2010b). If any migratory bird is found on-site during construction, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.
- If a bald or golden eagle or eagle nest is sighted within 0.5 mi of the project construction area, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.
- Wire mesh or grate covers will be placed over barrels or buckets placed under load line valves and spigots to collect dripped oil.
- Netting, with a maximum mesh size of 1.5 in., will be used to keep birds and other small animals out of open pits.
- All storage tanks and heater/treater will 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.
- Re-seeding of native species shall occur as needed on stockpile areas and slope areas during reclamation.

CHAPTER 4 PREPARERS AND AGENCY COORDINATION

4.1 Introduction

This chapter is presented in accordance with Part 1502.6 of the CEQ regulations for implementing the National Environmental Policy Act (NEPA) that requires an interdisciplinary team of experts and technicians versed in natural and social sciences and “environmental arts” (<http://ceq.hss.doe.gov/nepa/regs/ceq/1502.htm#1502.19>). This will insure an integrated approach to the scope of the problem identified in the scoping process. The chapter also discusses agency coordination and public involvement efforts throughout the EA development.

4.2 Preparers

TEC Inc. prepared this EA under a contractual agreement between Marathon and TEC Inc. Preparers were from the BIA, Marathon, KL&J (Katmas, Lee & Jackson), and TEC (Table 4.1).

*Table 4-1:
Preparers*

Affiliation	Name	Title	Project Role
BIA	Marilyn Bercier	Regional Environmental Scientist	Review Draft EA and recommendation to Regional Director regarding FONSI or EIS
	Mark Herman	Environmental Engineer	
Marathon	Darrell Nodland	Operations Specialist	Project development, alternatives, document review
	Luke Franklin	Senior HES Professional	Project development, alternatives, document review
TEC Inc.	Marion Fischel	Project Manager	Client and agency coordination;
	Ken Brinster	Project Manager/ Natural Resource Specialist	Client and agency coordination; senior review; co-author
	Neil Lynn	Wildlife Biologist	Wildlife and vegetation surveys; co-author
	Dulaney Barclay	Natural/Cultural Resource Specialist	Impact assessment; principal author
	Allison Parrish	Cultural Resource Specialist	Co-author
	Melissa Johnson	GIS Specialist	Maps and Figures
	Carlos Jallo	Socio-Economic Specialist	Co-author; document review
	Sharon Simpson	Administrative Assistant	Document Production

*Table 4.1
Preparers*

Affiliation	Name	Title	Project Role
Katrmas, Lee and Jackson, Inc.	Brian O Donnchadha	Archaeologist	Cultural Resource Surveys
	Michael Shropshire	Archaeologist	Cultural Resource Surveys
	Mary Mitchell	Archaeologist	Cultural Resource Surveys
MHA Nation THPO	Sheldon Knight	Tribal Monitor	Cultural Resource Surveys

4.3 Agency Coordination

A scoping package that included a brief description of the proposed Goodbird USA 34-7H and Goodbird USA 44-7H projects and a location map was sent to tribal, Federal, state and local agencies and other interested parties in accordance with Section 102(2) (D) (iv) of NEPA (1969, as amended)

(<http://ceq.hss.doe.gov/nepa/regs/nepa/nepaeqia.htm>) (Appendix A). The solicitation of views was distributed by registered mail November 17, 2010 and allowed for a 30 day comment period.

Eleven responses were received for consideration and provided insight into the potential impacts the Proposed Action will have on the environment. The comments were addressed, incorporated into the EA when required and referenced (Appendix B).

4.4 Public Involvement

If this document is approved by the BIA and the BIA determines that no significant environmental impacts would result from the Proposed Action, a Finding of No Significant Impact (FONSI) will be issued followed by a 30-day public appeal period. The BIA will advertise that the FONSI will be placed at accessible locations on Fort Berthold Indian Reservation for examination by the public. Construction activities will be curtailed until the 30-day public appeal has expired.

CHAPTER 5 REFERENCES AND ACRONYMS

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Acronyms

AAQM	Ambient Air Quality Monitoring
ac	acres
APD	Application for Permit to Drill
BGEPA	Bald and Golden Eagle Protection Act
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BMPs	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CWA	Clean Water Act
DOI	Department of the Interior
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
°F	degrees Fahrenheit
FONSI	Finding of Significant Impact
ft.	foot (feet)
GAP	Gap Analysis Project
H ₂ S	hydrogen sulfide
in.	inch(es)
KL&J	Kadrmass Lee & Jackson
Marathon	Marathon Oil Company
MBTA	Migratory Bird Treaty Act
mi	miles
mi ²	square miles
NAAQS	National Ambient Air Quality Standards
NDDH	North Dakota Department of Health
NDGFD	North Dakota Game and Fish Department
NDIC	North Dakota Industrial Commission
NE	North East
NEPA	National Environmental Policy Act
NO ₂	nitrogen dioxide
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NW	North West
O ₃	ozone
Pb	lead
PM	particulate matter
QEP	Questar Exploration and Production
ROWs	right-of-ways
SO ₂	sulfur dioxide
SPCC	Spill Prevention, Control, and Countermeasure
SE	South East
SW	South West
TCPs	Traditional Cultural Properties
THPO	Tribal Historic Preservation Office

US
USACE
U.S.C.
USDA
USDC
USFWS
USGS
yd³

United States
United States Army Corps of Engineers
United States Code
United States Department of Agriculture
United States Department of Commerce
United States Fish and Wildlife Service
United States Geological Survey
Cubic Yards

APPENDIX A

SCOPING MATERIALS

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November 16, 2010

<<NAME>>

<<TITLE>>

<<AGENCY>>

<<ADDRESS>>

<<CITY>><<STATE>><<ZIP>>

**RE: Goodbird USA 34-7H and Goodbird USA 44-7H Oil & Gas Wells
McLean County, ND
Fort Berthold Reservation**

Dear <<NAME>>:

On behalf of Marathon Oil Company TEC Inc. is preparing an Environmental Assessment (EA) under the National Environmental Policy Act for the Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM). The proposed action includes approval by the BIA and BLM of the development of one dual well pad, resulting in the drilling and completion of two exploratory oil and gas wells (Goodbird USA 34-7H and Goodbird USA 44-7H) on the Fort Berthold Reservation, McLean County, North Dakota. The surface well pad for both wells would be located in Section 7, T150N, R90W, 5th P.M. The bottom of the hole for both wells would be in Section 6, T150N, R90W, 5th P.M. ***Please refer to the enclosed Project Location Map.***

The well pad has been positioned to use existing roadways to the greatest extent practicable for access. Construction of the proposed project is anticipated to begin in January 2011.

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

otherwise value that might be adversely impacted. Any information that might help us in our study would be appreciated.

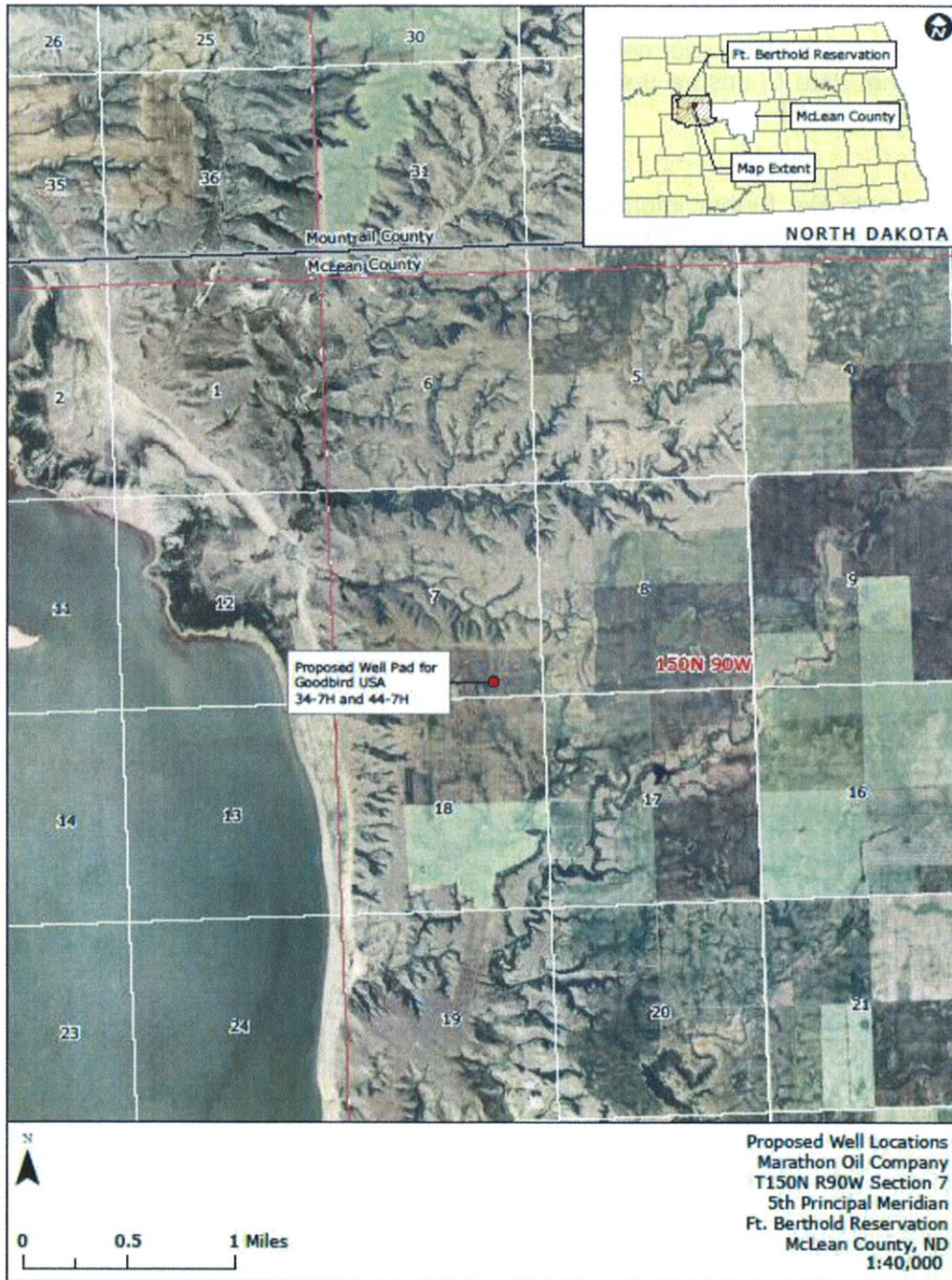
Please provide your comments by **December 17, 2010**. We request your comments by that date to ensure that we will have ample time to review them and incorporate them into the EA.

If you would like further information regarding this project, please contact me at the address above, by telephone at (701) 852-2293, or by email at kfbrinster@tecinc.com. Thank you for your cooperation.

Sincerely,
TEC Inc.

Ken Brinster
Project Manager

Enclosure (1)



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APPENDIX B

AGENCY SCOPING RESPONSES

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Marathon Oil Company Goodbird USA 34-7H and 44-7H Comments and Responses

Resource	Cooperating Agency Comment	Response
Brad Thompson – U.S. Army Corps of Engineers, Omaha District		
1. Consultation	Your plans should be coordinated with the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, North Dakota Game and Fish Department, and North Dakota State Historic Preservation Office.	The mentioned agencies were sent a scoping notice and have been allowed to comment on the proposed project.
2. Water	Any proposed placement of dredged or fill material into waters of the United States requires Department of the Army authorization under Section 404 of the Clean Water Act.	There will be no placement of dredged or fill materials in Water of the U.S. so a 404 Permit is not anticipated.
Kelly McPhillips – Bureau of Reclamation		
1. Infrastructure	We provided an index map showing the location of water pipeline alignments in the vicinity of the proposed wells to aid in identification of potential adverse effects to federal facilities.	Thank you for the information. No impacts to these facilities are anticipated.
2. Infrastructure	Should you have need to cross a Fort Berthold Rural Water System pipeline, please refer to the pipeline crossing specifications and contact Ryan Waters.	No crossing of the mentioned pipelines is anticipated. Should any crossing become necessary, the appropriate authorities and personnel will be contacted.
3. Infrastructure	Since the BOR is the lead federal agency for the Fort Berthold Rural Water System, any work performed on the Reservation should be coordinated with Mr. Lester Crows Heart, the Rural Water Director.	The appropriate authorities and personnel will be contacted prior to any water pipelines being constructed on the Reservation.
4. General	We request to see a copy of the draft EA when available.	Comment noted.
Charles Sorenson – U.S. Army Corp of Engineers, Garrison Dam/Lake Sakakawea Project		
1. Water	Due to the close proximity of the location to lands managed by the USACE, there is a high risk that storm water runoff to Lake Sakakawea. As such we request that Marathon consider a catch trench on the down sloping side of the well pad to contain hazardous wastes from the pad. Fluids should be pumped out and disposed of properly.	Appropriate measures will be taken to contain any storm water runoff from the well pad, and all hazardous fluids will be collected in approved containers and disposed of properly per BIA, BLM and NDIC regulations.
2. Hazardous	To aid in the prevention of hazardous wastes from	A semi-closed loop system will be utilized during drilling; liquids from

Marathon Oil Company Goodbird USA 34-7H and 44-7H Comments and Responses

Resource	Cooperating Agency Comment	Response
wastes	entering Lake Sakakawea, the USACE strongly recommend that a Closed Loop Drilling Method be used in handling of all drilling fluids.	drilling will be transported off site and disposed of at an approved facility; dry cuttings will be stabilized in place.
3. Hazardous wastes	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.	All sewage produced onsite will be collected and transported off site to an approved disposal facility.
4. Weeds	All additional fill material required for construction should be obtained from a private supplier whose material has been certified as being free of all noxious weeds.	Sufficient fill material is available at the location. No additional fill will be required for well pad construction.
5. Weeds	Prior to equipment being moved/placed at the site, it should be pressure washed or air blasted to prevent the possible transportation of noxious or undesirable vegetation onto Tribal or USACE land.	Comment noted.
6. T&E	No surface occupancy should be allowed within 0.5 mile of known T&E critical habitat.	The nearest critical habitat for the piping plover is approximately 0.8 mile west of the proposed site.
7. Timing	If possible, all construction should occur between August 15 th and April 1 st .	The tentative date to start construction is in February. Construction should take approximately 7-10 days and be complete before April 1 st .
8. Wildlife	If trees are present, the appropriate dates are August 15 th – February 1 st . By constructing during these dates, disruptions to wildlife during the breeding season may be kept to a minimum	No trees are present within the well pad area, though trees are present north and west of the site (approximately 0.2 mile). See response above for timing.
9., Cumulative impacts	To adequately address cumulative impacts, consider: 1) Has the project area already been degraded and to what extent? 2) Are other ongoing activities in the area causing impacts and to what extent? 3) What is the likelihood that this project will lead to a number of associated projects? 4) What are the trends for activities and impacts in the area?	These concerns are adequately addressed in the EA.
Jerome Schaar – Natural Resources Conservation Service		

Marathon Oil Company Goodbird USA 34-7H and 44-7H Comments and Responses

Resource	Cooperating Agency Comment	Response
1. Important farmlands	It appears the proposed project is not supported by federal funding or actions; therefore, no further action is required	Thank you for your comment.
2. Wetlands	NRCS has developed the following guidelines for the installation of buried utilities to be considered minimal: 1) disturbance to wetlands must be temporary; 2) no drainage of the wetland is allowed (temporary or permanent); 3) mechanized landscaping should be kept to a minimum and preconstruction contours maintained; 4) temporary cast materials 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.	No impacts to wetlands are anticipated from the proposed action.
3. Wetlands	NRCS recommends that impacts to wetlands be avoided. If the project required passage through or disturbance of a wetland, the NRCS can complete a certified wetland determines, if requested by the landowner/operator	There will be no impacts to wetlands from the proposed project.
Larry Knudtson – North Dakota State Water Commission		
1. Water	The property is not located in an identified floodplain and will not affect an identified floodplain	Thank you for your comment.
2. General	It is the responsibility of the project sponsor to ensure that local, state, and federal agencies are contacted for any required approvals, permits, and easements	All applicable agencies were sent a scoping notice and all applicable permits will be obtained prior to initiation of the project.
3. Waste	All waste material must be disposed of properly and not placed in identified floodway areas.	No material will be placed in floodway areas.
4. Water	No sole-source aquifers have been designated in North Dakota.	Thank you for your comment.
Paul Schadewald – North Dakota Game and Fish Department		
1. Wildlife	Recommend that construction be avoided to the extent possible within native prairie, wooded draws, riparian corridors and wetland areas.	All construction will be performed within cultivated cropland.

Marathon Oil Company Goodbird USA 34-7H and 44-7H Comments and Responses

Resource	Cooperating Agency Comment	Response
2. Wildlife	We suggest that botanical surveys be completed during the appropriate season and aerial surveys be conducted for raptor nests before construction begins.	Wildlife and vegetation surveys were conducted in accordance with BIA regulations. No native habitat will be disturbed and no raptor nests are known or observed in the area.
Jesse Hanson – North Dakota Parks and Recreation		
1. Recreation	The project as defined does not affect state parks land or Land and Water Conservation Fund recreation projects.	Thank you for the comment.
2. T&E Species	There are no known occurrences of plant or animal species of concern within or adjacent to the project areas	Thank you for the comment.
3. T&E Species	We recommend contacting the ND Game and Fish Department and the USFWS for additional information.	Both the NDGFD and USFWS have been contacted.
4. Reclamation	Any impacts areas should be revegetated with species native to the project area.	As the project area is located within a cultivated crop field, the land owner will be allowed to plant crops after reclamation.
Tex Hall – Land Owner		
1. Land use	How far will the well pad be from my allotment 439 A and road. Will there be fencing and a pipeline?	The well pad will be contained within a fenced area with a cattle guard in the access road to prevent livestock from entering. Pipelines will extend underground from the well pad to tie-ins with existing pipelines located approximately 150 feet to the south in previously approved ROWs along the north side of the existing road.
2. Land Use	What is the proposed spacing and will this be a communitization agreement? Is there fee minerals included?	NDIC sets the spacing requirements; the current spacing unit is 2 wells per 1280 acres.
3. General	How far are other wells to this one proposed within the next sections?	There is currently only one active well within 1 mile of the proposed well.
4. General	Will one road be utilized?	One road would be utilized to access both wells.
5. General	Will the same pad be utilized?	One pad would be utilized for both wells.
6. Cultural	I would like the Tribal Cultural Resources to do a thorough survey of the land as it is close to the lake.	A cultural resources survey was completed and has been reviewed and approved by the BIA Regional Archaeologist; no comment was received from the Fort Berthold THPO.
7. General	Will there be other anticipated agreements for future wells to this road or pad?	
8. Grazing	How many acres will this project disturb? As land	Disturbance from the well pad and access road/utility corridor amounts

Marathon Oil Company Goodbird USA 34-7H and 44-7H Comments and Responses

Resource	Cooperating Agency Comment	Response
9. General	owner I will see less grazing fees from the reduced AUMs What is the time frame for drilling and completion? What will be the proposed frac stages?	Drilling of the two proposed wells will take approximately 60 days; completion activities can be expected to take 30-45 days per well.
L. David Glatt – North Dakota Department of Health		
1. Air Quality	We encourage the development and operation of the wells in a manner that is consistent with good air pollution control practices for minimizing emissions.	All wells and activity would be conducted to minimize emissions.
2. Water	Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible.	No waterways would be impacted from the proposed project. Reclamation would take place as soon as possible.
3. Water	Caution must be taken to prevent spills of oil and grease that may reach receiving water from equipment maintenance, and/or the handling of fuels on the site.	Commented noted.
4. Water	Operations may be required to obtain a permit to discharge stormwater runoff from the EPA.	The necessary permits would be obtained from the appropriate agencies prior to any discharge of stormwater.
5. Water	Cities and counties may also impose additional requirements and/or BMPs for construction affecting their storm drainage system. Check with local officials to be sure.	Local agencies have been contacted through the scoping process.
6. General	The department owns no land in or adjacent to the project area, nor any proposed construction. Also, the proposed activities are consistent with the State Implementation Plan for the Control of Air Pollution for the State of North Dakota.	Thank you for your comment.
7. Water	The USACE may require a water quality certification from this department if the project is subject to their Section 404 Permitting process.	As the project is not anticipated to impact waters of the U.S., no Section 404 permit is anticipated.
Daniel Cimarosti – U.S. Army Corps of Engineers, North Dakota Regulatory Office		

Marathon Oil Company Goodbird USA 34-7H and 44-7H Comments and Responses

Resource	Cooperating Agency Comment	Response
1. Water	For any proposed well with a bottom hole under or crosses under Lake Sakakwea, a DA permit application is required.	Neither of the two proposed wells would cross under Lake Sakakwea.
2. Water	In the event the project requires USACE approval not covered under a Nationwide permit, a Standard or Individual Permit is required.	Thank you for your comment.
3. Water	This correspondence letter is neither authorization for the proposed construction nor confirmation that the project complies with the Nationwide Permit.	Thank you for your comment.
4. Water	If the proposed project requires a Section 10 or Section 404 permit, please complete and submit the permit application.	The proposed project will not impact water of the U.S. so a Section 10 or Section 404 permit is anticipated.
Jeffrey Towner – U.S. Fish and Wildlife Service		
1. Threatened and Endangered Species	The Service concurs with your “may affect, is not likely to adversely affect” determination for piping plovers, interior least terns, pallid sturgeons, and piping plover critical habitat.	Thank you for your comment.
2. Threatened and Endangered Species	The Service concurs with your “may affect, is not likely to adversely affect” determination for whooping cranes.	Thank you for your comment. Marathon will implement the measure to avoid impacts to whooping cranes as outline in the EA.
3. Threatened and Endangered Species	The Service acknowledges your “no effect” determination for the gray wolf.	Thank you for your comment.
4. Migratory Birds	The Service commends Marathon for the placement of the pad within a previously disturbed area, and due to the relative absence of migratory bird nesting habitat, other measures to minimize the potential for take, including timing restrictions and surveys are not necessary.	Thank you for your comment.
5. Bald and Golden Eagles	The Service believes that Marathon’s commitment to implement the aforementioned measures demonstrates compliance with the MBTA and the BGEPA.	Thank you for your comment.
6. General	We would appreciate receiving a copy of the final EA on CD for our records	A copy of the final EA will be sent to your office as requested.



REPLY TO
ATTENTION OF

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

November 22, 2010

Planning, Programs, and Project Management Division

Mr. Ken Brinster
TEC Incorporated
12 South Main Street, Suite 6
Minot, North Dakota 58701

Dear Mr. Brinster:

The U.S. Army Corps of Engineers, Omaha District (Corps) has reviewed your letter dated November 16, 2010, regarding the proposed drilling and completion of up to two exploratory oil and gas wells at one pad located on the Goodbird USA 34-7H and Goodbird USA 44-7H site on the Fort Berthold Reservation in McLean County, North Dakota. The Corps offers the following comments:

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

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

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

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

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

In addition, please update your records with our current mailing address:

U.S. Army Corps of Engineers, Omaha District
Planning Branch
Attention: CENWO-PM-AE
1616 Capitol Ave.
Omaha, Nebraska 68102-4901

If you have any questions, please contact Mr. John Shelman of my staff at (402) 995-2708 or by email at Johnathan.A.Shelman@usace.army.mil.

Sincerely,



Brad Thompson
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

NOV 30 2010

Mr. Ken Brinster
Project Manager
TECinc
12 South Main Street, Suite 6
Minot, ND 58701

Subject: Solicitation for an Environmental Assessment for the Proposed Construction, Drilling, Completion, and Production of Two Exploratory Oil and Gas Wells On One Pad by TECinc on the Fort Berthold Reservation

Dear Mr. Brinster:

This letter is written to inform you that we received your letter dated November 16, 2010, and the information and map had been reviewed by Bureau of Reclamation staff.

It appears there are no Reclamation facilities in the immediate vicinity of your proposed pad in McLean County and your access development appears to come off the existing section line road between Sections 7 and 18. However, there are some Reclamation pipeline facilities to the east of your proposed well pad in the vicinity of your proposed wells:

Goodbird USA 34-7H: Section 7, T150N, R90W McLean County
Goodbird USA 44-7H : Section 7, T150N, R90W McLean County

Note that blue and orange lines represent Reclamation water lines.

We are providing an index map depicting water pipeline alignments in the vicinity of the proposed wells and surrounding area to aid you in identification of potential for adverse effect to Federal facilities. Also, 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 Ryan Waters, as below. Since Reclamation is the lead Federal agency for the Fort Berthold Rural Water System, we request that any work planned on the reservation be coordinated with Mr. Lester Crows Heart, Fort Berthold Rural Water Director, Three Affiliated Tribes, 308 4 Bears Complex, New Town, North Dakota 58763. In addition, we would like to see a copy of the draft EA when available.

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 Ryan Waters, General Engineer, for engineering questions at 701-221-1262.

Sincerely,



Kelly B. McPhillips
Environmental Specialist

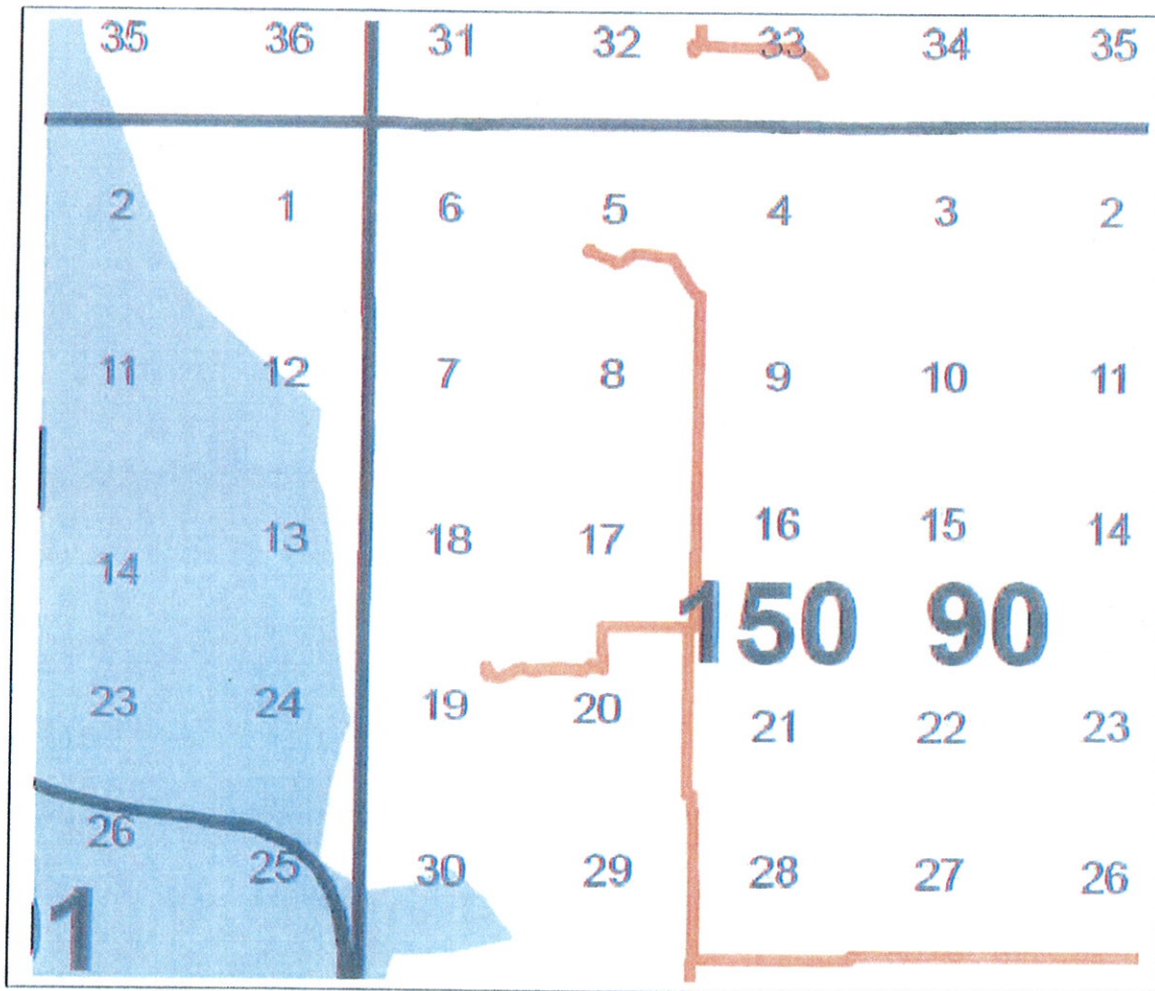
Enclosures - 2

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)

Subject: Solicitation for an Environmental Assessment for the Proposed Construction, Drilling, Completion, and Production of Two Exploratory Oil and Gas Wells On One Pad By TECinc on the Fort Berthold Reservation

Goodbird USA 34-7H: Section 7, T150N, R90W McLean County
Goodbird USA 44-7H : Section 7, T150N, R90W McLean County



Fischel, Marion

From: Brinster, Kenneth F.
Sent: Monday, December 06, 2010 8:24 PM
To: Fischel, Marion
Cc: Barclay, Dulaney V.
Subject: FW: Comments on Marathon Oil Company Goodbird USA 34-7H and 44 7H well pad locations

CoE Garrison/Lake Sakakawea comments.

From: Sorensen, Charles G NWO [mailto:Charles.G.Sorensen@usace.army.mil]
Sent: Monday, December 06, 2010 3:06 PM
To: Brinster, Kenneth F.
Cc: Ames, Joel O NWO
Subject: Comments on Marathon Oil Company Goodbird USA 34-7H and 44 7H well pad locations

December 6, 2010

Ken

Thank you for letting the U.S. Army Corps of Engineers Garrison Dam/Lake Sakakawea Project comment on Marathons Oil Company proposed Goodbird USA 34-7H and Goodbird USA 44-7H Oil Well locations.

At this time the U.S. Army Corps of Engineers Garrison Dam/Lake Sakakawea Project request that consideration and if at all possible implement the following management practices during the exploration phase of the those wells listed in the request letter

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

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

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

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

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

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

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

If trees are present, the appropriate dates are August 15th – February 1st. By constructing during these dates, disruptions to wildlife during the breeding season maybe kept to a minimum.

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?

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

Charles Sorensen

Natural Resource Specialist

U.S. Army Corps of Engineers

Garrison Dam/Lake Sakakawea Project



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

December 1, 2010

Ken Brinster
Marathon Oil Company TEC Inc.
12 S. Main Street, Suite 6
Minot, ND 58701

Re: Goodbird USA 34-7H and Goodbird USA 44-7H Oil & Gas Wells
Fort Berthold Reservation
McLean County, North Dakota

Dear Mr. Brinster:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated November 16, 2010, regarding one dual well pad, resulting in the drilling and completion of two exploratory oil and gas wells on the Fort Berthold Reservation, McLean County, North Dakota.

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

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.

Mr. Brinster
Page 2

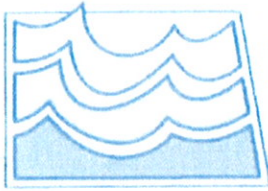
NRCS would recommend that impacts to wetlands be avoided. If the project requires passage through or disturbance of a wetland, NRCS can complete a certified wetland determination, if requested by the landowner/operator.

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

Sincerely,



JEROME SCHAAR
State Soil Scientist/MO Leader



North Dakota State Water Commission

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

December 16, 2010

Ken Brinster
TEC Inc.
12 S. Main Street STE 6
Minot, ND 58701

Dear Mr. Brinster:

This is in response to your request for review of environmental impacts associated with the Goodbird US 34-7H and Goodbird USA 44-7H Oil & Gas Wells, McLean County, ND, Fort Berthold Reservation.

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

- The property is not located in an identified floodplain and it is believed the project will not affect an identified floodplain.
- It is the responsibility of the project sponsor to ensure that local, state and federal agencies are contacted for any required approvals, permits, and easements.
- All waste material associated with the project must be disposed of properly and not placed in identified floodway areas.
- No sole-source aquifers have been designated in ND.

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

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

Sincerely,

Larry Knudtson
Research Analyst

LJK:dp/1570



"VARIETY IN HUNTING AND FISHING"

NORTH DAKOTA GAME AND FISH DEPARTMENT

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

December 10, 2010

Ken Brinster
Project Manager
TEC Inc.
12 S. Main Street, Suite 6
Minot, ND 58701

Dear Mr. Brinster:

RE: Goodbird USA 34-7H & Goodbird USA 44-7H

Marathon Oil Company is proposing two exploratory oil and gas wells on one dual well pad on the Fort Berthold Reservation in McLean County, North Dakota.

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

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

Sincerely,

A handwritten signature in blue ink that reads "Paul Schadewald". The signature is fluid and cursive.

Paul Schadewald
Chief
Conservation & Communication Division

js



John Hoeven, Governor
Mark A. Zimmerman, Director

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

December 8, 2010

Ken Brinster
TEC Inc.
12 S. Main Street, Suite 6
Minot, ND 58701

Re: Marathon Oil Company Development of Two Oil and Gas Wells
Goodbird USA 34-7H and Goodbird USA 44-7H

Dear Mr. Brinster:

The North Dakota Parks and Recreation Department has reviewed the above referenced project proposal submitted by Marathon Oil Company to develop two oil and gas wells located in Sections 6 and 7, T150N, R90W, McLean County.

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

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

Because this information is not based on a comprehensive inventory, there may be species of concern or otherwise significant ecological communities in the area that are not represented in the database. The lack of data for any project area cannot be construed to mean that no significant features are present. The absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources. We recommend also contacting the North Dakota Game and Fish Department and the United States Fish and Wildlife Service regarding animal species.

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

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

Sincerely,

A handwritten signature in blue ink that reads "Jesse Hanson".

Jesse Hanson, Manager
Planning and Natural Resources Division

R.USNDNHI*2010-267
CD/1201/DL1217

.....
Play in our backyard!

Barclay, Dulaney V.

From: Brinster, Kenneth F.
Sent: Friday, December 17, 2010 4:41 PM
To: redtippedarrow@rtc.coop
Cc: Barclay, Dulaney V.
Subject: RE: Tex Hall landowner Section 7 Comments on EA

Mr. Hall,
Thank you for your comments. I will forward them to my team.
Regards,
Ken Brinster
TEC Inc.
12 South Main Street, Suite 6
Minot, ND 58701
Office: 701.852.2293
Cell: 701.833.5664
kfbrinster@tecinc.com
Albuquerque
Home: 505.271.6665
Cell: 505.239.5161

-----Original Message-----

From: redtippedarrow@rtc.coop [mailto:redtippedarrow@rtc.coop]
Sent: Friday, December 17, 2010 3:51 AM
To: Brinster, Kenneth F.
Cc: Tiffiany Johnson
Subject: Tex Hall landowner Section 7 Comments on EA

Ken, I'm a landowner in 150 90 section 7 nw section of 180 acres including the sw part of section so I'm providing comments per your letter of nov 16 2010
1) How far will well pad be from my allotments 439 A and road and will there be fencing and a pipeline.

2) What is the proposed spacing and will this be a communitization agreement? And is their fee minerals included?

3) How far are other wells to this one proposed within the next sections? Will one road be utilized? Will same pad be utilized as I use this land for grazing and don't want numerous roads and pads and disturbances to land.

4) I would like the Tribal Cultural Resources to do thorough survey of land as this is close to lake.

5) Will there be other anticipated agreements for future wells to use this road or pad?

6) How many acres will this disturb as this acreage is in a tribal grazing unit and will have a negative effect on Animal units Month for grazing fees so as landowner I will see less grazing fees as this acreage will be excluded in the unit?

7) When is time frame for drilling and completion? What will be the proposed frac stages?

Thanks for the comments I have submitted and let me know if you receive them.

Sincerely,

Tex Hall

Sent from my BlackBerry® wireless handheld



NORTH DAKOTA
DEPARTMENT of HEALTH

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



November 29, 2010

Mr. Ken Brinster
TEC, Inc.
12 S. Main St., Suite 6
Minot, ND 58701

Re: Development of Marathon Oil Company's Goodbird USA 34-7H and
Goodbird USA 44-7H Oil & Gas Wells on the Fort Berthold Reservation, McLean County

Dear Mr. Brinster:

This department has reviewed the information concerning the above-referenced project submitted under date of November 16, 2010, with respect to possible environmental impacts.

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

1. Development of the production facilities and any access roads or well pads should have a minimal effect on air quality provided measures are taken to minimize fugitive dust. However, operation of the wells has the potential to release air contaminants capable of causing or contributing to air pollution. We encourage the development and operation of the wells in a manner that is consistent with good air pollution control practices for minimizing emissions.
2. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.
3. Oil and gas related construction activities located within tribal boundaries within North Dakota may be required to obtain a permit to discharge storm water runoff from the U.S. Environmental Protection Agency. Further information may be obtained from the U.S. EPA's website or by calling the U.S. EPA - Region 8 at (303) 312-6312. Also, cities or counties may impose additional requirements and/or specific best management practices for

Environmental Health
Section Chief's Office
701.328.5150

Division of
Air Quality
701.328.5188

Division of
Municipal Facilities
701.328.5211

Division of
Waste Management
701.328.5166

Division of
Water Quality
701.328.5210

Mr. Ken Brinster

2.

November 29, 2010

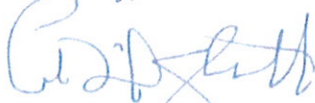
construction affecting their storm drainage system. Check with the local officials to be sure any local storm water management considerations are addressed.

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

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

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

Sincerely,

A handwritten signature in blue ink, appearing to read "L. David Glatt".

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

LDG:cc
Attach.



Construction and Environmental Disturbance Requirements

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

Soils

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

Surface Waters

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

Fill Material

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



REPLY TO
ATTENTION OF

North Dakota Regulatory Office

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
NORTH DAKOTA REGULATORY OFFICE
1513 SOUTH 12TH STREET
BISMARCK ND 58504-6640
December 7, 2010

TEC Inc.
Attn: Ken Brinster, Project Manager
12 South Main Street, Suite #6
Minot, North Dakota 58701

Dear Mr. Brinster:

This is in response to your solicitation letter on behalf of **Marathon Oil Company**, received on November 22, 2010 requesting Department of the Army (DA), United States Army Corps of Engineers (Corps) comments for two (2) proposed oil and gas exploratory wells (**Goodbird USA 34-7H & Goodbird USA 44-7H**), both located on the same well pad in Section 7, Township 150 North, Range 90 West, McLean County within the Fort Berthold Indian Reservation, North Dakota.

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

For any proposed well where the well line and/or bottom hole is under or crosses under Lake Sakakawea, regardless of depth, we require that project proponent provide a DA permit application (ENG Form 4345) to the Corps.

Enclosed for your information is the fact sheet for Nationwide Permit 12, Utility Line Activities. Pipeline projects are already authorized by Nationwide Permit 12 **provided the utility line can be placed without any change to pre-construction contours and all other proposed construction activities and facilities are in compliance with the Nationwide's permit conditions and 401 Water Quality Certification is obtained**. Please note the pre-construction notification requirements on page 2 of the fact sheet. **If a project involves any one of the seven notification requirements, the project proponent must submit a DA application**. Furthermore, a project must also be in compliance with the "Regional Conditions for Nationwide Permits within the State of North Dakota", found on pages 12 and 13 of the fact sheet. [The following info is for activities on a reservation] Please be advised that the United States Environmental Protection Agency (EPA), Region 8 has denied 401 Water Quality Certification for activities in perennial drainages and wetlands. Furthermore, EPA has placed conditions on activities in ephemeral and intermittent drainages. It is recommended you contact the U.S. Environmental Protection Agency, Region 8, Attn: Brent Truskowski, 1595 Wynkoop Street, Denver, Colorado 80202-1129 to review the conditions pursuant to Section 401 of the Clean Water Act prior to any construction.

Also enclosed for your information is the fact sheet for Nationwide Permit 14, Linear Transportation Projects. Road crossings are already authorized by Nationwide Permit 14 **provided the discharge does not cause the loss of greater than ½ acre of waters of the United States per crossing and all other proposed construction activities are in compliance with the Nationwide's permit conditions**. Please note the pre-construction notification requirements on the front page of the fact sheet. **If a project**

involves (1) the loss of waters of the United States exceeding 1/10 acre per crossing; or (2) there is a discharge in a special aquatic site, including wetlands, the project proponent must submit a DA application prior to the start of construction. Please reference General Condition 27, Pre Construction Notification on page 8 of the fact sheet. Furthermore, a project must also be in compliance with the "Regional Conditions for Nationwide Permits within the State of North Dakota", found on pages 11 and 12 of the fact sheet. [The following is included for activities on a reservation] Enclosed is a copy of the United States Environmental Protection Agency, Region 8's; General Conditions for all Nationwide Permits and specific conditions for Nationwide Permit 14.

In the event your project requires approval from the U.S. Army Corps of Engineers and cannot be authorized by Nationwide Permit(s), a Standard or Individual Permit will be required. A project that requires a Standard or Individual Permit is intensely reviewed and will require the issuance of a public notice. A Standard or Individual Permit generally requires a minimum of 120 days for processing but based on the project impacts and comments received through the public notice may extend beyond 120 days.

This correspondence letter is neither authorization for the proposed construction nor confirmation that the proposed project complies with the Nationwide Permit(s).

If any of these projects require a Section 10 and/or Section 404 permit, please complete and submit the enclosed Department of the Army permit application (ENG Form 4345) to the U.S. Army Corps of Engineers, North Dakota Regulatory Office, 1513 South 12th Street, Bismarck, North Dakota 58504. If you are unsure if a permit is required, you may submit an application; include a project location map, description of work, and construction methodology.

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 E. Cimarosti
Regulatory Program Manager
North Dakota

Enclosures

ENG Form 4345

Fact Sheet NWP 12 and 14

EPA 401 Conditions for Nationwide Permits



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
3425 Miriam Avenue
Bismarck, North Dakota 58501



DEC 22 2010

Mr. Neil Lynn, Wildlife Biologist
TEC, Inc.
1658 Cole Boulevard, Suite 190
Golden, Colorado 80401

Re: Marathon Goodbird USA Proposed
Wells on Fort Berthold Reservation,
McLean County

Dear Mr. Lynn:

This is in response to your November 16, 2010, scoping letter and subsequent December 10, 2010, email correspondence, regarding an exploratory oil and gas well proposed to be drilled and completed by Marathon Oil Company (Marathon) on the Fort Berthold Reservation, McLean County, North Dakota.

Specific location for the proposed pad is:

Goodbird USA 44-7H & Goodbird USA 34-7H: T. 150 N., R. 90 W., Section 7,
McLean County

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

Threatened and Endangered Species

In an e-mail dated November 3, 2010, the Bureau of Indian Affairs (BIA) designated TEC, Inc. (TEC) to represent the BIA for informal Section 7 consultation under the ESA. Therefore, the U.S. Fish and Wildlife Service (Service) is responding to you as the designated non-Federal representative for the purposes of ESA, and under our other authorities as the entity preparing the NEPA document for adoption by the BIA.

The Service concurs with your “may affect, is not likely to adversely affect” determination for piping plovers, interior least terns, pallid sturgeon, and piping plover critical habitat. This concurrence is predicated on Marathon’s commitment to maintain a 300 foot buffer from wooded draws, and to construct and maintain berms around the cut slopes of the well pad.

The Service concurs with your “may affect, is not likely to adversely affect” determination for whooping cranes. This concurrence is predicated on Marathon’s commitment to stop work on the proposed site if a whooping crane is sighted within one mile of the proposed project area and immediately contacting the Service. Additionally, Marathon will avoid impacts to two nearby wetlands.

The Service acknowledges your “no effect” determination for the gray wolf.

Migratory Birds

Your December 10, 2010, email correspondence to Heidi Riddle of my staff states that Marathon will implement the following measures to avoid/minimize take of migratory birds:

- The project will be constructed entirely within an existing cultivated cropfield. Although migratory birds could nest in the cropfield, the potential for take of migratory birds of conservation concern is minimal. The Service commends Marathon for the placement of the pad within a previously disturbed area, and due to the relative absence of migratory bird nesting habitat, other measures to minimize the potential for take, including timing restrictions and surveys are not necessary.

Bald and Golden Eagles

The letter and email state that a 0.5 mile line-of-sight ground survey for cliff, tree, and ground raptor nests was conducted on October 20, 2010, and no eagles or nests were discovered. According to the eagle nest database, there are no documented eagle nests within 0.5 mile of the proposed project.

The Service believes that Marathon’s commitment to implement the aforementioned measures does demonstrate compliance with the MBTA and the BGEPA.

Thank you for the opportunity to comment on this project proposal. The Service does not require submission of a draft Environmental Assessment prior to BIA approval provided all measures above are included. We would appreciate receiving a copy of the final EA on CD for our records. If you require further information or the project plans change, please contact me or Heidi Riddle of my staff at (701) 250-4481 or at the letterhead address.

Sincerely,

Jeffrey K. Towner

Jeffrey K. Towner
Field Supervisor
North Dakota Field Office

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

APPENDIX C

Cultural Determination Letter

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United States Department of the Interior

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



IN REPLY REFER TO:
DESCRM
MC-208

NOV 09 2010

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

Dear Mr. Brady:

We have considered the potential effects on cultural resources of four proposed oil well pads and access roads in McLean and Mountrail Counties, North Dakota. Approximately 67.8 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the areas depicted in the enclosed reports. No historic properties were located that appear to possess the quality of integrity and meet at least one of the criteria (36 CFR 60.4) for inclusion on the National Register of Historic Places. No properties were located that appear to qualify for protection under the American Indian Religious Freedom Act (42 USC 1996).

As the surface management agency, and as provided for in 36 CFR 800.5, we have therefore reached a determination of **no historic properties affected** for these undertakings. Catalogued as **BIA Case Number AAO-1875/FB/11**, the proposed undertakings, locations, and project dimensions are described in the following reports:

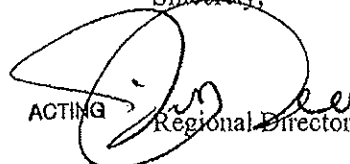
Ó Donnchadha, Brian

- (2010a) Torgerson USA 41-8H Well Pad and Access Road: A Class III Cultural Resource Investigation in McLean County, North Dakota. KLJ Cultural Resources for Marathon Oil Company, Dickinson, ND.
- (2010b) Goodbird USA 44-7H Well Pad and Access Road: A Class III Cultural Resource Investigation in McLean County, North Dakota. KLJ Cultural Resources for Marathon Oil Company, Dickinson, ND.
- (2010c) Blackhawk USA 21-16H Well Pad and Access Road: A Class III Cultural Resource Investigation in McLean County, North Dakota. KLJ Cultural Resources for Marathon Oil Company, Dickinson, ND.
- (2010d) Don Olson USA 31-3H Well Pad and Access Road: A Class III Cultural Resource Investigation in Mountrail and McLean Counties, North Dakota. KLJ Cultural Resources for Marathon Oil Company, Dickinson, ND.

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

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

Sincerely,


ACTING Regional Director

Enclosures

Notice of Availability and Appeal Rights

Marathon: Goodbird USA 34-7H and Goodbird USA 44-7H

The Bureau of Indian Affairs (BIA) is planning to issue administrative approvals related to installation of two oil and gas wells as shown on the attached map. Construction by Marathon is expected to begin in the Winter/Fall 2010.

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

The FONSI is only a finding on environmental impacts – it is not a decision to proceed with an action and *cannot* be appealed. BIA's decision to proceed with administrative actions *can* be appealed until February 24, 2011, by contacting:

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

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

Project locations.

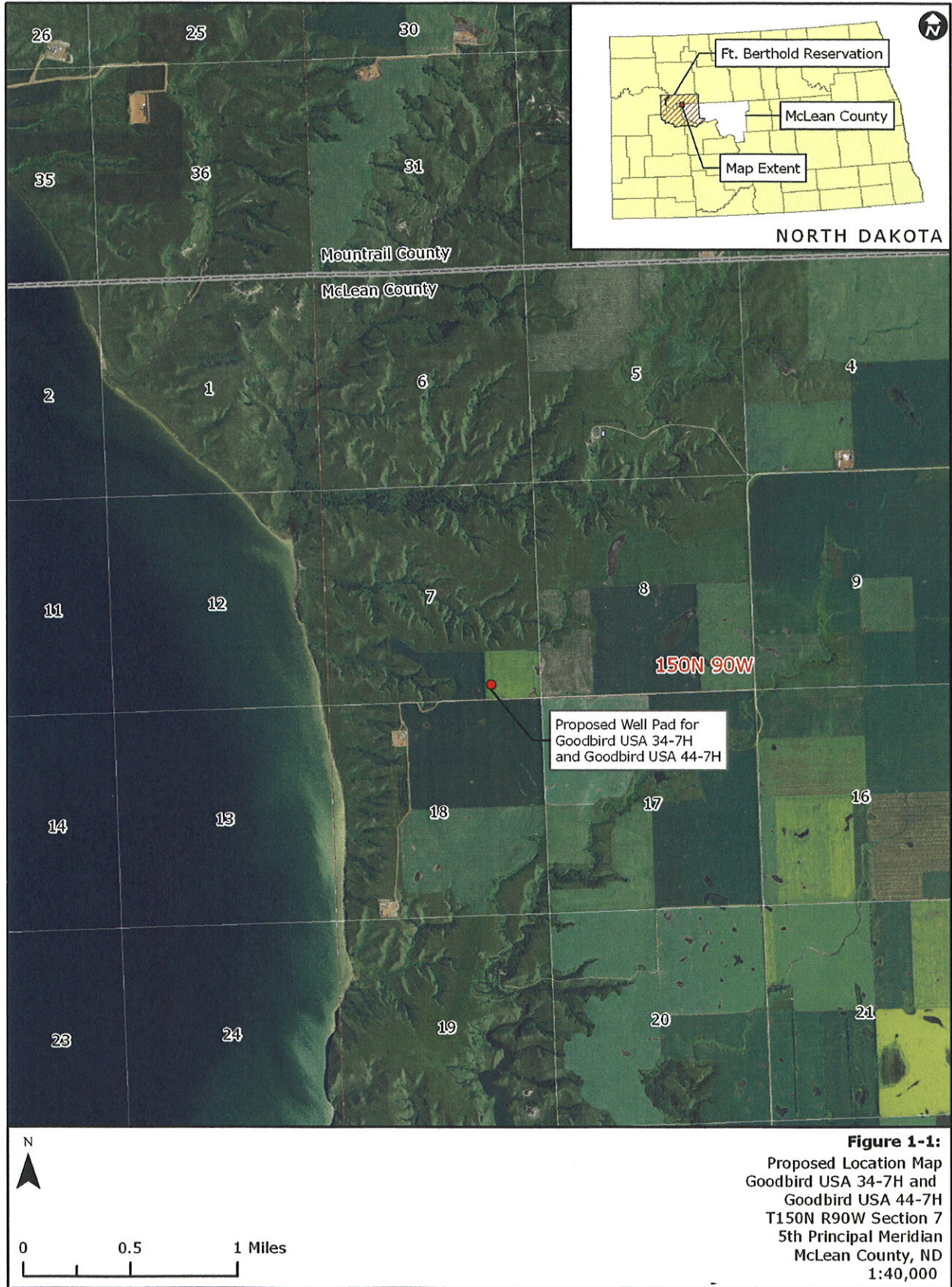


Figure 1-1:
Proposed Location Map
Goodbird USA 34-7H and
Goodbird USA 44-7H
T150N R90W Section 7
5th Principal Meridian
McLean County, ND
1:40,000