United States Department of the Interior

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

IN REPLY REFER TO:
DESCRM
MC-208

OCT 2 6 2012

MEMORANDUM

TO: Superintendent, Fort Berthold Agency

FROM: Acting Regional Director, Great Plains Region

SUBJECT: Environmental Assessment and Finding of No Significant Impact

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

All the necessary requirements of the National Environmental Policy Act have been completed. Attached for your files is a copy of the EA, FONSI and Notice of Availability. The Council on Environmental Quality (CEQ) regulations require that there be a public notice of availability of the (40 C.F.R. Section 1506.6(b)). Please post the attached notice of availability at the Agency and Tribal buildings for 30 days.

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

Tim LaFinte

Attachment

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

Finding of No Significant Impact

Marathon Oil Company (Marathon)

Environmental Assessment for

Drilling of
Four Oil and Gas Wells atop One Well Pad:
Foolish Bear USA Well Pad

Fort Berthold Indian Reservation
McKenzie County, North Dakota

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

- Foolish Bear USA (four-well pad) located in Section 17, T152N, R93W, 5th P.M., and containing four wells: Foolish Bear USA 11-16TFH, Foolish Bear USA 12-16H, DCFH USA 12-16TFH, and DCFH USA 12-16H.

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

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

This determination is based on the following factors:

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

Tim LaFontaine
Acting Regional Director

10-26-2012
Date

ENVIRONMENTAL ASSESSMENT

United States Bureau of Indian Affairs

Great Plains Regional Office
Aberdeen, South Dakota

Marathon Oil Company

Drilling of
Four Oil and Gas Wells atop One Well Pad:
Foolish Bear USA Well Pad

Fort Berthold Indian Reservation

October 2012

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

CONTENTS

Chapter 1 Purpose and Need for Action 1

1.1 Introduction 1
1.2 Description of the Proposed Action 1
1.3 Need for the Proposed Action 3
1.4 Purpose of the Proposed Action 3
1.5 Regulations that Apply to Oil and Gas Development Activities 3

Chapter 2 Alternatives 4

2.1 Introduction 4
2.2 Alternative A: No Action 4
2.3 Alternative B: Proposed Action 4
2.3.1 Access Roads 6
2.3.2 Well Pad 6
2.3.3 Drilling, Casing and Cementing 7
2.3.4 Completion and Evaluation 9
2.3.5 Commercial Production 9
2.3.6 Reclamation 11
2.3.7 Field Camps 12
2.3.8 Potential for Future Development 12

Chapter 3 Description of the Affected Environment and Impacts 13

3.1 Introduction 13
3.2 Climate, Geologic Setting, and Land Use 13
3.2.1 Climate, Geologic Setting and Land Use Impacts/Mitigation 15
3.3 Soils 15
3.3.1 Soil Impacts/Mitigation 15
3.4 Water Resources 16
3.4.1 Surface Water 17
3.4.2 Ground Water 19
3.5 Wetlands 21
3.5.1 Wetland Impacts/Mitigation 21
3.6 Air Quality 21
3.7 Threatened, Endangered, and Candidate Species 23
3.7.1 Endangered Species 24
3.7.2 Threatened Species 26
3.7.3 Candidate Species 27
3.8 Bald and Golden Eagles 28
3.8.1 Bald and Golden Eagle Impacts/Mitigation 30
3.9 Migratory Birds and Other Wildlife 30
3.9.1 Migratory Birds and Other Wildlife Impacts/Mitigation 30
3.10 Vegetation 31
3.10.1 Vegetation Impacts/Mitigation 34

3.11 Cultural Resources 35
3.11.1 Cultural Resources Impacts/Mitigation 36
3.12 Socioeconomic Conditions 36
3.12.1 Socioeconomic Impacts/Mitigation 37
3.13 Environmental Justice 37
3.13.1 Environmental Justice Impacts/Mitigation 39
3.14 Infrastructure and Utilities 39
3.14.1 Infrastructure and Utility Impacts/Mitigation 39
3.15 Public Health and Safety 40
3.15.1 Public Health and Safety Impacts/Mitigation 41
3.16 Cumulative Considerations 41
3.16.1 Past, Present, and Reasonably Foreseeable Actions 41
3.16.2 Cumulative Impact Assessment 44
3.17 Irreversible and Irretrievable Commitment of Resources 46
3.18 Short-term Use of the Environment Versus Long-term Productivity 46
3.19 Permits 46
3.20 Environmental Commitments/Mitigation 47

Chapter 4 Preparers and Agency Coordination 50

4.1 Introduction 50
4.2 Preparers 50
4.3 Agency Coordination 51
4.4 Public Involvement 51

Chapter 5 References 52

FIGURES

Figure 1.1, Project Location Map 2
Figure 2.1, Overview of Well Pad 5
Figure 2.2, Location of Spacing Units 9
Figure 3.1, Land Use 14
Figure 3.2, Surface Water Resources 18
Figure 3.3, Aquifers and Groundwater Wells 20
Figure 3.4, Bald and Golden Eagle Habitat and Nest Sightings 29
Figure 3.5, Well Pad Dominant Vegetation 32
Figure 3.6, Permitted Confidential/Active Wells 43

TABLES

Table 3.1, Soils **15**

Table 3.2, Federal and State Air Quality Standards and Reported Data for TRNP-NU **22**

Table 3.3, Noxious Weed Species **34**

Table 3.4, Demographic Trends **38**

Table 3.5, Employment and Income **38**

Table 3.6, Summary of Permitted Confidential/Active Wells **42**

Table 4.1, Preparers **50**

APPENDICES

Appendix A, Agency Scoping Materials

Appendix B, Agency Scoping Responses

Appendix C, Well Pad Plats

CHAPTER 1 PURPOSE AND NEED FOR ACTION

1.1 Introduction

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

1.2 Description of the Proposed Action

The Fort Berthold Reservation encompasses 988,000 acres, 458,000 of which are in tribal and individual Indian ownership by the Three Affiliated Tribes (Mandan, Hidatsa, and Arikara) and its members. The reservation is located in west-central North Dakota and is split into three areas by Lake Sakakawea, which traverses the center of the reservation. It occupies sections of six counties: Dunn, McKenzie, McLean, Mercer, Mountrail and Ward.

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

The proposed action includes approval by the Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM) for Marathon Oil Company (Marathon) to drill and complete four wells atop one well pad. The well pad is proposed to be positioned in the following location and as shown on ***Figure 1.1, Project Location Map:***

- Foolish Bear USA (four-well pad) located in Section 17, T152N, R93W, 5th P.M., and containing four wells: Foolish Bear USA 11-16TFH, Foolish Bear USA 12-16H, DCFH USA 12-16TFH, and DCFH USA 12-16H.

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

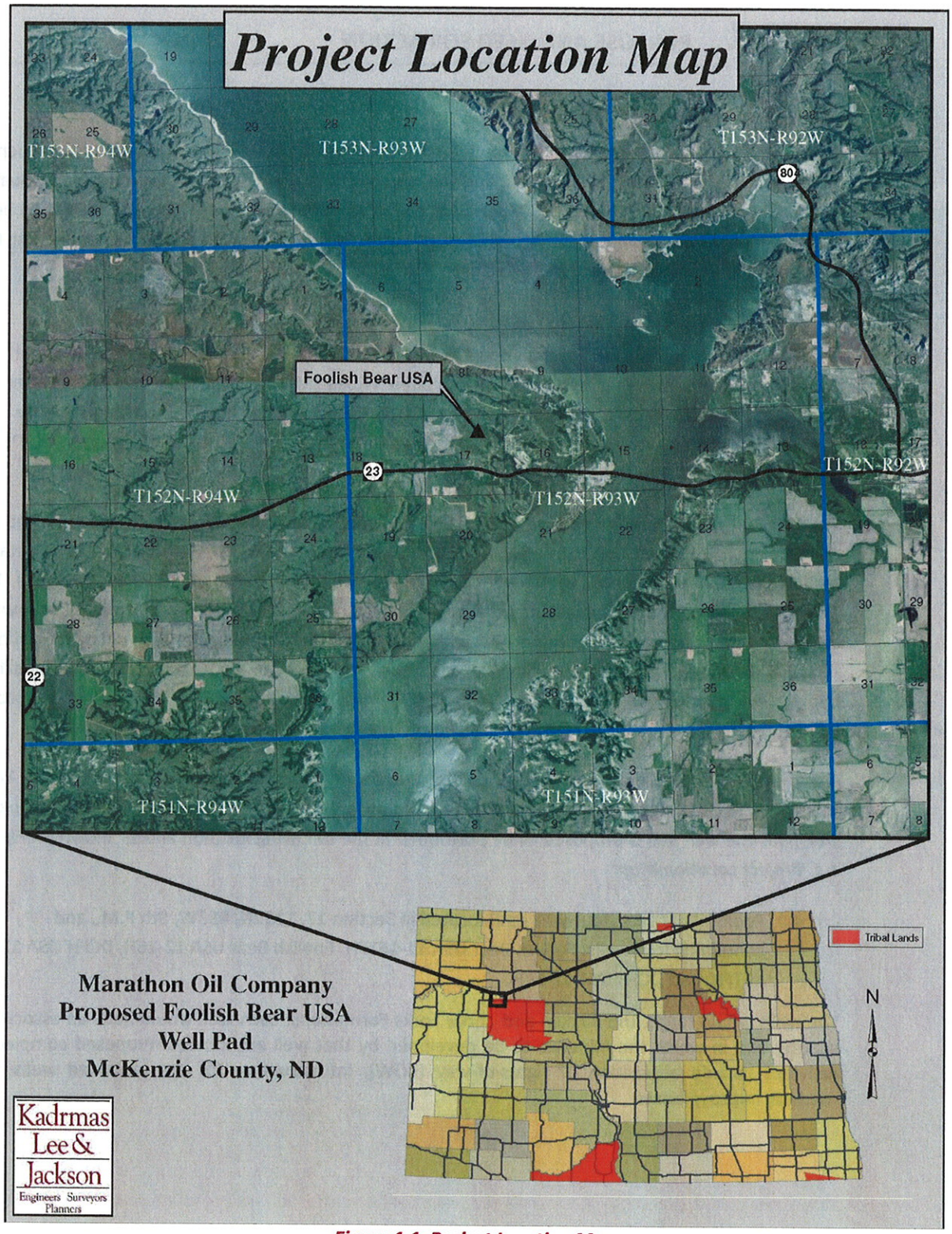


Figure 1.1, Project Location Map

1.3 Need for the Proposed Action

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

1.4 Purpose of the Proposed Action

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

1.5 Regulations that Apply to Oil and Gas Development Activities

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

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

CHAPTER 2 ALTERNATIVES

2.1 Introduction

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

2.2 Alternative A: No Action

Under the no action alternative (Alternative A), the BIA and BLM would not authorize the development of the proposed well pad, resulting in no drilling or completion of the four proposed oil and gas wells. There would be no environmental impacts associated with Alternative A; however, the Three Affiliated Tribes would not receive potential royalties from production or other economic benefits from oil and gas development on the Reservation. Further, the oil and gas resources targeted by the proposed action would not be explored for commercial production or recovered and made available for domestic energy use.

2.3 Alternative B: Proposed Action

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

The well pad would require new ROW for the site area, an access point, and associated infrastructure. ROW would be located to avoid sensitive surface resources and any cultural resources identified during site surveys. Infrastructure may include electrical, telecommunication, and oil and gas gathering pipelines, all of which would be located underground within the ROW acquired by Marathon, or additional NEPA analysis and approval would be required. Please refer to ***Figure 2.1, Overview of Well Pad.***

Intensive, pedestrian resource surveys of the proposed well pad and access road were conducted on July 6, 2012, by KLJ. The purpose of the surveys was to gather site-specific data and photos with regards to botanical, biological, threatened and endangered species, eagles and water resources. A study area consisting of a 200-foot buffer around the proposed well pad disturbance area and access road corridor was evaluated for the site. In addition, eagle surveys were conducted on July 12, 2012 by KLJ. The eagle surveys consisted of pedestrian transects focusing specifically on potential nesting sites within 0.5 mile of the project disturbance area, including cliffs and wooded draws. Wooded draws were observed from both the upland areas overlooking the draws and from bottomlands within the actual draws.

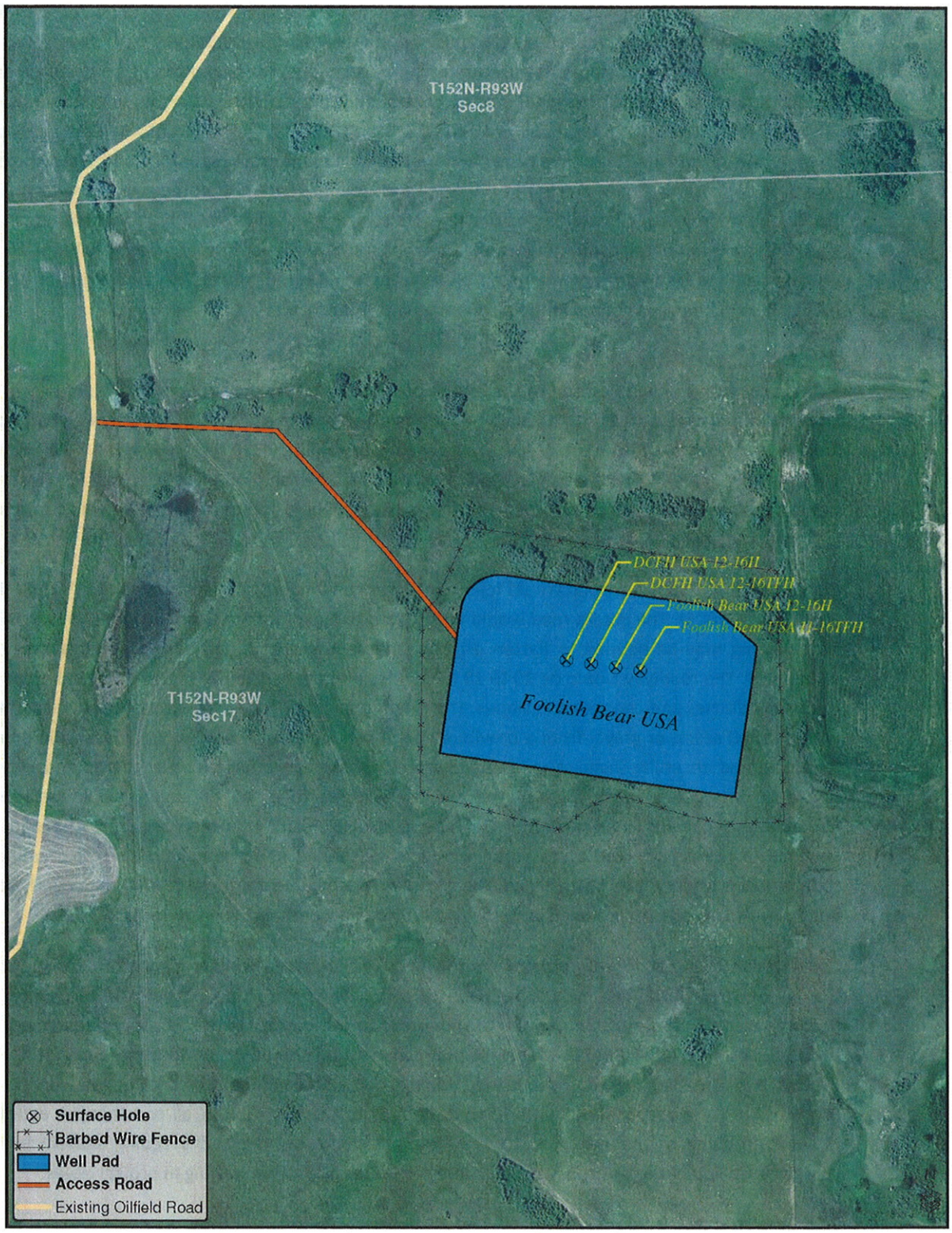


Figure 2.1, Overview of Well Pad

The BIA-facilitated EA on-site assessment of the well pad and access road was conducted on July 6, 2012. The BIA Environmental Protection Specialist, as well as representatives from Marathon, KLJ, and Tribal Game and Fish were present. During the assessments, construction suitability with respect to topography, stockpiling, drainage, erosion control and other surface issues were considered. The well pad and access road locations were finalized and the BIA gathered information needed to develop site-specific mitigation measures and best management practices (BMPs) to be incorporated into project planning. Those present at the on-site assessment agreed that the selected locations are positioned in areas which would minimize impacts to sensitive wildlife and botanical resources and that the environmental commitments made by Marathon would further minimize harm to the environment. In addition, comments received from the United States Fish and Wildlife Service (USFWS) have been considered in the development of this project.

2.3.1 Access Roads

Existing roadways would be used to the extent possible to access the proposed wells; however, the construction of a new access road would be required. The proposed Foolish Bear USA well pad would be accessed from the northwest. A new access road approximately 916 feet long with a ROW width of 100 feet (2.1 acres) would be constructed in Section 17, Township 152 North, Range 93 West. The new access road would be constructed off of an existing oil field access road, and travel southeast to the proposed well pad.

Construction of the access road would follow road design standards outlined in the BLM's *Gold Book* (4th Edition, 2006). The access road would be situated to avoid drainages and wooded draws. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignments. The roadway would be 20 to 28 feet wide, with the remainder of the disturbed areas due to borrow ditches and construction slopes. The running surface of the access road would be surfaced with crushed scoria or gravel from a previously approved location. The ROW would be wide enough to accommodate utility installation and snow removal/storage efforts. Cattle guards and culverts would be installed at both ends of the proposed access road. All fill slopes would be seeded immediately following construction, or erosion control blankets would be installed. The outslope portions of the constructed access road would be re-seeded upon completion of construction to reduce access road related disturbance. The access road would be improved to eliminate overly steep grades, maintain current drainage patterns and provide all-weather driving surfaces.

Construction of the proposed project and drilling of the proposed wells is planned to commence in the fall of 2012. All efforts would be made to complete construction outside the migratory bird nesting season (February 1 through July 15) in order to avoid impacts to migratory birds during the breeding and nesting season. In the event that construction should occur during the migratory bird nesting and breeding season, a qualified biologist would conduct pre-construction surveys for migratory birds and their nests within five days prior to the initiation of all construction activities. Mowing/grubbing of the site prior to and throughout the nesting and breeding season may be completed in lieu of the pre-construction surveys to deter birds from nesting in project areas.

2.3.2 Well Pad

The well pad would consist of a fenced in, leveled area covered with several inches of crushed scoria or gravel. The pad would be used for a drilling rig and related equipment, as well as contain an

excavated, reinforced, lined pit to store drill cuttings.[1] The level well pad plus cut and fill slope areas, including cuttings pit for drill cuttings, would be approximately 600 feet by 375 feet (approximately 5.92 acres) with approximately 8.75 acres fenced.

Placing multiple wells on one pad location would minimize the disturbance from approximately 20 acres (assuming 5 acres per well location) to the approximate 8.75 acres total that would be located within the well pad fenced area.

The well pad area would be cleared of vegetation, stripped of topsoil and graded to specifications in the APDs submitted to the BLM, in accordance with the BLM's *Gold Book*. Topsoil would be stockpiled and stabilized until disturbed areas are reclaimed and re-vegetated. Excavated subsoil would be used in pad construction, with the finished well pad graded to ensure water drains away from the drill sites. To minimize the overall footprint, all cut/fill slopes on the edges of the well pad would be 2:1. The well pad would have a berm installed around the entire pad to protect against run-on and run-off. A water diversion berm would also be installed along all cut slopes of the proposed pad to prevent precipitation or meltwater from running onto the pad. All fill slopes would be seeded immediately following construction, or erosion control blankets would be installed. Straw rolls would be placed in all drainages. Additional erosion control would be installed as needed and may include BMPs such as water bars, diversion ditches, bio-logs, silt fences, and re-vegetation of disturbed areas. The drill cuttings pits would be reclaimed to BLM and North Dakota Industrial Commission (NDIC) standards immediately upon finishing completion operations.

The proposed well pad would be located within 0.5 mile of several structures. Marathon would consult with the BIA prior to construction and obtain approval from the BIA to construct within 0.5 mile of a structure.

Construction of the proposed project and drilling of the proposed wells is planned to commence in the fall of 2012. All efforts would be made to complete construction outside the migratory bird nesting season (February 1 through July 15) in order to avoid impacts to migratory birds during the breeding and nesting season. In the event that construction should occur during the migratory bird nesting and breeding season, a qualified biologist would conduct pre-construction surveys for migratory birds and their nests within five days prior to the initiation of all construction activities. Findings from the migratory bird surveys would be reported to the BIA. Mowing/grubbing of the site prior to and throughout the nesting and breeding season may be completed in lieu of the pre-construction survey to deter birds from nesting in the project area.

2.3.3 Drilling, Casing and Cementing

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

The proposed well pad would access potential oil and gas resources within the following spacing unit:

- Foolish Bear USA: One 1,280 acre spacing unit consisting of Sections 15 and 16, T152N, R93W.

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

Please refer to *Figure 2.2, Location of Spacing Units*. Any portion of the bore occurring outside of the spacing unit would be cased and cemented.

Initial drilling would be vertical to a depth of approximately 10,400 feet to reach the Bakken Formation and 10,500 feet to reach the Three Forks Formation, at which time drilling would angle to become horizontal. The laterals along the horizontal plane would extend approximately 11,200 feet. The horizontal drilling technique would minimize surface disturbance.

For the first 2,000 feet drilled at each well (commonly referred to as a "surface hole"), a fresh water based mud system with non-hazardous additives would be used to minimize contaminant concerns. Upon drilling the surface hole, 9-5/8 inch diameter surface casing would then be run and cemented from the casing shoe back to the surface to ensure protection of all known freshwater zones as required by BLM and NDIC regulations. Water for surface hole drilling would be obtained from a commercial source. About 8 gallons of water would be used per foot of hole drilled, for a total of about 40,000 gallons (20,000 gallons in the hole and 20,000 gallons as working volume at the surface). After setting and cementing the surface casing, an oil-based mud system consisting of about 80 percent diesel fuel and 20 percent saltwater would be used to drill the remainder of the vertical hole and curve. Seven-inch production casing would be set and cemented through the curve and into the lateral from the production casing shoe to a cement top depth that reaches above the Dakota Group at approximately 4,600 feet, ensuring that any zones known to contain oil, gas and other fluids are adequately isolated. A saltwater based drilling mud would then be utilized for the horizontal portion of the wellbore. Upon completion of the drilling of the horizontal lateral a 4.5 inch production liner/packer assembly will be run in the lateral, tying back to the 7 inch casing to allow a staged fracture stimulation to be completed on the well.

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

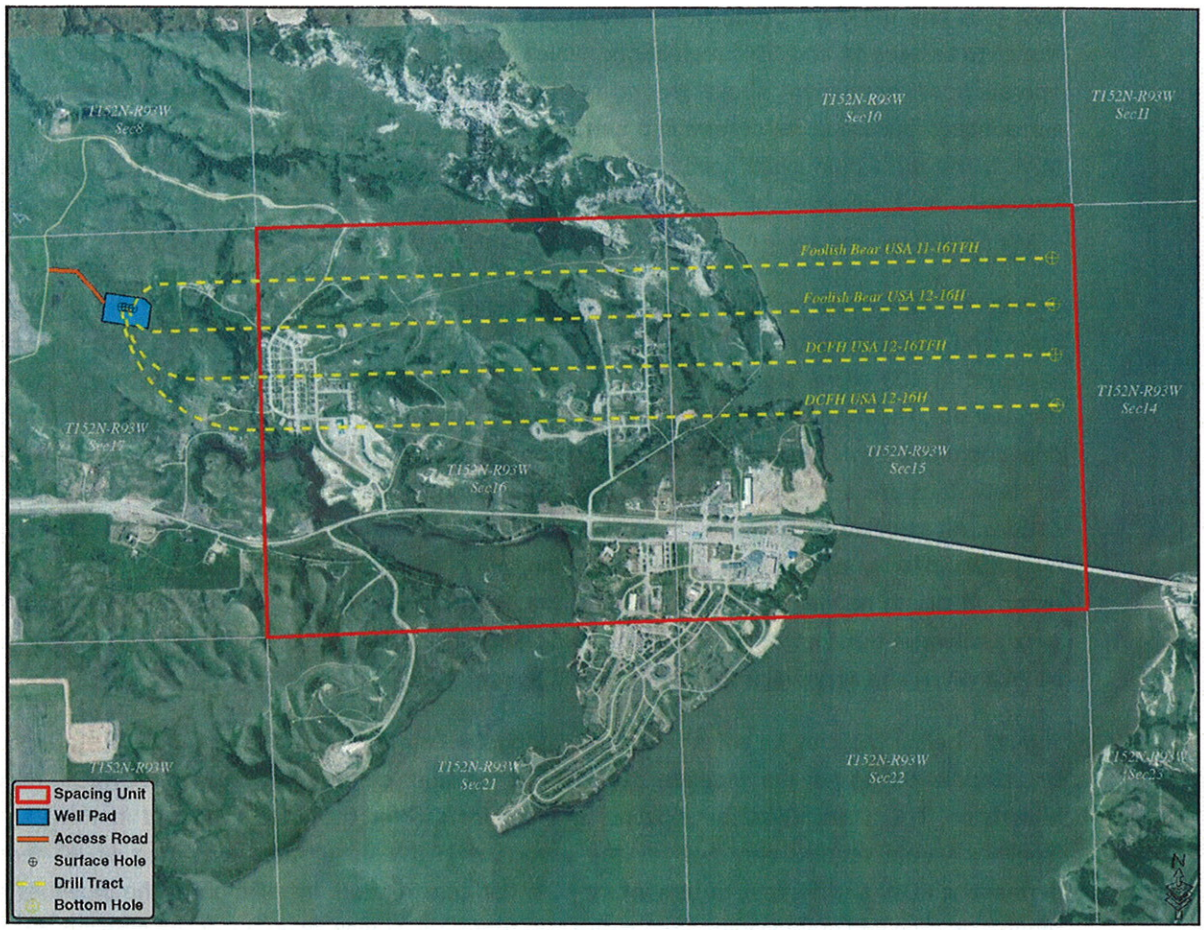


Figure 2.2, Location of Spacing Units

2.3.4 Completion and Evaluation

Once each well is drilled and cased, approximately 60 additional days would be required to complete and evaluate it. Completion and evaluation activities include cleaning out the well bores, pressure testing the casings, perforating and hydraulic fracturing (fracking) to stimulate the horizontal portion of the wells and running production tubing for potential future commercial production. Marathon would only utilize hydraulic fracturing on the section of the bore that is located within the spacing unit. Fluids utilized in the completion process would be captured in tanks and disposed of in accordance with BLM and NDIC rules and regulations. Once the wells are completed, site activity and vehicle access would be reduced. If wells are determined to be successful, tank trucks would initially transport the product to market.

2.3.5 Commercial Production

If commercially recoverable oil and gas resources are found at the Foolish Bear USA well pad, the well pad would become established as a production facility. Production equipment, including well pumping units, vertical heater-treaters, storage tanks, flare systems, and associated piping would be installed on the established production facility. The storage tanks and heaters-treaters would be surrounded by impermeable berms that would act as secondary containment to guard against possible spills. The berms would be sized to hold 100 percent of the capacity of the largest storage

tank plus one full day's production. Natural gas would be flared on-site in accordance with BIA's Notice to Lessees 4A and NDIC regulations, which prohibit gas flaring for more than the initial year of operation. All permanent above ground production facilities would be painted to blend into the surrounding landscape, as determined by the BIA, based on standard colors recommended by the BLM. Marathon would avoid, minimize and mitigate the environmental effects of the four wells by incorporating applicable conditions, mitigation measures and BMPs from the BLM's regulations, BLM's *Gold Book*, and applicable BLM *Onshore Oil and Gas Orders, including Numbers 1, 2, and 7.*

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

Should pipeline facilities be constructed, Marathon Oil Company has chosen Saddle Butte Pipeline, LLC (Saddle Butte) as the pipeline provider for oil and produced water, and ONEOK Rockies Midstream, LLC (ONEOK) as the pipeline provider for gas for the wells proposed in this EA. The pipelines would require approval for the associated ROW acquisition consisting of 50 feet of permanent ROW and 50 feet of temporary ROW for construction. Installation of the pipelines may require clearing and grading within the entire 100-foot right-of-way along the entire pipeline corridor.

Every effort would be made to minimize surface disturbance during the construction process. Trenches would be excavated to a depth sufficient to maintain a minimum of 48 inches of ground coverage over the pipelines. Other utilities, including phone and water pipelines, may be present in the immediate area, and the appropriate utility providers would be coordinated with. Topsoil would be separated and stockpiled along either side of any disturbed cross section. If construction activities take place near the end of construction season, topsoil would only be removed far enough in advance that the pipelines could be installed and the site re-graded prior to the end of the construction season. In addition, Saddle Butte and ONEOK would also install straw bales on slopes to provide erosion breaks. If necessary, Marathon would consult with the appropriate grazing allottee to ensure that installation of pipelines would not impact livestock. If temporary fencing were to be installed it would be located within Marathon's approved ROW.

As current estimates expect the Bakken field to remain active for 30 to 40 years, it is important that pipeline systems are designed to perform for this period of time. Pipelines, if designed effectively and well maintained, may have an indefinite life expectancy. ONEOK's natural gas pipeline would be composed of a high-density polyethylene with a design life extending well beyond 40 year.

Saddle Butte's oil and produced water pipelines would likely be composed of steel. To ensure their long-term viability, all steel pipelines would be coated with between 14-16 mils of fusion bonded epoxy coating, which would help protect the pipelines against corrosive elements in the soil. The

coating would be inspected thoroughly at the time of installation, both visually and by electronic testing. Saddle Butte would also utilize specialty coatings that are applicable for underground fittings, bore crossings, etc. to provide additional levels of protection where necessary. Velocities and pressure drops for the pipeline system would be carefully evaluated and lines sized to prevent erosion velocity. Additionally, lines would be designed to be cleaned and inspected via internal tools (e.g., cleaning pigs and smart pigs) to assess pipeline conditions in order to maintain the integrity of the pipeline system.

All pipeline installations would be monitored by an inspection/construction management team as well as independent third party contract experts. Construction specifications would require contractors to allow for inspection, and no pipeline would be laid and backfilled without appropriate approvals.

Saddle Butte would perform hydrotesting on all pipelines at the time of installation to assure no possibility of leakage. Following design and installation, Saddle Butte would immediately conduct a cathodic survey utilizing test stations, rectifier pads and other means designed by cathodic protection specialists.

ONEOK would also pressure test their pipeline to 1¼ times the actual maximum pressure for the proposed line. This series of pressure tests would occur for eight straight hours and would be documented for each segment.

In the event that a pipeline company other than Saddle Butte or ONEOK would construct within the proposed ROW, the company would be required to comply with all commitments and procedures set forth in this EA, or additional NEPA analysis and approval would be required.

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

2.3.6 Reclamation

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

Topsoil separated during pipeline installation would be used for prompt reseeding and reclamation of the disturbed areas. If topsoil cannot be spread in a timely manner allowing vegetation to reestablish prior to winter, topsoil would be spread and reseeded the following spring to avoid to wind and water erosion. For pipeline locations that are reclaimed in winter months or late fall such that no germination is possible, Saddle Butte and ONEOK would either use sprayed reinforcement, lain

matting reinforcement, spread and crimp straw, straw wattles and/or silt fences to minimize erosion through winter months. Any temporary reclamation measures would remain until the pipeline provider can completely reclaim and revegetate the area in the spring. All temporary reclamation measures would be inspected on a monthly basis, or more frequently as necessary, throughout the winter. Additional reclamation activities would occur throughout the life of the pipeline, due to routine maintenance or addition of infrastructure. Reclamation would be considered successful when seeded areas are established, adjacent vegetative communities spread back into the disturbed areas, and noxious weeds are under control.

If commercial production was not developed from the four proposed wells, or upon final abandonment of commercial operations, all disturbed areas would be promptly reclaimed. As part of the final reclamation process, all well facilities would be removed, well bores would be plugged with cement and dry hole markers would be set in accordance with NDIC and BLM requirements. The access road and well pad area would be re-contoured to match topography of the original landscape, reseeded with a seed mixture consistent with surrounding native species, and fitted with erosion controls. Maintenance of the grass seeding would continue until the productivity of the stand is consistent with surrounding undisturbed vegetation and is free of noxious weeds. An exception to the reclamation measures may occur if the BIA approves assignment of the access road either to the BIA roads inventory or to concurring surface allottees.

2.3.7 Field Camps

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

2.3.8 Potential for Future Development

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

CHAPTER 3 DESCRIPTION OF THE AFFECTED ENVIRONMENT AND IMPACTS

3.1 Introduction

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

3.2 Climate, Geologic Setting, and Land Use

The proposed well pad and access road is situated geologically within the Williston Basin, where the shallow stratigraphy consists of sandstones, silts and shales dating to the Tertiary Period (65 to 2 million years ago), including the Sentinel Butte and Golden Valley Formations. The Bakken and Three Forks Formations are well-known sources of hydrocarbons and would be the target of the proposed project. Although earlier oil and gas exploration activity within the Fort Berthold Reservation was limited and commercially unproductive, recent advances in drilling technologies, including horizontal drilling techniques, now make accessing oil in the Bakken and Three Forks Formations feasible.

According to Great Plains Regional Climate Center data collected at the Keene 3 S weather station from 1950–2012, temperatures in excess of 80 degrees Fahrenheit are common in summer months. The area receives an average of 15.8 inches of precipitation annually, predominantly during spring and summer. Winters in the region are cold, with temperatures often falling near zero degrees Fahrenheit. Snow generally remains on the ground from November to March, and an average of 34.7 inches of snow is received annually.

The western and southern portions of the Fort Berthold Reservation consist of prairie grasslands and buttes. The northern and eastern areas of the Reservation provide fertile farmland. The proposed project areas are located within a predominately rural area. According to National Agricultural Statistics Services (NASS) data, land within the proposed project area is composed entirely of grasslands (100 percent). Please refer to ***Figure 3.1, Land Use.***

The topography within the project area is identified as the United States Geological Survey's (USGS) Little Missouri Badlands section of the Northwestern Great Plains ecoregion. This ecoregion is unglaciated and characterized by highly dissected conical hills. The area was formed in the soft, easily erodible strata of the Ludlow, Cannonball, Slope, Bullion Creek and/or Sentinel Butte Formations.

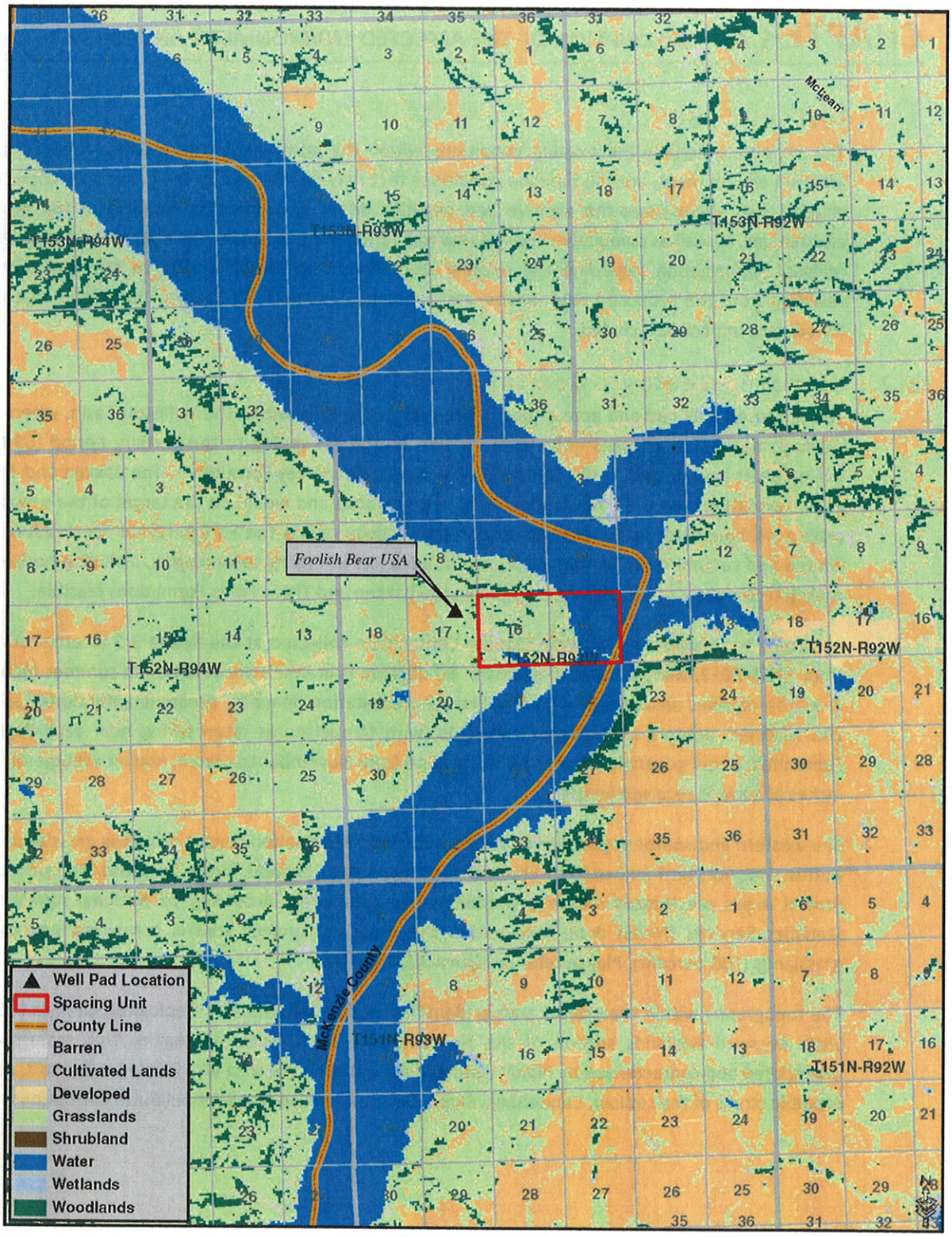


Figure 3.1, Land Use

3.2.1 Climate, Geologic Setting and Land Use Impacts/Mitigation

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

Alternative B (Proposed Action) – Alternative B would result in the conversion of approximately 10.85 acres of land from present use to part of an oil and gas network. Of this, a total of approximately 8.75 acres would be as a result of construction of a well pad (fenced area) and a total of 2.1 acres would be from construction of an access road. The land-use of the affected areas is predominantly grassland.

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

3.3 Soils

The Natural Resource Conservation Service (NRCS) Soil Survey of McKenzie County dates from 2006, with updated information available online through the NRCS Web Soil Survey. There are two soil types within the project impact areas. Please refer to ***Table 3.1, Soils.***

Table 3.1, Soils

MAP UNIT SYMBOL	SOIL NAME	PERCENT SLOPE	COMPOSITION (IN UPPER 60 INCHES)			EROSION FACTOR[2]		HYDROLOGIC SOIL GROUP[3]
			% SAND	% SILT	% CLAY	T	KF	
43C	Williams-Zahl Loams	6 to9	35.4	36.6	28.6	5	0.28	B
44E	Zahl-Williams Loams	15 to 25	35.3	36.1	28.6	5	0.28	B

The soils listed have moderate susceptibility to sheet and rill erosion. In addition, both soils can tolerate moderate levels of erosion without loss of productivity. Both soils are well drained with depth to the water table recorded at greater than six feet. Neither soil listed within the project impact areas are susceptible to flooding or ponding.

3.3.1 Soil Impacts/Mitigation

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

---

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

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

Alternative B (Proposed Action) – Construction activities associated with the proposed well pad, access road and associated utilities would result in soil disturbances, though impacts to soils are not anticipated to be significant. Based on NRCS soil data, topsoil exists to depths approximately 3-8 inches at the site. Topsoil depths taken during the onsite surveys indicated soil depths of approximately 8 inches at the site, yielding sufficient quantity of topsoil for construction and reclamation activities. Topsoil stockpile quantities identified in the design plats for the locations were calculated assuming eight inches of existing topsoil. The well pad topsoil stockpile would contain approximately 6,420 cubic yards of material (including topsoil used for berming) placed along the west edge of the proposed well pad. Approximately 2,320 cubic yards of subsoil material would be stockpiled along the south side of the pad. The stockpile area was included in the fenced areas of impact.

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

The use of heavy equipment may result in soil compaction. When soil is compacted, it decreases permeability and increases surface runoff, especially in silt and clay soils. In addition, soils may be impacted by mixing of soil horizons. Soil compaction and mixing of soil horizons would be minimized by the previously discussed topsoil segregation.

Contamination of soils from various chemicals and other products used during oil development activities is not anticipated. In the rare event that such contamination may occur, the event would be immediately reported to the appropriate regulatory agencies, such as the BLM, the NDIC, and/or the North Dakota Department of Health (NDDH). The procedures of the surface management agency would be followed to contain leaks or spills.

3.4 Water Resources

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

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

drinking water and its sources: rivers, lakes reservoirs, springs, and ground water wells.[4] The Energy Policy Act of 2005 excludes hydraulic fracturing operations related to oil, gas, or geothermal production activities from EPA regulation under the SDWA.[5]

3.4.1 Surface Water

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

The proposed well pad site is located in the Lake Sakakawea basin, where surface waters within the basin drain to Lake Sakakawea. The proposed site is located in the Sanish Bay Watershed and Antelope Creek State Wildlife Management Area Watershed. Runoff throughout the study area is by sheet flow until collected by ephemeral and perennial streams draining to Lake Sakakawea.

The proposed site is situated on upland bluffs consisting of native rangeland. The majority of the well pad drains northeast into a drainage which then extends in a northwesterly direction 1.2 miles before reaching Lake Sakakawea. The nearest wooded draw is approximately 100 feet north of the proposed well pad. Culverts along the proposed access road would be implemented to avoid drainage impacts. Please refer to ***Figure 3.2, Surface Water Resources.***

3.4.1.1 Surface Water Impacts/Mitigation

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

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

The cut slopes of the well pad would be bermed to prevent precipitation or meltwater from running onto the pad. All fluids would be handled and properly disposed of in accordance with applicable regulations, including storm water and Spill Prevention Control and Countermeasure (SPCC) rules.

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

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

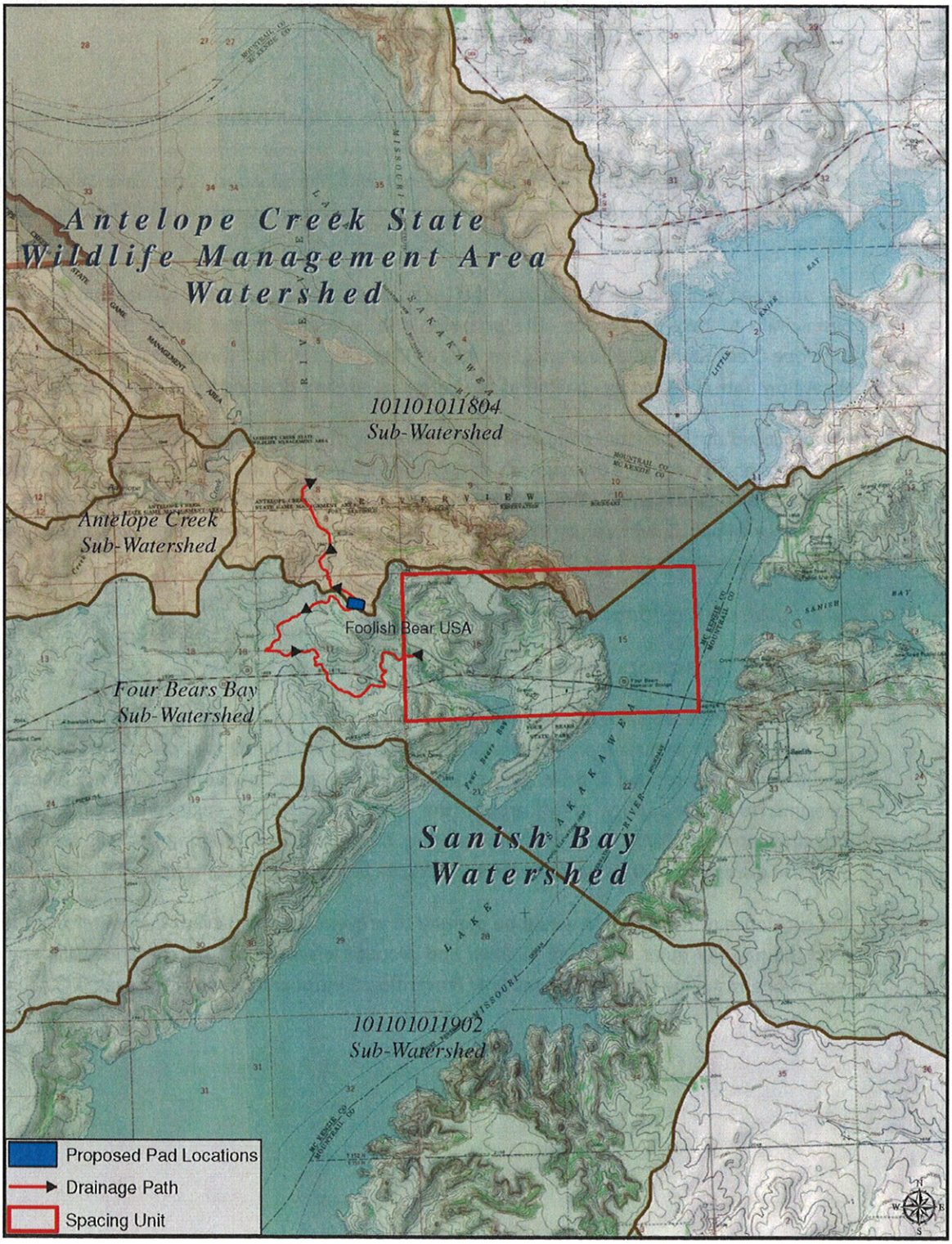


Figure 3.2, Surface Water Resources

The access road would be improved as necessary to eliminate overly steep grades and maintain current drainage patterns. In addition, culverts would be installed and erosion control measures including blanket matting, straw rolls, and seeding of all disturbed areas would be implemented.

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

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

Saddle Butte and ONEOK have also both committed to developing individual spill response plans that would be submitted to the BIA prior to the commencement of the construction activities. The response plans would include procedures that specifically address making the appropriate contacts, isolating the incident, protecting waterways and providing contact information for all the appropriate contractors and experts necessary to facilitate a rapid response.

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

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

3.4.2 Ground Water

The North Dakota State Water Commission's electronic Ground and Surface Water Data Query revealed no active or permitted groundwater wells within one-mile of the proposed project area. The nearest water well is located approximately 1.61 miles northwest of the well pad. There is also a monitoring well within the spacing unit that is located approximately 1.73 miles from the well pad. The Missouri River Aquifer is located north of the proposed well pad. No sole source aquifers have been identified within the state of North Dakota. Please refer to ***Figure 3.3, Aquifers and Groundwater Wells.***

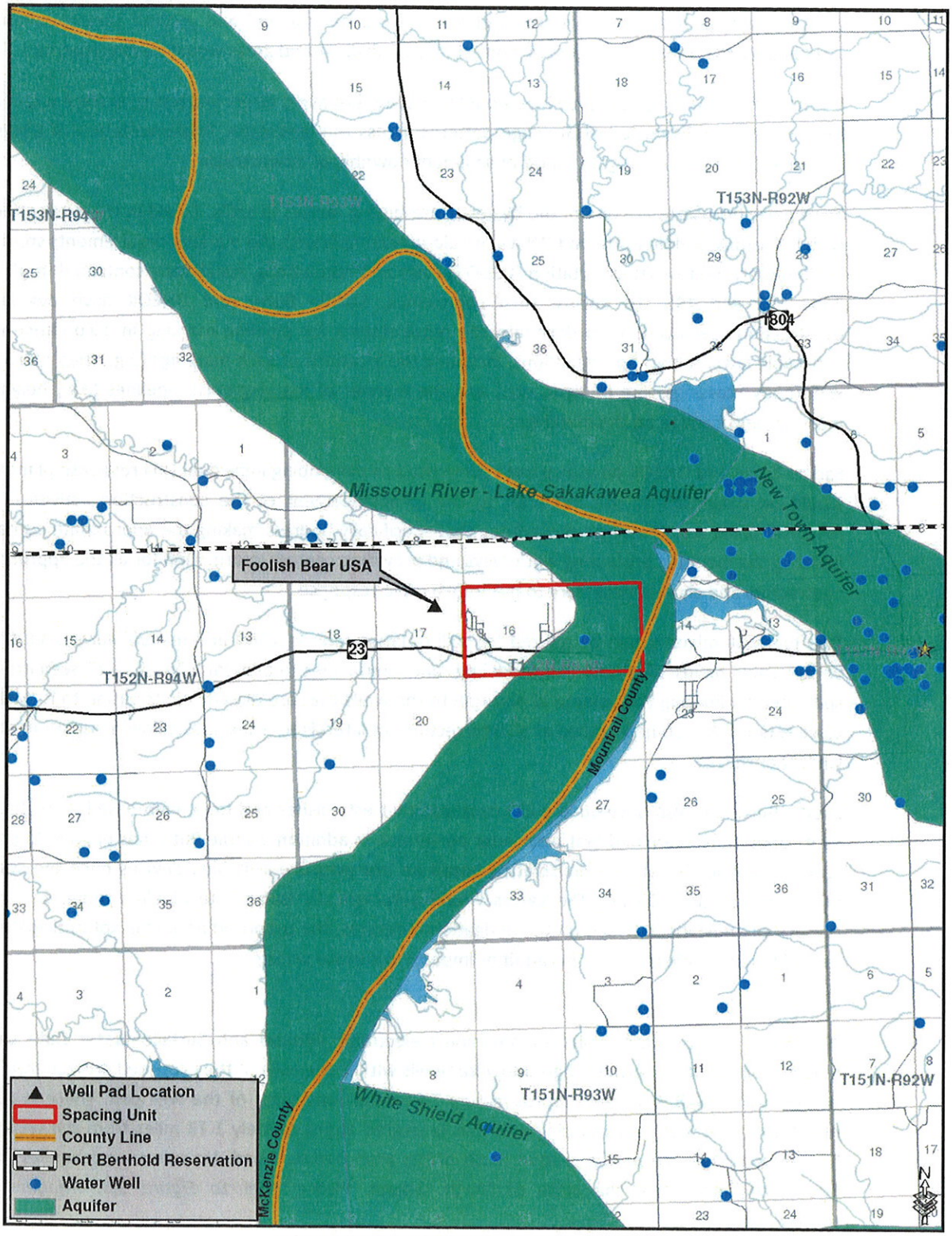


Figure 3.3, Aquifers and Groundwater Wells

3.4.2.1 Ground Water Impacts/Mitigation

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

Alternative B (Proposed Action) – Limited scientific data is available regarding the effects of hydraulic fracturing on ground water.[6] Five geologic formations above the Three Forks and Bakken Formations contain salts, which work to stop the flow of fluid through the geologic formations. The formations lie between groundwater aquifers and the Three Forks and Bakken Formations, making the leaching of fluids from the fracturing process into groundwater supplies unlikely. The eastern portion of the proposed spacing units would be located near or directly below the Missouri River Aquifer, which is classified as a near surface aquifer; however, initial drilling of the proposed wells would be vertical to an approximate depth of 10,100-11,000 feet, well below all known aquifers within the region. As required by applicable law, all proposed wells would be cemented and cased to isolate aquifers from potentially productive hydrocarbon and disposal/injection zones. In addition, the first 2,000 feet drilled at each well would utilize a fresh water based mud system with non-hazardous additives to minimize contamination concerns. Due to the depth of the proposed wells and aforementioned precautions that would be implemented by Marathon, no significant impacts to groundwater are expected to result from Alternative B.

3.5 Wetlands

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

Wetlands were identified within the access road corridor during the field surveys. The access road alignment was adjusted to avoid wetlands impacts.

3.5.1 Wetland Impacts/Mitigation

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

Alternative B (Proposed Action) – Initially, wetlands were located within the access road corridor; however, no wetland impacts are anticipated to result from Alternative B due to the adjustment of the access road alignment.

3.6 Air Quality

The Clean Air Act, as amended, requires the EPA to establish air quality standards for pollutants considered harmful to public health and the environment by setting limits on emission levels of various types of air pollutants. The NDDH operates a network of Ambient Air Quality Monitoring (AAQM) stations. The nearest AAQM station is located in Theodore Roosevelt National Park North Unit (TRNP-NU), approximately 42.4 miles southwest of the proposed site. Criteria pollutants tracked

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

under EPA's National Ambient Air Quality Standards in the Clean Air Act include sulfur dioxide (SO_2), particulate matter (PM), nitrogen dioxide (NO_2), ozone (O_3), lead (Pb), and carbon monoxide (CO). In addition, the NDDH has established state air quality standards. State standards must be as stringent as, but may be more stringent than, federal standards. Please refer to ***Table 3.2, Federal and State Air Quality Standards and Reported Data for TRNP-NU***.

North Dakota was 1 of 13 states in 2010 that met standards for all criteria pollutants. The state also met standards for fine particulates and the eight-hour ozone standards established by the EPA. Additionally, the Fort Berthold Reservation complies with the North Dakota National Ambient Air Quality Standards and visibility protection. The Clean Air Act affords additional air quality protection near Class I areas. Class I areas include national parks greater than 6,000 acres in size, national monuments, national seashores, and federally designated wilderness areas larger than 5,000 acres designated prior to 1977. There are no Federal Class I areas within the project areas. The Theodore Roosevelt National Park-North Unit (TRNP-NU) is the nearest Class I area, located approximately 32 miles southwest of the proposed site.

Table 3.2, Federal and State Air Quality Standards and Reported Data for TRNP-NU

POLLUTANT	AVERAGING PERIOD	EPA AIR QUALITY STANDARD		NDDH AIR QUALITY STANDARD		TRNP-NU 2010 REPORTED DATA	
		µg/m³	parts per million	µg/m³	parts per million	µg/m³	parts per million
SO_2	24-Hour	365	0.14	365	0.14	—	.0034
	Annual Mean	80	0.030	80	0.030	—	.0006
PM_{10}[7]	24-Hour	150	—	125	—	29.0	—
	Annual Mean	—	—	—	—	10.1	—
$PM_{2.5}$[8]	24-Hour	35	—	35	—	44.0	—
	Weighted Annual Mean	15	—	15	—	5.46	—
NO_2	Annual Mean	100	0.053	100	0.053	—	.001
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	—	—	—	—	—	.073
	8-Hour	—	0.075	—	0.075	—	.070

[7] PM_{10} refers to particulates 10 micrometers (µ) or less in size.

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

3.6.1.1 *Air Quality Impacts/Mitigation*

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

Alternative B (Proposed Action) – The Fort Berthold Reservation complies with North Dakota National Ambient Air Quality Standards and visibility protection. In addition, the TRNP-NU AAQM Station reported air quality data well below the state and federal standards. Alternative B would not include any major sources of air pollutants. Construction activities would temporarily generate minor amounts of dust and gaseous emissions of PM, SO_2, NO_2, CO, and volatile organic compounds. Emissions would be limited to the immediate project area and are not anticipated to cause or contribute to a violation of National Ambient Air Quality Standards. Marathon would provide dust control for their access roads and haul roads and obtain a synthetic minor source permit from the EPA, as required. No detectable or long-term impacts to air quality or visibility are expected within the airsheds of the Fort Berthold Reservation, the state or TRNP-NU.

On August 1, 2012, the EPA Administrator, Lisa Jackson, signed the approval and promulgation of the Federal Implementation Plan (FIP) for oil and gas well production facilities on the Fort Berthold Reservation. The Reservation-specific FIP regulates emissions from oil and gas production facilities producing in the Bakken Pool that were constructed and operating on or after August 12, 2007. The Interim Final Rule (IFR) became effective on August 3, 2012, and compliance with the IFR is required no later than 90 days after publication in the Federal Register. The FIP will be a permit by rule, the emission control requirements are clearly defined as follows:

> The owner or operator is required to reduce the mass content of VOC emissions from natural gas during oil and natural gas production and storage operations by at least 90.0 percent on the first date of production. Within ninety (90) days of the first date of production, we require the owner or operator to route the natural gas from the production and storage operations through a closed-vent system to a utility flare or equivalent combustion device capable of reducing the mass content of VOC in the natural gas vented to the device by at least 98.0 percent.

Marathon would comply with all rules and regulations set forth in the FIP. In addition, Marathon would provide dust control for their access roads and haul roads.

3.7 Threatened, Endangered, and Candidate Species

In accordance with Section 7 of the Endangered Species Act (ESA) of 1973, 50 CFR Part 402, as amended, each federal agency is required to ensure the following two criteria: first, any action funded or carried out by such agency must not be likely to jeopardize the continued existence of any federally-listed endangered or threatened species or species proposed to be listed. Second, no such action can result in the destruction or adverse modification of habitat of such species that is determined to be critical by the U.S. Department of Interior Secretary.

An endangered species is one that is in danger of extinction throughout all or a significant portion of its range. A threatened species is one that is likely to become endangered in the foreseeable future. A candidate species is a plant or animal for which the USFWS has sufficient information on its biological status and threats to propose it as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by other higher priority listing activities.

While candidate species are not legally protected under the ESA, it is within the spirit of the ESA to consider said species as having significant value and worth protecting.

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

3.7.1 Endangered Species

Gray Wolf (*Canis lupus*)

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

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

Interior Least Tern (*Sterna antillarum*)

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

There is no existing or potential habitat within the project area. Potential habitat in the form of sandy/gravely Lake Sakakawea shoreline may exist approximately 0.8 miles north of the proposed site at the nearest point, or about 1.2 miles away following the shortest drainage pattern to the lake.

Pallid Sturgeon (*Scaphirhynchus albus*)

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

Potential habitat for pallid sturgeon may exist in Lake Sakakawea approximately 0.8 miles north of the proposed site at the nearest point, or about 1.2 miles away following the shortest drainage pattern to the lake.

Black-footed Ferret (*Mustela nigripes*)

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

There are no active prairie dog towns located near the proposed well pad location. No Black-footed ferrets were observed.

Whooping Crane (*Grus americana*)

The whooping crane is the tallest bird in North America. In the United States, the species ranges through the Midwest and Rocky Mountain regions from North Dakota south to Texas and east into Colorado. Whooping cranes migrate through North Dakota along a band running from the south central to the northwest parts of the state using shallow, seasonally and semi-permanently flooded palustrine (marshy) wetlands for roosting, and cropland and emergent wetlands for feeding. During migration, whooping cranes are often recorded in riverine habitats, including the Missouri River. There are currently three wild populations of whooping cranes, yielding a total species population of about 340; only one of the flocks is self-sustaining.

A wetland with suitable habitat for whooping cranes was observed near the proposed well pad location. The proposed project is located in the Central Flyway where 75 percent of confirmed whooping crane sightings occur. Lake Sakakawea may provide potential stopover habitat for whooping crane migration, approximately 0.8 miles north of the proposed site at the nearest point, or about 1.2 miles away following the shortest drainage pattern to the river.

3.7.1.2 Endangered Species Impacts/Mitigation

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

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

Suitable habitat for the interior least tern and pallid sturgeon is largely associated with Lake Sakakawea and its shoreline. The well pad and access road is located on upland bluffs of mixed-grass pastureland, with Lake Sakakawea located approximately 300 feet below. Lake Sakakawea is located approximately 0.8 miles north of the proposed site at the nearest point, or about 1.2 miles away following the shortest drainage pattern to the lake. The topographic features of the area and distance from the shoreline should assist in providing sight and sound buffers for shoreline-nesting birds.

Storage tanks and heater-treaters would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from each site. The berm would

be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. The well pad would be completely bermed to prevent run-on and run-off. In addition, a water diversion berm would also be installed along all cut slopes of the proposed pad to prevent precipitation or meltwater from running onto the pad. Stabilization of drill cuttings before placement in the pit and the reinforced lining of the cuttings pit would diminish the potential for pit leaching. Due to the implementation of secondary containment measures and the cuttings pit parameters, the transfer of accidentally released fluids to Lake Sakakawea and its associated habitats is unlikely; therefore, the proposed project may affect but is not likely to adversely affect the interior least tern or pallid sturgeon. In addition, if electrical lines are installed the lines would be buried to prevent bird strikes.

Due to potential feeding habitat and the project's occurrence within the corridor which 75 percent of whooping cranes migrate through, the proposed project may affect but is not likely to adversely affect whooping cranes. Whooping cranes traveling through the area may alter their flight and landing patterns to avoid disturbance related to oil and gas development. To minimize the potential of direct whooping crane impacts, any electrical lines would be buried to prevent bird strikes. Per USFWS recommendation, if a whooping crane is sighted within one mile of the well site or associated facilities while under construction, all work would cease within one mile of that part of the project and the USFWS would be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area. Therefore, the proposed project may affect but is not likely to adversely affect whooping cranes or their associated habitat.

3.7.2 Threatened Species

Piping Plover (*Charadrius melodus*)

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

There is no existing or potential piping plover habitat within the project area. Critical habitat in the form of sandy/gravely Lake Sakakawea shoreline exists approximately 0.8 miles north of the proposed site at the nearest point, or about 1.2 miles away following the shortest drainage pattern to the lake.

3.7.2.1 Threatened Species Impacts/Mitigation

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

Alternative B (Proposed Action) — Suitable habitat for the piping plover is largely associated with Lake Sakakawea and its shoreline. The well pad and access road would be located on upland bluffs of mixed-grass pastureland, with Lake Sakakawea located approximately 300 feet below. Lake Sakakawea is located approximately 0.8 miles north of the proposed site at the nearest point, or about 1.2 miles away following the shortest drainage pattern to the lake. The topographic features of

the area and distance from the shoreline should assist in providing sight and sound buffers for shoreline-nesting birds.

Storage tanks and heater-treaters would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from the site. The berm would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. The well pad would be completely bermed to prevent run-on and run-off. In addition, a water diversion berm would also be installed along all cut slopes of the proposed pad to prevent precipitation or meltwater from running onto the pad. Stabilization of drill cuttings before placement in the pit and the reinforced lining of the cuttings pit would diminish the potential for pit leaching. Due to the implementation of secondary containment measures and the cuttings pit parameters, the transfer of accidentally released fluids to Lake Sakakawea and its associated habitats is unlikely; therefore, the proposed project may affect but is not likely to adversely affect the piping plover, nor is the proposed project likely to destroy or adversely modify designated piping plover critical habitat. In addition, if electrical lines are installed the lines would be buried to prevent bird strikes.

3.7.3 Candidate Species

Dakota Skipper (*Hesperia dacotae*)

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

The proposed site consisted of grazed native and non-native upland grasses and shrubs. Although grazing is evident, it is moderate in nature; therefore, the project site does contain potentially suitable habitat for the Dakota skipper. The field survey did occur when Dakota skippers would be visible in their adult stage, however, no skippers were observed.

Sprague's pipit (*Anthus spragueii*)

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

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

3.7.3.1 Candidate Species Impacts/Mitigation

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

Alternative B (Proposed Action) — Due to the presence of potential habitat for the Dakota skipper and Sprague's pipit within the project area, the proposed project may impact individuals or habitat through earthwork associated with construction activities, habitat conversion, and/or fragmentation. An "effect determination" under Section 7 of the Endangered Species Act has not been made due to the current unlisted status of the species.

3.8 Bald and Golden Eagles

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

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

The golden eagle (*Aquila chrysaetos*) can be spotted in North Dakota throughout the badlands and along the upper reaches of the Missouri River in the western part of the state. Golden eagle pairs maintain territories that can be as large as 60 square miles and nest in high places including cliffs, trees, and human-made structures. They perch on ledges and rocky outcrops and use soaring to search for prey. Golden eagle preferred habitat includes open prairie, plains, and forested areas. No golden eagle nests were observed within 0.5 mile of the proposed project area during the field survey conducted July 12, 2012.

The USGS Northern Prairie Wildlife Research Center maintains information on bald eagle and golden eagle habitat within the state of North Dakota. According to the USGS data, the 0.5 mile buffered survey area for the proposed project area does contain recorded habitat for both the bald eagle and the golden eagle. In addition, Dr. Anne Marguerite Coyle of Dickinson State University has completed focused research on golden eagles and maintains a database of golden eagle nest sightings. According to Dr. Coyle's information (last updated in 2010), the closest recorded golden eagle nest is located approximately 3.5 miles south southeast of the proposed site. Please refer to ***Figure 3.4, Bald and Golden Eagle Habitat and Nest Sightings.***

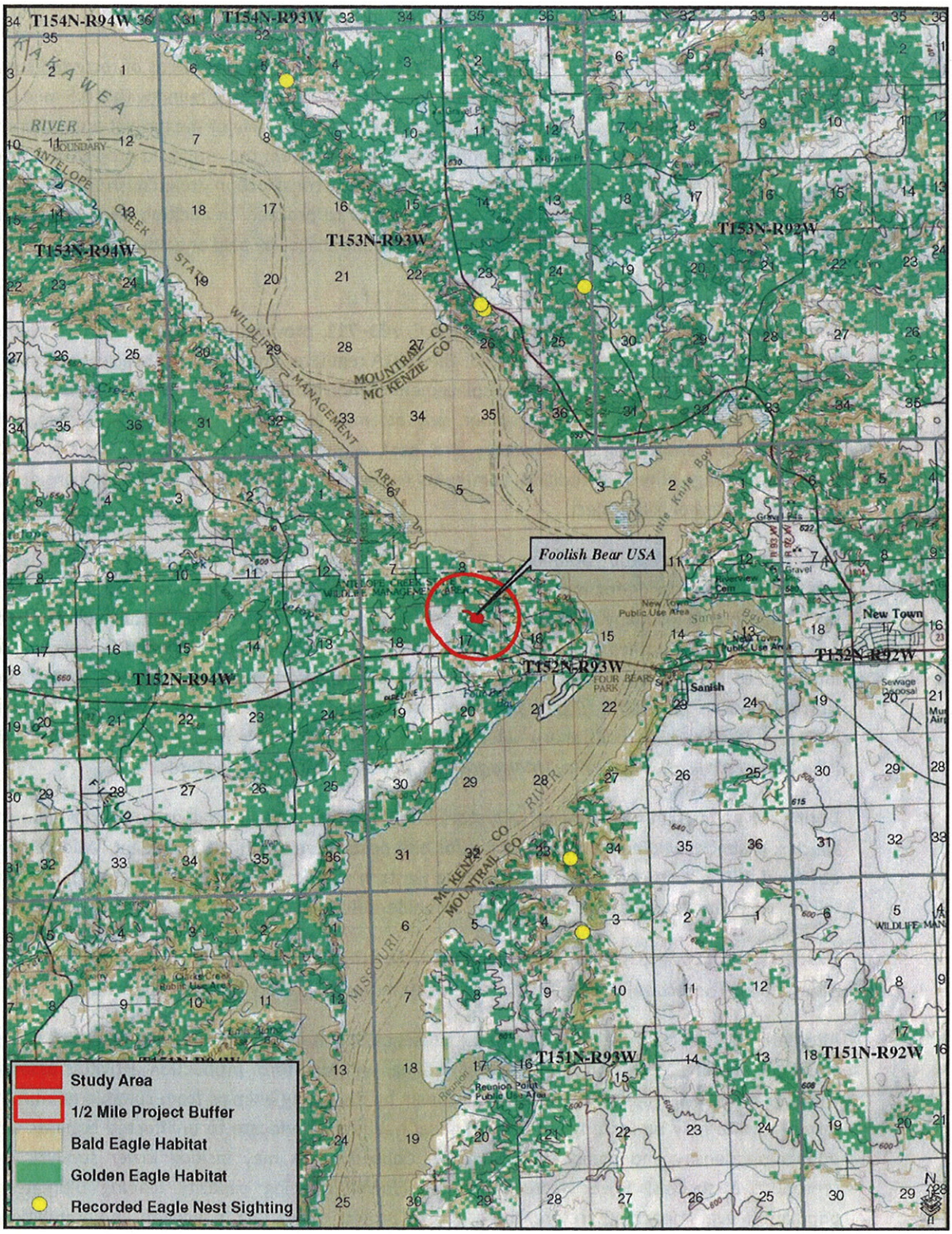


Figure 3.4, Bald and Golden Eagle Habitat and Nest Sightings

3.8.1 Bald and Golden Eagle Impacts/Mitigation

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

Alternative B (Proposed Action) — The proposed project is located within areas of recorded suitable bald and golden eagle habitat; however, no evidence of eagle nests were found within 0.5 mile of the project area and no nest sightings have been recorded within 0.5 mile of the project area; therefore, no impacts to bald or golden eagles are anticipated to result from the proposed project. If a bald or golden eagle nest is sighted within 0.5 mile of the project construction area, construction activities would cease and the USFWS notified for advice on how to proceed. In addition, any electrical lines would be buried to prevent the potential for electrical line strikes by bald or golden eagles.

3.9 Migratory Birds and Other Wildlife

The Migratory Bird Treaty Act (MBTA), 916 U.S.C. 703–711, provides protection for 1,007 migratory bird species, 58 of which are legally hunted. The MBTA regulates impacts to the species such as direct mortality, habitat degradation, and/or displacement of individual birds. The MBTA defines "taking" to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing, or transporting any migratory bird, nest, egg, or part thereof, except when specifically permitted by regulations. In addition, comments received from the USFWS have been considered in the development of this project.

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

During the pedestrian field surveys, migratory birds, raptors, big and small game species, non-game species, potential wildlife habitats, and and/or bird nests were identified, if present. Wildlife species observed during the field surveys include: One western meadowlark (Sturnella neglecta), one sharp-tail grouse (Tympanuchus phasianellus) and an unidentified snake.

3.9.1 Migratory Birds and Other Wildlife Impacts/Mitigation

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

Alternative B (Proposed Action) – Due to the presence of suitable habitat at the project site for many avian and wildlife species, ground clearing, drilling, and long-term production activities associated with the proposed project may impact individuals by displacing animals from suitable habitat. As a result, wildlife may be forced to utilize marginal habitats or relocate to unaffected habitats where population density and competition increase. Consequences may include lower survival, lower reproductive success, lower recruitment, and lower carrying capacity leading ultimately to population-level impacts; therefore, the proposed project may affect individuals and populations of wildlife species, but is not likely to result in a trend towards listing of any of the species identified.

Construction of the proposed project and drilling of the proposed wells is planned to commence in the fall of 2012. All efforts would be made to complete construction outside the migratory bird

nesting season (February 1 through July 15) in order to avoid impacts to migratory birds during the breeding and nesting season. In the event that construction should occur during the migratory bird nesting and breeding season, a qualified biologist would conduct pre-construction surveys for migratory birds and their nests within five days prior to the initiation of all construction activities. Mowing/grubbing of the site prior to and throughout the nesting and breeding season may be completed in lieu of the pre-construction surveys to deter birds from nesting in project areas.

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

The proposed well pad is located on an upland area that is at a considerably higher elevation (approximately 300 feet) than the shoreline. Lake Sakakawea is located approximately 0.8 miles north of the proposed site at the nearest point, or about 1.2 miles away following the shortest drainage pattern to the lake. The topographic features of the area and distance from the shoreline should assist in providing sight and sound buffers for shoreline-nesting birds.

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

In addition, design considerations would be implemented to further protect against potential habitat degradation. Storage tanks and heater-treaters would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from each site. The berm would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. The well pad would be completely bermed to prevent run-on and run-off. In addition, a water diversion berm would also be installed along all cut slopes of the proposed pad to prevent precipitation or meltwater from running onto the pad. BMP's to minimize wind and water erosion of soil resources would also be put into practice.

3.10 Vegetation

During the pedestrian field survey, botanical resources were evaluated using visual inspection. The well pad and access road study area consisted primarily of upland, moderately grazed, native mixed grass range plants. Kentucky bluegrass *(Poa pratensis),* needle and thread *(Hesperostipa comata),* silver scurfpea *(Pediomelum argophyllum),* goats beard *(Tragopogon dubius),* creeping juniper *(Juniperus horizontalis),* and russian thistle *(Salsola kali)* were observed. In addition, patches of western snowberry *(Symphoricarpos occidentalis),* silver buffalo berry *(Shepherdia argentea)* and little bluestem *(Andropogon scoparius)* were observed. No noxious weeds were observed. ***Figure 3.5, Well Pad Dominant Vegetation.***

Figure 3.5, Well Pad Dominant Vegetation

No threatened or endangered plant species are listed for McKenzie County. The project area was also surveyed for the presence of noxious weeds. Of the eleven species declared noxious under the North Dakota Century Code (Chapter 63-01.0), none are known to occur in McKenzie County. Please refer to

Table 3.3, Noxious Weed Species. Counties and cities have the option to add species to the list to be enforced within their jurisdictions; however, no additional species have been listed in McKenzie County. No noxious weeds were identified during the on-site assessment.

Table 3.3, Noxious Weed Species

COMMON NAME	SCIENTIFIC NAME	2010 MCKENZIE COUNTY REPORTED ACRES
Absinth wormwood	*Artemesia absinthium L.*	—
Canada thistle	*Cirsium arvense (L.) Scop*	—
Dalmatian toadflax	*Linaria genistifolia ssp. Dalmatica*	—
Diffuse knapweed	*Centaurea diffusa Lam*	—
Leafy spurge	*Euphorbia esula L.*	—
Musk thistle	*Carduus nutans L.*	—
Purple loosestrife	*Lythrum salicaria*	—
Russian knapweed	*Acroptilon repens (L) DC.*	—
Salt cedar (tamarisk)	*Tamarix ramosissima*	—
Spotted knapweed	*Centaurea maculosa Lam.*	—
Yellow Toadflax	*Linaria vulgaris*	—

3.10.1 Vegetation Impacts/Mitigation

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

Alternative B (Proposed Action) – Ground clearing activities associated with construction of the proposed well pad, access road, and associated infrastructure would result in vegetation disturbance; however, the areas of proposed surface disturbances are minimal in the context of the setting, and the impacts would be further minimized in accordance with the BLM *Gold Book* standards for well reclamation.

Disturbance of vegetation in areas of noxious weed infestations may result in redistribution of invasive species to the project areas. Thus, areas not currently dominated by such species would have a high potential to become infested. The spread of noxious weeds can have an adverse effect on multiple aspects of vegetation resources ranging from the suitability of sensitive plant habitat and maintenance of native biodiversity to forage production for livestock grazing. Identified noxious weed infestations would be treated with a BIA/BLM approved herbicide prior to construction to prevent further spread.

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

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

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

3.11 Cultural Resources

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

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

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

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

The American Indian Religious Freedom Act of 1978 requires consultation with Native American groups concerning proposed actions on sacred sites on Federal land or affecting access to sacred sites. It establishes federal policy to protect and preserve for American Indians, Eskimos, Aleuts, and Native Hawaiians the right to free exercise of their religion in the form of site access, use and possession of sacred objects, as well as the freedom to worship through ceremonial and traditional rites. The Act requires federal agencies to consider the impacts of their actions on religious sites and objects important to American Indians, regardless of eligibility for listing on the NRHP.

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

Whatever the nature of the cultural resource addressed by a particular statute or tradition, implementing procedures invariably includes consultation requirements at various stages of a federal undertaking. The Mandan, Hidatsa, and Arikara Nation (MHA Nation) has designated a Tribal Historic Preservation Officer (THPO) by Tribal Council resolution, whose office and functions are certified by the National Park Service (NPS). The THPO operates with the same authority exercised in most of the rest of North Dakota by the State Historic Preservation Officer (SHPO). Thus, the BIA consults and

corresponds with the THPO regarding cultural resources on all projects proposed within the Fort Berthold Reservation.

A Class I Literature Review for the proposed Foolish Bear USA site was conducted by KLJ on November 3, 2011. Previously documented cultural resources within a one-mile radius of the APE include four isolated finds and 224 sites. The isolated finds and three of the sites have been previously recommended Not Eligible for the National Register of Historic Places (NRHP). Of the remaining sites, 1 has been recommended Eligible for the NRHP and 18 are unevaluated for the NRHP.

A cultural resource inventory of this well pad and access road was conducted by personnel of Kadrmas, Lee & Jackson, Inc., using an intensive pedestrian methodology. Approximately 40 acres were inventoried on April 5, 2012 (Klinner 2012). Four archaeological sites were located that may possess the quality of integrity and meet at least one of the criteria (36 CFR 60.6) for inclusion on the National Register. As the lead federal agency, and as provided for in 36 CFR 800.5, on the basis of the information provided, BIA reached a determination of **no historic properties affected** for this undertaking, as the archaeological sites will be avoided. This determination was communicated to the THPO on September 21, 2012; however, the THPO did not respond within the allotted 30 day comment period.

3.11.1 Cultural Resources Impacts/Mitigation

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

Alternative B (Proposed Action) – Four previously undocumented cultural resources were found within the area of potential effect (APE) at the proposed site. Due to the 100-foot buffer placed around the newly found cultural resources, KLJ recommends a finding of *No Historic Properties Affected* and it is anticipated that the proposed project would have no associated cultural resources impacts. A cultural monitor would be present during construction of the well pad and access road. If cultural resources are discovered during construction or operation, work would immediately be stopped, the affected site secured, and the BIA and THPO notified. Work would not resume until written authorization to proceed was received from the BIA. All project workers would be prohibited from collecting artifacts or disturbing cultural resources in any area under any circumstances.

3.12 Socioeconomic Conditions

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

The Fort Berthold Reservation is home to six communities, consisting of New Town, White Shield, Mandaree, Four Bears, Twin Buttes, and Parshall. The communities provide small business amenities such as restaurants, grocery stores, and gas stations; however, they lack the larger shopping centers typically found in more populous cities of the region, such as Minot and Bismarck. According to 2006-2010 US Census data, educational/health/social services is the largest industry on the Reservation,

followed by the entertainment/recreation/accommodation/food industry.[9] The Four Bears Casino, Convenience Store and Recreation Park are also major employers with over 320 employees, 90 percent of whom are Tribal members. In addition, several industries are located on the Reservation, including Northrop Manufacturing, Mandaree Enterprise Corporation, Three Affiliated Tribes Lumber Construction Manufacturing Corporation and Uniband.

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

3.12.1 Socioeconomic Impacts/Mitigation

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

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

3.13 Environmental Justice

Per Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, measures must be taken to avoid disproportionately high adverse impacts on minority or low-income communities. The Three Affiliated Tribes qualify for environmental justice consideration as both a minority and a low-income population.

The population of North Dakota is predominantly Caucasian. American Indians compromise 6.2 percent of North Dakota's population and 21.1 percent of the population of McKenzie County. Population decline in rural areas of North Dakota has been a growing trend as individuals move toward metropolitan areas of the state, such as Bismarck and Fargo. While McKenzie County's population had been slowly declining prior to the oil boom, the Fort Berthold Reservation has witnessed a steady increase in population. The recent intensification of drilling activity in the western part of the state has likely contributed to increased populations in western counties, including those

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

associated with the Fort Berthold Reservation. American Indians are the majority population on the Fort Berthold Reservation, but are the minority population in McKenzie County and the State of North Dakota. Please refer to ***Table 3.4, Demographic Trends.***

Table 3.4, Demographic Trends

LOCATION	POPULATION IN 2010	% OF STATE POPULATION	% CHANGE 2000–2010	PREDOMINANT RACE	PREDOMINANT MINORITY
McKenzie County	6,360	0.96%	+10.9%	Caucasian	American Indian (21.1%)
Fort Berthold Reservation	6,162	0.92%	+7.2%	American Indian[10]	Caucasian (34.7%)
Statewide	672,591	—	+4.7%	Caucasian	American Indian (6.2%)

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

According to 2006-2010 U.S. Census Bureau data, the Fort Berthold Reservation has lower than statewide averages of per capita income and median household income. McKenzie County has higher median household income and per capita income than the statewide averages. McKenzie County has a lower rate of unemployment than the state average, while Fort Berthold's rate of unemployment is greater than the state average[11]. Please refer to ***Table 3.5, Employment and Income.***

Table 3.5, Employment and Income

LOCATION	PER CAPITA INCOME	MEDIAN HOUSEHOLD INCOME	UNEMPLOYMENT RATE	INDIVIDUALS LIVING BELOW POVERTY LEVEL
McKenzie County	$27,605	$48,480	3.1%	10.0%
Fort Berthold Reservation	$18,059	$41,658	6.9%	26.0%
Statewide	$25,803	$46,781	3.6%	12.3%

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

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

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

3.13.1 Environmental Justice Impacts/Mitigation

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

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

Oil and gas development of the Bakken and Three Forks Formations is occurring both on and off the Fort Berthold Reservation. Employment opportunities related to oil and gas development may lower the unemployment rate and increase the income levels on the Fort Berthold Reservation. Through Tribal Employee Rights Office (TERO) regulations on employment and contracting on the Fort Berthold Reservation, Marathon utilizes several contractors that employ MHA tribal members. Several of the contractors have developed a positive collaborative working relationship with Marathon and provide a valuable asset to drill, complete, and produce wells on the Fort Berthold Reservation. In addition, the Three Affiliated Tribes and allotted owners of mineral interests may receive income from oil and gas development on the Fort Berthold Reservation in the form of royalties if drilling and production are successful, as well as from Tribal Permit Application and TERO fees collected on wells drilled on minerals held in trust by the BIA.

3.14 Infrastructure and Utilities

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

Known infrastructure within the vicinity of the proposed project includes paved (ND Highway 23) and gravel (oil field access roads) roadways. The Bureau of Reclamation (BOR) manages the Fort Berthold Rural Water System. Fort Berthold Water System pipelines run along ND Highway 23 as well as section lines in the vicinity of the project in Sections 16, 17, and 18, T152N, R93W in McKenzie County. These pipelines would not be crossed by the proposed access road.

3.14.1 Infrastructure and Utility Impacts/Mitigation

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

Alternative B (Proposed Action) – Alternative B would require the construction of a new scoria or gravel roadway totaling approximately 916 feet. In addition, vehicular traffic associated with construction, operation, and maintenance of the proposed action would increase the overall traffic on the local roadway network.

To minimize potential impacts to the roadway conditions and traffic patterns in the area, all haul routes used would either be private roads or roads that have been approved for this type of transportation use by the local governing tribal, township, county, and/or state entities. Marathon would follow McKenzie County, BIA and NDDOT rules and regulations regarding rig moves and oversize/overweight loads on state and county roads used as haul roads. All contractors are required to permit their oversize/overweight roads through said entities. Marathon's contractors would be

required to adhere to all local, county, tribal, and state regulations regarding rig moves, oversize/overweight loads, and frost restrictions.

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

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

Safety hazards posed from increased traffic during the drilling phase are anticipated to be short-term and minimal for the proposed project. It is anticipated that approximately 30 to 40 trips, over the course of several days, would be required to transport the drilling rig and associated equipment to the proposed site. If commercial operations are established following drilling activities, the pumps would be checked daily and oil and water hauling activities would commence. Oil would be hauled using a semi tanker trailer, typically capable of hauling 140 barrels of oil per load. Traffic to and from the site would depend upon the productivity of the wells. A 1,000 barrel per day well would require approximately seven tanker visits per day, while a 300 barrel per day well would require approximately two visits per day.[12] If produced water were to be hauled from the site, a tanker would typically haul 110 barrels of water per load. The number of visits would be dependent upon daily water production[13]. Established load restrictions for state and BIA roadways would be followed and haul permits would be acquired. Should oil, gas, and/or saltwater pipelines be installed, every attempt to tie production facilities at the proposed site to regional pipelines would be made, thereby minimizing truck traffic. Any future oil, gas, or saltwater transportation pipelines would be located within the approved ROW, or additional NEPA analysis and approval from the BIA would be required.

3.15 Public Health and Safety

Health and safety concerns associated with this type of development include hydrogen sulfide (H_2S) gas and hazardous materials used or generated during well installation or production.[14]

---

[12]A typical Bakken oil well initially produces at a high rate and then declines rapidly over the next several months to a more moderate rate. In the vicinity of the proposed project areas, initial rates of 500 to 1,000 BOPD (barrels of oil per day) could be expected, dropping to 200 to 400 BOPD after several months.

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

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

3.15.1 Public Health and Safety Impacts/Mitigation

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

Alternative B (Proposed Action) – Project design and operational precautions would minimize the likelihood of impacts from H_2S gases and hazardous materials as described below.

H2S Gases — It is unlikely that the proposed action would result in release of H_2S in dangerous concentrations; however, Marathon would submit H_2S Contingency Plans to the BLM as part of the APD process. The plans would establish safety measures to be implemented throughout the drilling process to prevent accidental release of H_2S into the atmosphere. The Contingency Plans would be designed to protect persons living and/or working within 3,000 feet (0.57 mile) of each well location and include emergency response procedures and safety precautions to minimize the potential for an H_2S gas leak during drilling activities. Satellite imagery revealed that there are residences and buildings within 3,000 feet of the proposed site. These residences will be taken into consideration when Marathon implements its safety procedures throughout the drilling process.

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

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

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

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

3.16 Cumulative Considerations

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

3.16.1 Past, Present, and Reasonably Foreseeable Actions

Oil and gas development in western North Dakota has occurred with varying intensity for the past 100 years. Gas development began in the area in 1909, and the first recorded oil well was drilled in 1920. North Dakota's oil production has boomed twice prior to the current one; first in the 1950s,

peaking in the 1960s, and again in the 1970s, peaking in the 1980s. North Dakota is currently experiencing its third oil boom, occurring both within and outside the Fort Berthold Reservation, which has already far surpassed the previous booms in magnitude.

According to the NDIC, as of August 31, 2012, approximately 908 active and/or confidential oil and gas wells were located within the Fort Berthold Reservation, 564 of which were located on tribal trust property under the authority of the BIA. In addition, there were approximately 1,696 active and/or confidential oil and gas wells within a 20-mile radius of the proposed well site. Please refer to ***Table 3.6, Summary of Permitted Confidential/Active Wells*** and ***Figure 3.6, Permitted Confidential/Active Wells.***

Table 3.6, Summary of Permitted Confidential/Active Wells

DISTANCE FROM WELL PAD	NUMBER OF PERMITTED CONFIDENTIAL/ ACTIVE WELLS
1 mile radius	13
5 mile radius	94
10 mile radius	394
20 mile radius	1,696

As mentioned previously, the Bakken Formation covers approximately 25,000 square miles beneath North Dakota, Montana, Saskatchewan, and Manitoba, with approximately two-thirds of the acreage beneath North Dakota. The Three Forks Formation lies beneath the Bakken. The North Dakota Department of Mineral Resources estimates that there are approximately 2.1 billion barrels of recoverable oil in each of the formations and that there will be 30–40 remaining years of production, or more if technology improves.

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

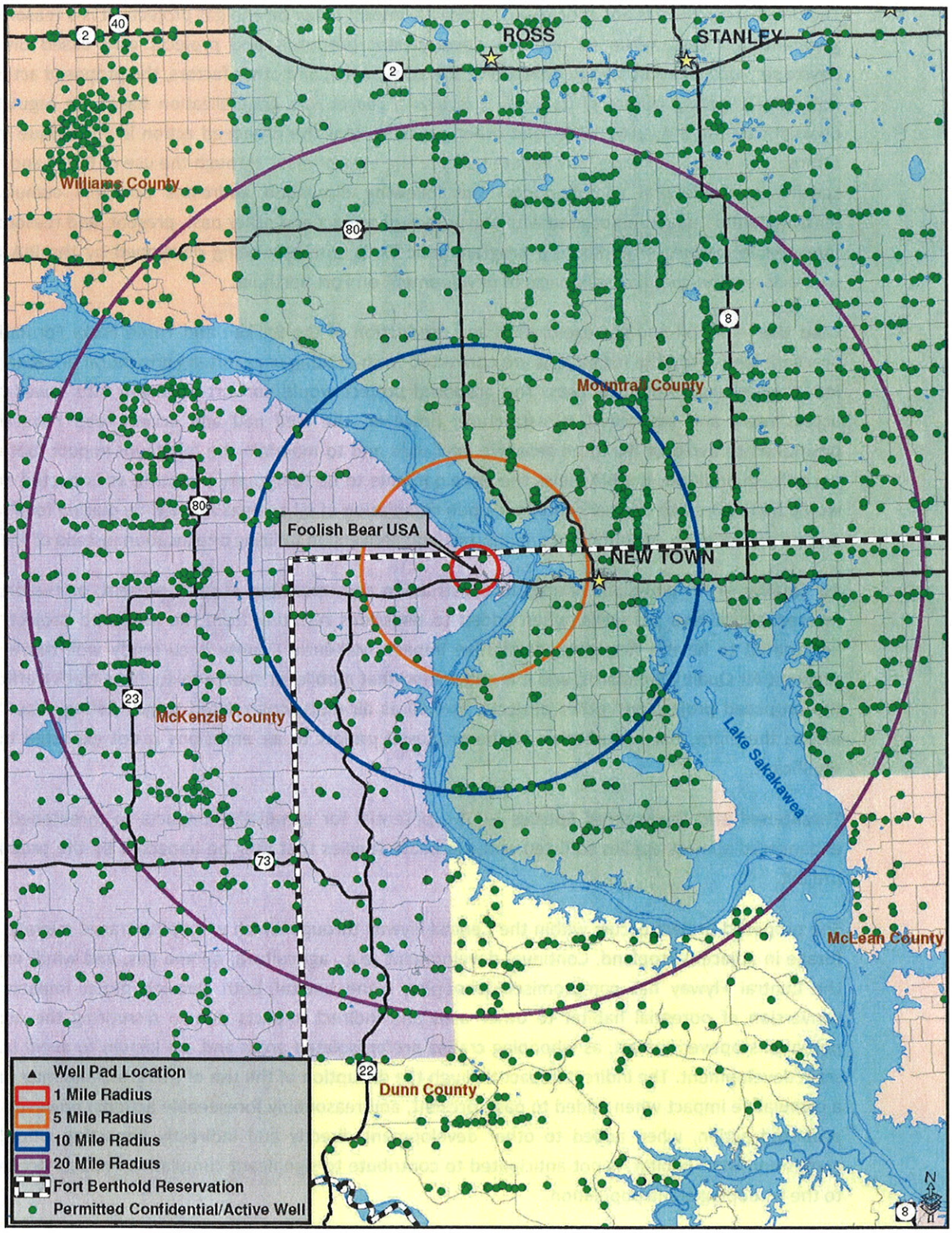


Figure 3.6, Permitted Confidential/Active Wells

3.16.2 Cumulative Impact Assessment

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

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

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

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

The proposed project occurs within the Central Flyway through which whooping cranes migrate and forage in adjacent cropland. Continual development (e.g., agriculture, oil and gas, and wind) within the Central Flyway has compromised whooping crane habitat both through direct impacts via conversion of potential habitat to other uses and indirect impacts due to disrupting the use of potential stopover habitat, as whooping cranes prefer isolated areas and are known to avoid large-scale development. The indirect impact through the disruption of the use of this grassland may cause a cumulative impact when added to past, present, and reasonably foreseeable actions; however, the proposed action, when added to other development directly and indirectly impacting whooping cranes and their habitat, is not anticipated to contribute to significant cumulative impacts occurring to the whooping crane population.

As previously stated, habitat for the interior least tern, pallid sturgeon, and piping plover is primarily associated with Lake Sakakawea and its shoreline. When added to other past, present, and reasonably foreseeable projects, such as oil and gas wells and water intake structures, the proposed

project may have an indirect cumulative impact on potential habitat for said species due to potential leaks or spills; however, due to the implementation of semi-closed loop drilling system, as well as secondary and tertiary containment measures for the proposed project, the transfer of accidentally released fluids to Lake Sakakawea and its associated habitats is unlikely; therefore, it is unlikely the project would contribute to significant cumulative impacts to the interior least tern, pallid sturgeon, and piping plover. In addition, any electrical lines would be buried to prevent the potential for electrical line strikes by the interior least tern and piping plover.

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

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

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

Infrastructure and Utilities — The proposed action, along with other oil and gas wells proposed and drilled in the Bakken and Three Forks Formations, requires infrastructure and utilities to provide resource inputs and accommodate outputs such as fresh water, power, communications, site access, transportation of products to market, and disposal of produced water and other waste materials. As with the proposed action, many other well sites currently being proposed and/or built are positioned to make the best use of existing roadways and to minimize the construction of new roads; however, some length of new access roads are commonly associated with new wells. The proposed well pad has been positioned in close proximity to existing roadways to minimize the extent of access road

impacts in the immediate area. The contribution of the proposed project and other projects to stress on local roadways used for hauling materials may result in a cumulative impact to local roadways; however, abiding by permitting requirements and roadway restrictions with the jurisdictional entities are anticipated to offset any cumulative impact that may result from the proposed project and other past, present, or future projects. BMPs would be implemented to minimize impacts of the proposed project.

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

3.17 Irreversible and Irretrievable Commitment of Resources

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

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

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

3.19 Permits

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

- *Application for Permit to Drill* – Bureau of Land Management
- *Application for Permit to Drill* – North Dakota Industrial Commission

3.20 Environmental Commitments/Mitigation

The following commitments have been made by Marathon:

- Topsoil would be segregated and stored to be used in the reclamation process.
- BMPs such as reseeding, erosion mats, and biologs would be implemented to minimize wind and water erosion of soil resources.
- All woody vegetation removed from the site would be chipped and incorporating it into topsoil stockpiles.
- The proposed well pad and access road would avoid surface waters, including wetlands and riparian areas. The proposed project would not alter stream channels or change drainage patterns, except for storm water diversion purposes.
- BMPs such as earth berms, fiber rolls, and straw wattles would be utilized in all drainages in close proximity to the proposed wells to guard against accidental release of fluids from the site.
- The well pad would have a berm installed around the entire pad to protect against run-on and run-off. A water diversion berm would also be installed along all cut slopes of the proposed pad to prevent precipitation or meltwater from running onto the pad.
- The proposed well would be cemented and cased per BLM and NDIC regulations to isolate aquifers from potentially productive hydrocarbon and disposal/injection zones.
- A semi-closed loop drilling system would be utilized whereby stabilized cuttings would be placed in earthen, reinforced lined cuttings pits. The pits would have a reinforced lining with a minimum thickness of 20 mil to prevent seepage into the surrounding bedrock.
- Any minimal free fluid present in the cuttings pits would be removed and disposed of in accordance with BLM and NDIC rules and regulations. All liquids from drilling would be transported off-site.
- Prior to their use, the cuttings pits would be fenced on the non-working sides. The pits would be closed or fenced and netted immediately after drilling and completion of the proposed wells to prevent wildlife and livestock from accessing the pits.
- Spills or leaks of chemicals and other pollutants would be reported to the appropriate regulatory agencies. The procedures of the surface management agency would be followed to contain leaks or spills.
- Storage tanks and heater-treaters would be surrounded by impermeable berms that would act as secondary containment to guard against possible spills. The berms would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production.
- Marathon would provide dust control for their access roads and haul roads when necessary.
- An H_2S Contingency Plan would be submitted by Marathon to the BLM as part of the APD.
- Marathon would comply with all rules and regulations set forth in the EPA FIP.
- Marathon, Saddle Butte and ONEOK would all develop individual spill response plans to be submitted to the BIA prior to construction. The plans would include procedures that

specifically address making the appropriate contacts, isolating the incident, protecting waterways and providing contact information for all the appropriate contractors and experts necessary to facilitate a rapid response.

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

- In the event that construction should occur during the migratory bird nesting and breeding season, a qualified biologist would conduct pre-construction surveys for migratory birds and their nests within five days prior to the initiation of all construction activities. Mowing/ grubbing of the site prior to and throughout the nesting and breeding season may be completed in lieu of the pre-construction survey to deter birds from nesting in project areas.

- Measures implemented during construction to avoid the taking of migratory bird species would include: the use of suitable mufflers on all internal combustion engines and certain compressor components to mitigate noise; utilizing only approved roadways; placing wire mesh or grate covers on containers used to collect dripped oil under valves and spigots; maintaining open pits and ponds that are free from oil; reclaiming or netting (maximum mesh size of 1.5 inches) cuttings pits immediately after drilling and completion of the proposed wells; and burying of any electrical lines.

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

- If a bald or golden eagle nest is sighted within 0.5 mile of the project construction areas, construction activities would cease and the USFWS would be notified for advice on how to proceed.

- Marathon would complete interim reclamation measures within six months of well completion; however, if circumstances prevent interim reclamation activities from occurring within this timeframe, Marathon would contact the BIA and BLM to request an extension.

- Disturbed vegetation would be re-seeded in kind upon completion of the project, and a noxious weed management plan would be implemented. The re-seeded site would be maintained until such time that the vegetation is consistent with surrounding undisturbed areas and the site is free of noxious weeds. Seed would be obtained from a BIA/BLM approved source.

- Marathon would spray the proposed project areas for noxious weeds prior to construction initiation.

- Prior to mobilization, drilling rigs and associated equipment would be pressure washed or air blasted off Tribal lands to prevent the possible transportation of noxious or undesirable vegetation onto Tribal lands as well as USACE managed lands.

- The proposed well pad and access road would avoid impacts to cultural resources. If cultural resources are discovered during construction or operation, work would immediately be stopped, the affected site secured, and the BIA and THPO notified. In the event of a discovery, work would not resume until written authorization to proceed was received from the BIA.

- Project workers would be prohibited from collecting artifacts or disturbing cultural resources in any area under any circumstances.
- The wells and associated facilities would be painted in earth tones, based on standard colors stipulated by the BLM in the approved federal APD, to allow them to better blend in with the natural background color of the surrounding landscape.
- Marathon would ensure all contractors working for the company adhere to all local, county, tribal, and state regulations and ordinances regarding rig moves, oversize/overweight loads, and frost law restrictions.
- Established load restrictions for State and BIA roadways would be followed and haul permits would be acquired.
- Utility modifications would be identified during design and coordinated with the applicable utility company.

CHAPTER 4 PREPARERS AND AGENCY COORDINATION

4.1 Introduction

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

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

4.2 Preparers

KLJ prepared this EA under a contractual agreement with Marathon Oil Company. A list of individuals with the primary responsibility for conducting this study, preparing the documentation, and providing technical reviews is contained in ***Table 4.1, Preparers.***

Table 4.1, Preparers

AFFILIATION	NAME	TITLE	PROJECT ROLE
Bureau of Indian Affairs	Marilyn Bercier	Regional Environmental Scientist	Review of Draft EA and recommendation to Regional Director regarding FONSI or EIS
	Mark Herman	Environmental Engineer	
Marathon Oil Company	Luke Franklin	HES Supervisor	Project development, alternatives, document review
	Bill Groffy	Senior Regulatory Representative	
	Darrell Nodland	Operations Specialist	
	Brenda Rettinger	HES Professional	
Kadrmas, Lee & Jackson, Inc.	Mike Huffington	Environmental Planner	Field resources surveys, impact assessment, author, exhibit creation
	Alex Nisbet	Environmental Planner	Principal author
	Quentin Obrigewitsch	Surveyor	Site plats
	Brian O'Donnchadha	Archaeologist	Cultural resources surveys
	Grady Wolf	Environmental Scientist	Project Manager, senior review

4.3 Agency Coordination

To initiate early communication and coordination, an early notification package to tribal, federal, state, and local agencies and other interested parties was distributed on July 12, 2012. This scoping package included a brief description of the proposed project, as well as a location map. Pursuant to Section 102(2) (D) (IV) of NEPA, a solicitation of views was requested to ensure that social, economic, and environmental effects were considered in the development of this project.

At the conclusion of the 30-day comment period, ten responses were received. The comments provide valuable insight into the evaluation of potential environmental impacts. The comments were referenced and incorporated where appropriate within the environmental impact categories addressed in this document. Please refer to ***Appendix A for Agency Scoping Materials*** and ***Appendix B for Agency Scoping Responses.***

4.4 Public Involvement

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

CHAPTER 5 REFERENCES

"Annual Report: North Dakota Air Quality Monitoring Data Summary 2010." Nov. 2011. North Dakota Department of Health, Bismarck. 27 July 2012. <http://www.ndhealth.gov/aq/ambient/Annual%20Reports/ANN_10.pdf>.

"Bald Eagle Fact Sheet: Natural History, Ecology, and History of Recovery." June 2007. U.S. Department of Interior, U.S. Fish and Wildlife Service, Midwest Region. 27 July 2012. <http://www.fws.gov/midwest/eagle/recovery/biologue.html>.

"Bald Eagle Population Size." 10 Sept. 2010. U.S. Department of Interior, U.S. Fish and Wildlife Service, Midwest Region. 27 Aug. 2012. <http://www.fws.gov/midwest/eagle/population/index.html>.

"County Occurrence of Endangered, Threatened, and Candidate Species and Designated Critical Habitat in North Dakota." Feb. 2012. U.S. Fish and Wildlife Service, North Dakota Field Office. 27 July 2012. <http://www.fws.gov/northdakotafieldoffice/county_list.htm>.

"The Cranes Status Survey and Conservation Action Plan Whooping Crane (*Grus americana*)." 3 Aug. 2006. U.S. Geological Survey Northern Prairie Wildlife Research Center. 27 July 2012. <http://www.npwrc.usgs.gov/resource/birds/cranes/grusamer.htm>.

"Dakota Skipper Fact Sheet." Apr. 2007. U.S. Fish and Wildlife Service, Midwest Region. 27 July 2012. <http://www.fws.gov/midwest/Endangered/insects/dask.html>.

"Fact Sheet: Pallid Sturgeon (*Scaphiryhynchus albus*)." 6 Mar. 2012. U.S. Department of Interior, U.S. Fish and Wildlife Service, Midwest Region. 30 July 2012. <http://www.fws.gov/midwest/endangered/fishes/palld_fc.html>.

"Fort Berthold Reservation: Home of the Three Affiliated Tribes." Fargo Forum. 27 July 2012. <http://legacy.inforum.com/specials/DyingTongues/graphics/demographics.pdf>.

Geological Survey Staff. 28 Jun. 2010. USGS Digital Elevation Models for North Dakota. U.S. Department of Interior, U.S. Geological Survey. 28 Jun. 2010. <http://www.nd.gov/gis/>.

"Golden Eagle." National Geographic. 27 May 2012. <http://animals.nationalgeographic.com/animals/birds/golden-eagle.html>.

"Gray Wolves in the Northern Rocky Mountains." May 2012. U.S. Department of Interior, U.S. Fish and Wildlife Service, Mountain-Prairie Region. 27 May 2012. <http://www.fws.gov/mountain-prairie/species/mammals/wolf>.

Hall, T.G. 19 Apr. 2012. Testimony Before the Subcommittee on Indian and Alaska Native Affairs. Oversight Hearing on Bureau of Land Management's Hydraulic Fracking Rule's Impacts on Tibal Energy Development. 20 Jul. 2012. <http://naturalresources.house.gov/UploadedFiles/HallTestimony04.19.12.pdf>.

"Hawks, Eagles, and Falcons of North Dakota." 3 Aug. 2006. U.S. Department of Interior, U.S. Geological Survey, Northern Prairie Wildlife Research Center. 27 May 2012. <http://www.npwrc.usgs.gov/resource/birds/hawks/intro.htm>.

"Interior Least Tern (*Sterna antillarum athalassos*)." Texas Parks and Wildlife. 27 May 2012. <http://www.tpwd.state.tx.us/huntwild/wild/species/leasttern/>.

Johnson, S. Feb. 2010. Nesting in Numbers: Active Bald Eagle Nests Up in North Dakota. North Dakota Outdoors, North Dakota Game and Fish Department. 27 May 2012. <http://gf.nd.gov/sites/default/files/nest-numbers.pdf>.

Klinner, Duane

(2012) Foolish Bear USA 12-16H Well Pad and Access Road: A Class III Cultural Resource Inventory in McKenzie County, North Dakota. KLJ Cultural Resources for Marathon Oil Company, Dickinson, ND.

"Least Tern (Interior Population)." 6 Mar. 2012. U.S. Department of Interior, U.S. Fish and Wildlife Service, Midwest Region. 27 May 2012. <http://www.fws.gov/midwest/Endangered/birds/tern.html>.

"Least Tern (*Sterna antillarum*)." 1 Oct. 2011. U.S. Department of Interior, U.S. Fish and Wildlife Service, North Dakota Field Office. 27 May 2012. <http://www.fws.gov/northdakotafieldoffice/endspecies/species/least_tern.htm>.

"Major Research Gives Insight into the Needs of Whooping Cranes." 29 Apr. 2009. Guadalupe-Blanco River Authority. 27 May 2012. <http://www.gbra.org/News/2009/042901.aspx>.

Monteau, H. 15 Mar. 2012. North Dakota Oil Boom Bringing Jobs, Wealth—and a Looming Humanitarian Crisis. Indian County Today Media Network. 20 Jul. 2012. <http://indiancountrytodaymedianetwork.com/2012/03/15/north-dakota-oil-boom-bringing-jobs-wealth%E2%80%94and-a-looming-humanitarian-crisis-103023>.

Nordeng, S. H. 2009. Salts as Candidates for Air Storage in the Williston Basin, ND. North Dakota Geological Survey Geologic Investigation No. 78. 27 May 2012. <https://www.dmr.nd.gov/ndgs/Publication_List/pdf/geoinv/GI78.pdf>.

"North Dakota Prairie: Our Natural Heritage." 24 Aug. 2006. North Dakota Parks and Recreation Department, U.S. Department of the Interior, U.S. Fish and Wildlife Service. 27 May 2012. <http://www.npwrc.usgs.gov/resource/habitat/heritage/index.htm>.

North Dakota State Water Commission Staff. 2011. Ground and Survey Water Data Query. State of North Dakota, State Water Commission.23 Apr. 2012. <http://www.swc.state.nd.us/4dlink2/4dcgi/wellsearchform/Map%20and%20Data%20Resources>.

Northern Prairie Wildlife Research Center. 3 Aug. 2006. Ecoregions of North Dakota and South Dakota. 27 May 2012. <http://www.npwrc.usgs.gov/resource/habitat/ndsdeco/nodak.htm>.

"Noxious Weed List Survey 2011." Feb. 2012. North Dakota Department of Agriculture. 27 May 2012. <http://www.nd.gov/ndda/program/noxious-weeds>.

"Piping Plover." 28 Mar. 2012. U.S. Department of Interior, U.S. Fish and Wildlife Service, Mountain-Prairie Region. 27 May 2012. <http://www.fws.gov/mountain-prairie/species/birds/pipingplover/>.

"Recommendations for Development of Oil and Gas Resources Within Important Wildlife Habitats, Version 5.0." Mar. 2010. Wyoming Game and Fish Department. 27 May 2012. <http://www.oilandgasbmps.org/docs/CO45.pdf>.

Soil Survey Staff. 2008 and 2009. Spatial and Tabular Data of the Soil Survey for McKenzie County, North Dakota. Natural Resources Conservation Service, U.S. Department of Agriculture. 31 August 2012. < http://soildatamart.nrcs.usda.gov/>.

Soil Survey Staff. 2008 and 2009. Web Soil Survey. Natural Resources Conservation Service, U.S. Department of Agriculture. 31 August 2012. <http://websoilsurvey.nrcs.usda.gov>.

"Three Forks Formation to yield lots of oil in North Dakota." 30 Apr. 2010. Bismarck Tribune Online. 27 May 2012. <http://www.bismarcktribune.com/news/state-and-regional/article_368dcb38-53ef-11df-a6c8-001cc4c03286.html>.

"Whooping Crane Recovery Plan Revised." 29 May 2007. U.S. Department of Interior, U.S. Fish and Wildlife Service, Southwest Region. 27 May 2012. <http://www.fws.gov/mountain-prairie/pressrel/WO_717_Whooping_crane_recoveryplanpr.pdf>.

U.S. Census Bureau. 2000-2010. 27 July 2012. <http://www.census.gov.>

U.S. Department of Interior, U.S. Geological Survey. USGS Hydrography Dataset for North Dakota. 26 July 2011. <http://nhd.usgs.gov/>.

U.S. EPA. National Ambient Air Quality Standards. 2006 and 2008. 27 May 2012. <http://www.epa.gov/air/criteria.html>.

U.S. Soil Conservation Service and North Dakota Agricultural Experiment Station. 2006. Soil survey of McKenzie County, North Dakota. U.S. Government Printing Office, Washington, DC. 27 Apr. 2012. < http://soildatamart.nrcs.usda.gov/Manuscripts/ND053/0/McKenzie%20County.pdf >.

Van Bruggen, T. 1992. Wildflowers, Grasses & Other Plants of the Northern Plains and Black Hills. Fourth Edition. Badlands Natural History Association, Interior, South Dakota.

Vance, F.R., J.R. Jowsey, J.S. Mclean, and F.A. Switzer. 1999. Wildflowers of the Northern Great Plains. Third Edition. University of Minnesota Press, Minneapolis, Minnesota.

Appendix A

Agency Scoping Materials

Appendix B

Agency Scoping Responses

List of Scoping Responses

Marathon Oil Company

Environmental Assessment for Drilling of

Foolish Bear USA 11-16TFH, Foolish Bear USA 12-16H, DCFH USA 12-16TFH, and DCFH USA 12-16H (Foolish Bear USA Well Pad)
Oil & Gas Wells

Fort Berthold Indian Reservation
McKenzie County, North Dakota

Federal

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

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

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

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

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

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

State

North Dakota Department of Health

North Dakota Game and Fish Department

North Dakota Parks and Recreation Department

North Dakota State Water Commission

Local

N/A

Appendix C

Well Pad Plats

Appendix A

Agency Scoping Materials

Kadrmas
Lee &
Jackson
Engineers Surveyors
Planners

July12, 2012

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

Re: Marathon Oil Company
Foolish Bear USA Four- Well Pad
Fort Berthold Reservation
McKenzie County, North Dakota

Dear «CTitle» «First» «Last»,

On behalf of Marathon Oil Company (Marathon), Kadrmas, Lee & Jackson, Inc. (KL&J) is preparing an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) for the Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM). The proposed action includes approval by the BIA and BLM for the development of one four-well pad, resulting in the drilling and completion of four oil and gas wells in McKenzie County, North Dakota on the Fort Berthold Reservation. The proposed well pad is proposed to be positioned in Section 17, Township 152 North, Range 93 West, 5th P.M. and contain the following wells:

- Foolish Bear USA 11-16-TFH
- Foolish Bear USA 12-16H
- Foolish Bear USA 12-16TFH
- Foolish Bear USA 13-16H

Please refer to the enclosed Project Location Map.

The proposed action would advance the production of oil from the Bakken and Three Forks Formations. The well pads have been positioned to utilize existing roadways for access to the extent possible; however, the construction of new access roads would be required. Construction of the proposed well pads and access roads is scheduled to begin fall 2012.

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

701 232 5353
3203 32nd Ave S Suite 201
PO Box 9767
Fargo, ND 58106-9767
Fax 701 232 5354
kljeng.com

It is requested that any comments or information be forwarded to our office on or before **August 12, 2012**. We request your comments by that date to ensure that we will have ample time to review them and incorporate them into the necessary environmental documentation.

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

Sincerely,

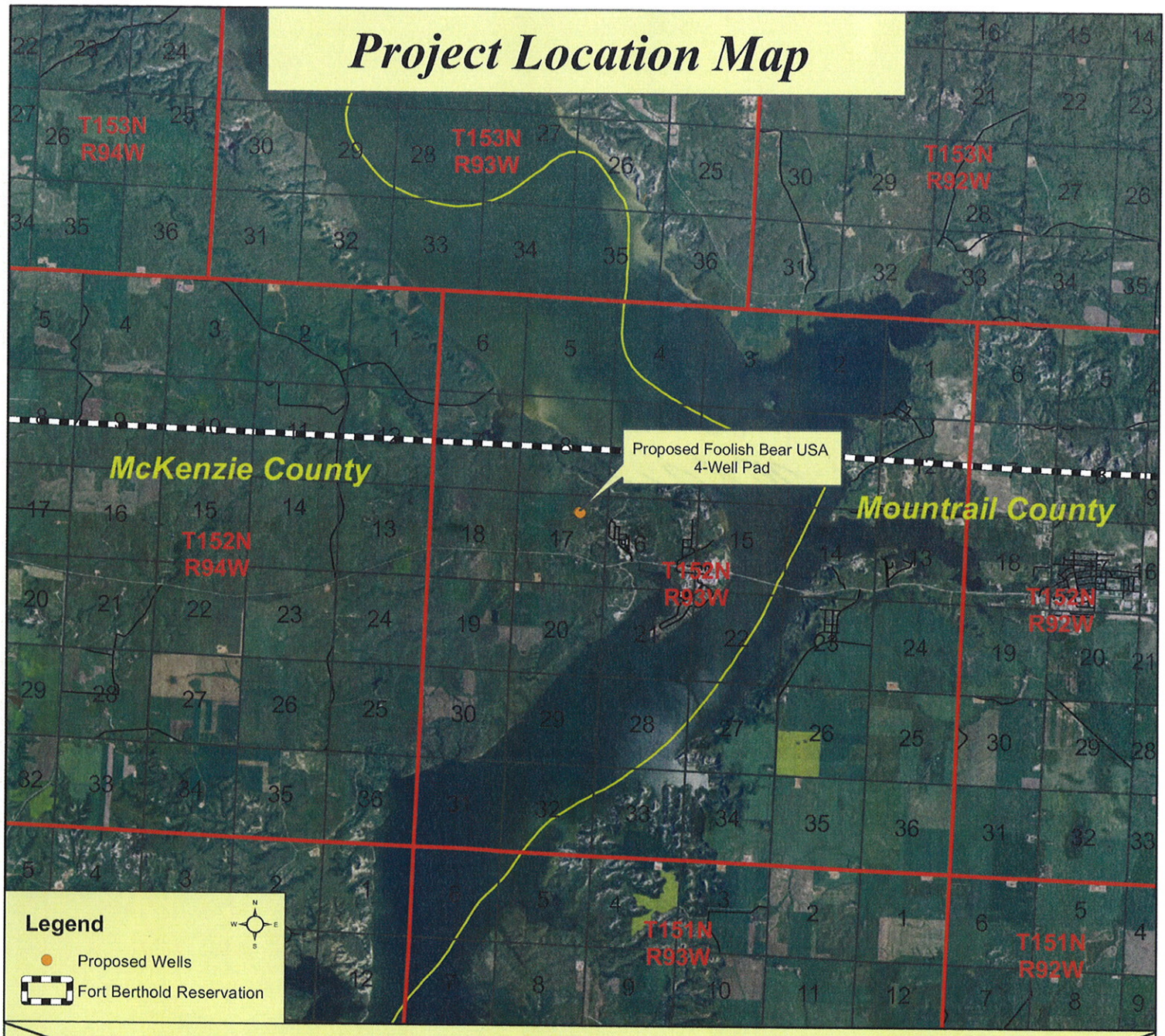
Kadrmas, Lee & Jackson, Inc.

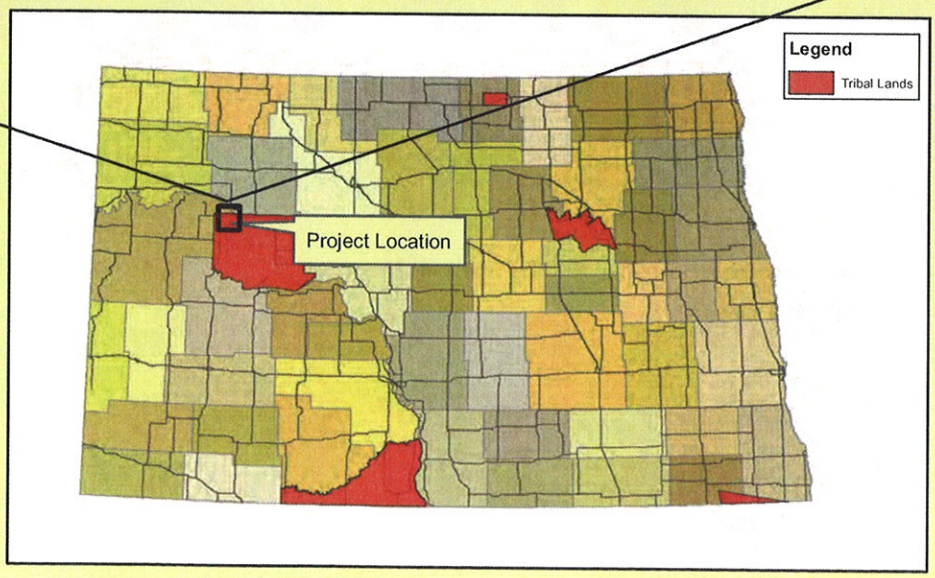
Mike Huffington
Environmental Planner

Enclosure (Project Location Map)

Kadrmas
Lee &
Jackson
Engineers Surveyors
Planners

Project Location Map





Marathon Oil Company
Proposed Wells
McKenzie County, ND

Kadrmas
Lee &
Jackson
Engineers Surveyors
Planners

July 13 , 2012

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

Re: Marathon Oil Company
Foolish Bear USA Four-Well Pad
Fort Berthold Reservation
McKenzie County, North Dakota

Dear Mr. Towner,

On behalf of Marathon Oil Company (Marathon), Kadrmas, Lee & Jackson, Inc. (KL&J) is preparing an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) for the Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM). The proposed action includes approval by the BIA and BLM for the development of one four-well pad resulting in the drilling and completion of four oil and gas wells in McKenzie County, North Dakota on the Fort Berthold Reservation. The proposed well pad is proposed to be positioned in Section 17, Township 152 North, Range 93 West, 5th P.M. and contain the following wells:

- Foolish Bear USA 11-16-TFH
- Foolish Bear USA 12-16H
- Foolish Bear USA 12-16TFH
- Foolish Bear USA 13-16H

Please refer to the enclosed Project Location Map.

The proposed action would advance the production of oil from the Bakken and Three Forks Formations. The well pad has been positioned to utilize existing roadways for access to the extent possible; however, the construction of a new access road would be required. Construction of the proposed well pad and access road is scheduled to begin fall 2012.

Intensive, pedestrian resource surveys of the proposed well pad and access road were conducted on July 6, 2012 by KL&J. The purpose of the surveys was to gather site-specific data and photos with regards to botanical, biological, threatened and endangered species, eagle, and water resources. A study area consisting of a 200-foot buffer around the proposed well pad disturbance areas and access road corridors was evaluated for the site. In addition, eagle surveys were conducted on July 12, 2012 by KL&J. The eagle surveys consisted of pedestrian transects focusing specifically on potential nesting sites within 0.5 mile of the project disturbance areas, including cliffs and wooded draws. Wooded draws were observed from both the upland areas overlooking the draws and from bottomlands within the actual draws. ***Please refer to enclosed Study Area Map.***

The BIA-facilitated EA on-site assessment of the well pads and access roads were conducted on July 6, 2012. The BIA Environmental Protection Specialist, as well as representatives from Marathon, Tribal Game and Fish, and KL&J were present. The Tribal Historic Preservation Office (THPO) previously cleared the sites for construction suitability. During the assessments, construction suitability with respect to topography, stockpiling, drainage, erosion control, and other surface issues were considered. The well pad and access road locations were finalized, and the BIA gathered information needed to develop site-specific mitigation measures and

701 232 5353
3203 32nd Ave S Suite 201
PO Box 9767
Fargo, ND 58106-9767
Fax 701 232 5354
kljeng.com

best management practices (BMPs) to be incorporated into project planning. Those present at the on-site assessments agreed that the selected locations are positioned in areas which would minimize impacts to sensitive wildlife and botanical resources and that the environmental commitments made by Marathon would further minimize harm to the environment. BMPs and other commitments Marathon has made to avoid, minimize, or mitigate impacts are listed at the end of this letter.

Threatened and Endangered Species

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

Whooping cranes use shallow, seasonally and semi-permanently flooded palustrine (marshy) wetlands for roosting, and various cropland and emergent wetlands for feeding. They typically prefer wetlands that contain shallow open water and areas where their visibility is not impeded by tall vegetation or other obstructions. The proposed project is located in the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred. A wetland was observed within the project area. Whooping cranes traveling through the area may alter their flight and landing patterns to avoid disturbance related to oil and gas development; however, it is believed that there are still large, undeveloped areas on the Fort Berthold Reservation in which migrating cranes could land to rest. Due to potential feeding habitat and the projects occurrence within the corridor which 75% of whooping cranes pass through, the proposed project may affect but is not likely to adversely affect whooping cranes. Per USFWS recommendations on previous projects of a similar nature, if a whooping crane is sighted within one-mile of a well site or associated facilities while under construction, all work would cease within one-mile of that part of the project and the USFWS would be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area.

Suitable habitat for the interior least tern and critical habitat for the piping plover are largely associated with the shoreline of Lake Sakakawea. Potential habitat for these species exists approximately 0.81 miles north at the closest point, or about 1.22 miles away following the shortest drainage pattern to the Lake. The well pad and access road would be located upon upland bluffs consisting of native rangeland, with Lake Sakakawea and its shoreline located approximately 300 feet below. The topographic features of the area and distance from the shoreline should assist in providing sight and sound buffers for shoreline-nesting birds.

Suitable habitat for the pallid sturgeon is found within Lake Sakakawea, located about 1.22 miles away following the shortest drainage pattern to the Lake.

The proposed project is located 1.22 miles from Lake Sakakawea following the shortest drainage pattern, making the potential for accidentally released fluids reaching the Lake possible, but unlikely. Storage tanks and heater-treaters would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from each site. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. Straw wattles would be placed at the toe of all fill slopes to prevent soil erosion. Soil stockpiles would be used to divert drainage outside of the fill slopes. In addition, a modified closed loop mud/cuttings system would be used where stabilization of drill cuttings before placement in the pits, along with the

reinforced lining of the cuttings pits, would diminish the potential for pit leaching. Due to the implementation of secondary containment measures and the cuttings pits parameters, the transfer of accidentally released fluids to Lake Sakakawea and its associated habitats is unlikely. Due to the proximity of the project to potential habitat, the proposed project may affect but is not likely to adversely affect the interior least tern, pallid sturgeon, or piping plover. The proposed project is not likely to impact critical habitat for the piping plover.

The black-footed ferret historically could be found throughout the Rocky Mountains and Great Plains. Preferred habitat for the black-footed ferret includes areas around prairie dog towns, as ferrets rely on prairie dogs for food and live in prairie dog burrows. Black-footed ferrets require at least an 80-acre prairie dog town to survive. In North Dakota, the southwestern corner of the state provided suitable habitat and supported the black-footed ferret; however, this species has not been confirmed in North Dakota for over 20 years and is presumed extirpated. The proposed well pad is not located near any active prairie dog towns. Due to a lack of preferred habitat characteristics, the proposed project is anticipated to have no effect on the black-footed ferret.

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

Preferred habitat for the Dakota skipper consists of undisturbed, flat, moist bluestem prairies and upland prairies with an abundance of wildflowers. The proposed site is located on or near mixed grass rangeland, which could contain potential habitat. The field survey did occur when Dakota skippers would be visible in their adult stage. However, no skippers were observed. Due to the presence of potential habitat for the Dakota skipper within the study area, the proposed project may impact individuals or habitat through earthwork associated with construction activities, habitat conversion, and/or fragmentation. An "effect determination" under Section 7 of the Endangered Species Act has not been made due to the current unlisted status of the species.

The Sprague's pipit is a small songbird found in prairie areas throughout the Northern Great Plains. Preferred habitat includes rolling, upland mixed-grass prairie of intermediate height with high plant species diversity. The Sprague's pipit breeds in habitat with minimal human disturbance. Some of study areas consisted of rangeland, which could contain potential habitat. No Sprague's pipits were observed during the field surveys. Due to the presence of potential habitat for the Sprague's pipit within the study area, the proposed project may impact individuals or habitat through earthwork associated with construction activities, habitat conversion, and/or fragmentation. An "effect determination" under Section 7 of the Endangered Species Act has not been made due to the current unlisted status of the species.

Botanical Resources

The Foolish Bear USA well pad and access road study area consisted primarily of upland, moderately grazed, native mixed grass range plants. Kentucky bluegrass (*Poa pratensis*), needle and thread (*Hesperostipa comata*), silver scurfpea (*Pediomelum argophyllum*), goats beard (*Tragopogon dubius*), creeping juniper (*Juniperus horizontalis*), and russian thistle (*Salsola kali*) were observed. In addition, patches of western snowberry (*Symphoricarpos*

occidentalis), silver buffalo berry (*Shepherdia argentea*), and little bluestem (*Andropogon scoparius*) were observed. No noxious weeds were observed.

Biological Resources

The study area contains suitable habitat for mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), coyote (*Canis latrans*), red fox (*Vulpes vulpes*), mountain lion (*Puma concolor*), North American badger (*Taxidea taxus*), North American porcupine (*Erethizon dorsatum*), cottontail rabbit (*Sylvilagus floridanus*), jackrabbit (*Lepus townsendii*), sharp-tailed grouse (*Tympanuchus phasianellus*), wild turkey (*Meleagris gallopavo*), ring-necked pheasant (*Phasianus colchicas*), golden eagle (*Aquila chrysaetos*), bald eagle (*Haliaeetus leucocephalus*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), and song birds. The following wildlife and migratory bird species were observed during the field survey and on-site assessment: western meadowlark (*Sturnella neglecta*), sharp-tail grouse (*Tympanuchus phasianellus*), and an unidentified snake

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

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

All efforts would be made to complete construction outside the migratory bird nesting season (February 1 through July 15) in order to avoid impacts to migratory birds during the breeding and nesting season. In the event that construction should occur during the migratory bird nesting and breeding season, a qualified biologist would conduct pre-construction surveys for migratory birds and their nests within five days prior to the initiation of all construction activities. Mowing/grubbing of the sites prior to the nesting and breeding season may be completed in lieu of the pre-construction surveys to deter birds from nesting in project areas.

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

Eagles

Ground surveys for eagle nests were conducted as part of the on-site field surveys. The study areas were thoroughly searched and no eagle nests were detected within 0.5 miles of the study area.

In addition, Dr. Anne Marguerite Coyle of Dickinson State University has completed focused research on golden eagles and maintains a database of golden eagle nest sightings. ***Please refer to the enclosed Eagle Buffer Map.*** According to Dr. Coyle's information, the closest recorded golden eagle nest is located approximately 3.60 miles south at the nearest point.

If a bald or golden eagle nest is sighted within 0.5 miles of the study area during construction, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.

Water Resources

The proposed sites are situated on upland bluffs consisting of native rangeland. The majority of the well pad drains northeast into a rangeland drainage. The drainage extends in a northern direction for a total distance traveled of 1.22 miles before reaching Lake Sakakawea. The nearest wooded draw is located approximately 100 feet north of the proposed well pad. Culverts would be implemented as necessary at all proposed well pads and access roads to avoid drainage impacts. ***Please refer to the enclosed Drainage Map.***

Best Management Practices

BMPs for soil and wind erosion would be implemented as needed to include over-seeding of cut areas and spoil piles, as well as the use of diversion ditches, silt fences, and/or mats. All slopes would be set at 2:1 to minimize impacts to drainages. Any woody vegetation removed during site construction would be chipped and incorporated into topsoil stockpiles. Alteration of drainages near the proposed well pads would be avoided. Straw wattles would be placed at the toe of all fill slopes to minimize soil erosion off site. Pits and soil stockpiles would be used to divert drainage outside of the fill slopes. Culverts to maintain drainage along the access roads would also be installed where needed. Earth berms, fiber rolls, straw wattles, and/or additional BMP's would be placed in all drainages and fill slopes in close proximity to the proposed well pads to guard against accidental release of fluids from the sites.

Upon well completion, a portion of the well pads would be reclaimed to further avoid environmental areas of concern. Per BIA guidance, interim reclamation measures would occur within six months of well pad construction; however, if winter weather conditions or Marathon's drilling schedule prevent interim reclamation from occurring within the 6 month timeframe, Marathon would contact BIA to request an extension.

Summary of Commitments to Avoid or Minimize Impacts

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

- A modified closed loop mud/cuttings system with on-site cuttings pits would be used during the drilling process. Drill cuttings would be stabilized before being placed in the reinforced lined cuttings pits. The reinforced lining of the cuttings pits would have a minimum thickness of 20 mil to prevent seepage and contamination of underlying

soil. In accordance BLM and North Dakota Industrial Commission (NDIC) rules and regulations, any minimal fluids remaining in the drill cuttings pits would be removed and disposed of off-site and the drill cuttings pits would be reclaimed immediately upon the drill rig leaving the site, or netted to minimize potential wildlife impacts.

- Straw wattles would be installed around all fill slopes to minimize potential soil erosion from the site.\
- Pits and soil stockpiles would be used to divert drainage outside of the fill slopes.
- The storage tanks and heater-treaters would be surrounded by an impermeable berm that would act as secondary containment to guard against possible spills. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production.
- Earth berms, fiber rolls, straw wattles, and/or additional BMP's would be placed in all drainages in close proximity to the proposed wells to guard against accidental release of fluids from the site.
- BMPs would be implemented to minimize wind and water erosion of soil resources such as rounding of pad corners, over-seeding of cut areas and spoil piles, all slopes 2:1, diversion ditches, silt fences, and/or mats.
- The northeast and southwest corners of the Foolish Bear USA well pad would be rounded to minimize the well pad's footprint.
- All efforts would be made to complete construction outside the migratory bird nesting season (February 1 through July 15) in order to avoid impacts to migratory birds during the breeding and nesting season. In the event that construction should occur during the migratory bird nesting and breeding season, a qualified biologist would conduct pre-construction surveys for migratory birds and their nests within five days prior to the initiation of all construction activities. Mowing/grubbing of the sites prior to the nesting and breeding season may be completed in lieu of the pre-construction surveys to deter birds from nesting in project areas.
- All reasonable, prudent, and effective measures to avoid the taking of migratory bird species would be implemented during the construction and operation phases. Measures would include: the use of suitable mufflers on all internal combustion engines and certain compressor components to mitigate noise; utilizing only approved roadways; placing wire mesh or grate covers on containers used to collect dripped oil under valves and spigots; maintaining open pits and ponds that are free from oil; netting cuttings pits with a maximum mesh size of 1.5 inches or immediately filling cuttings pits once the drill rigs has left the site; and burying electrical/utility lines and pipelines.
- If a whooping crane is sighted within one-mile of either site of associated facilities while under construction, all work would cease within one-mile of that part of the project and the USFWS would be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area.

- When deemed necessary, Marathon would provide dust control for their access roads and haul roads.
- Supporting utilities would be installed below ground.
- A Tribal monitor would be present during construction of the Foolish Bear well pad and access/ utility road.

To ensure that social, economic, and environmental effects are considered in the development of this project, we are soliciting your views and comments on the proposed development of this project, pursuant to Section 102(2) (D) (IV) of the National Environmental Policy Act of 1969, as amended. We ask your assistance in identifying any property or resources that you own, manage, oversee, or otherwise value that might be adversely impacted. We are also interested in existing or proposed developments you may have that should be considered in connection with the proposed project. Any information that might help us in our study would be appreciated.

It is requested that any comments or information be forwarded to our office on or before **August 13, 2012**. We request your comments by that date to ensure that we will have ample time to review them and incorporate them into the necessary environmental documentation.

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

Sincerely,

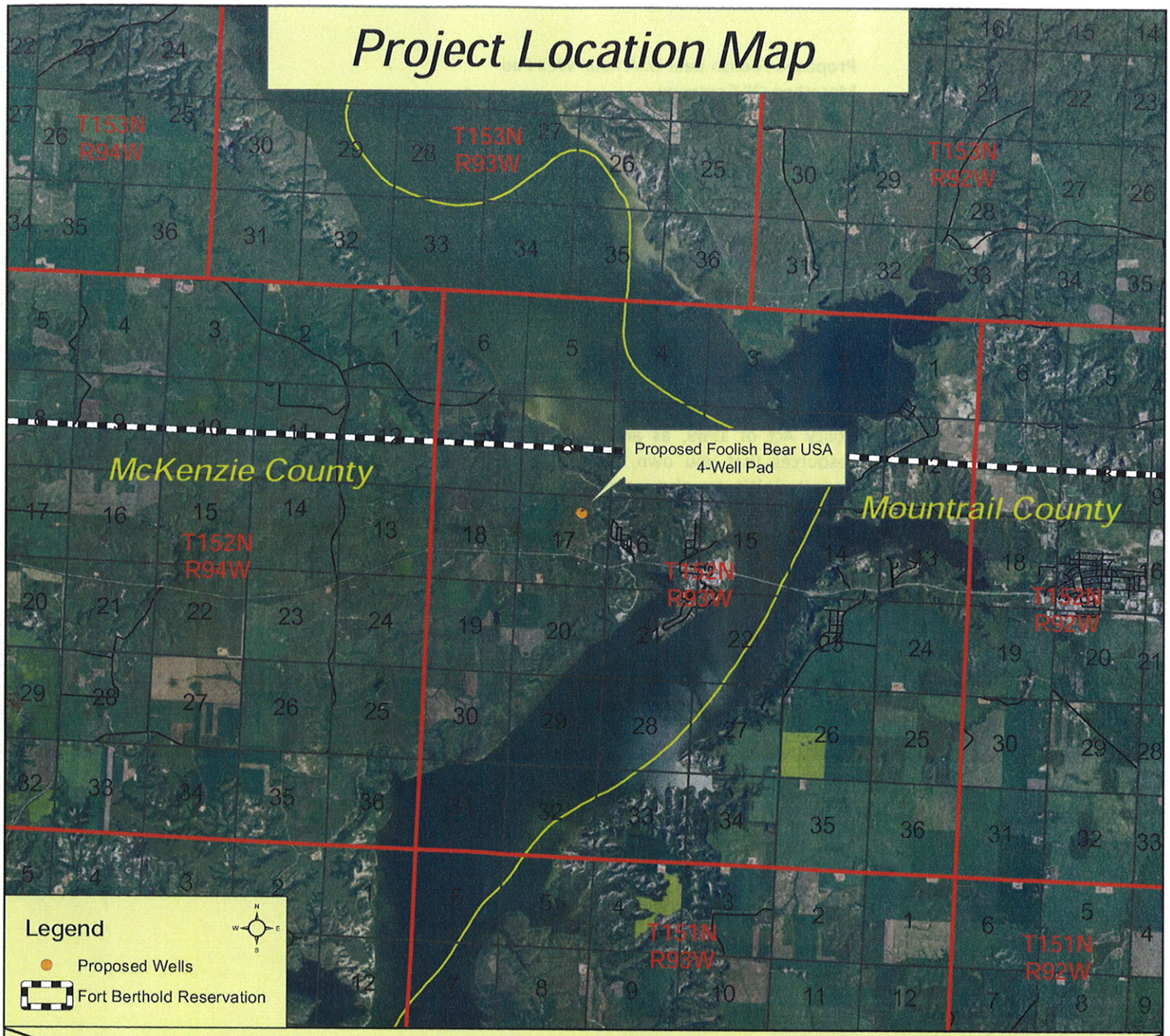
Kadrmas, Lee & Jackson, Inc.

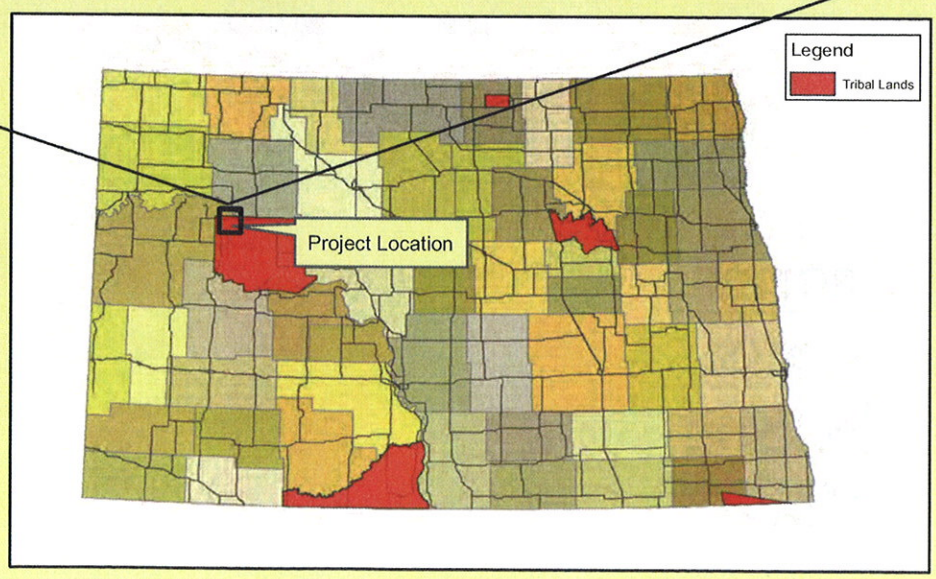
Mike Huffington
Environmental Planner

Enclosures (Maps)

Kadrmas
Lee &
Jackson
Engineers Surveyors
Planners

Project Location Map





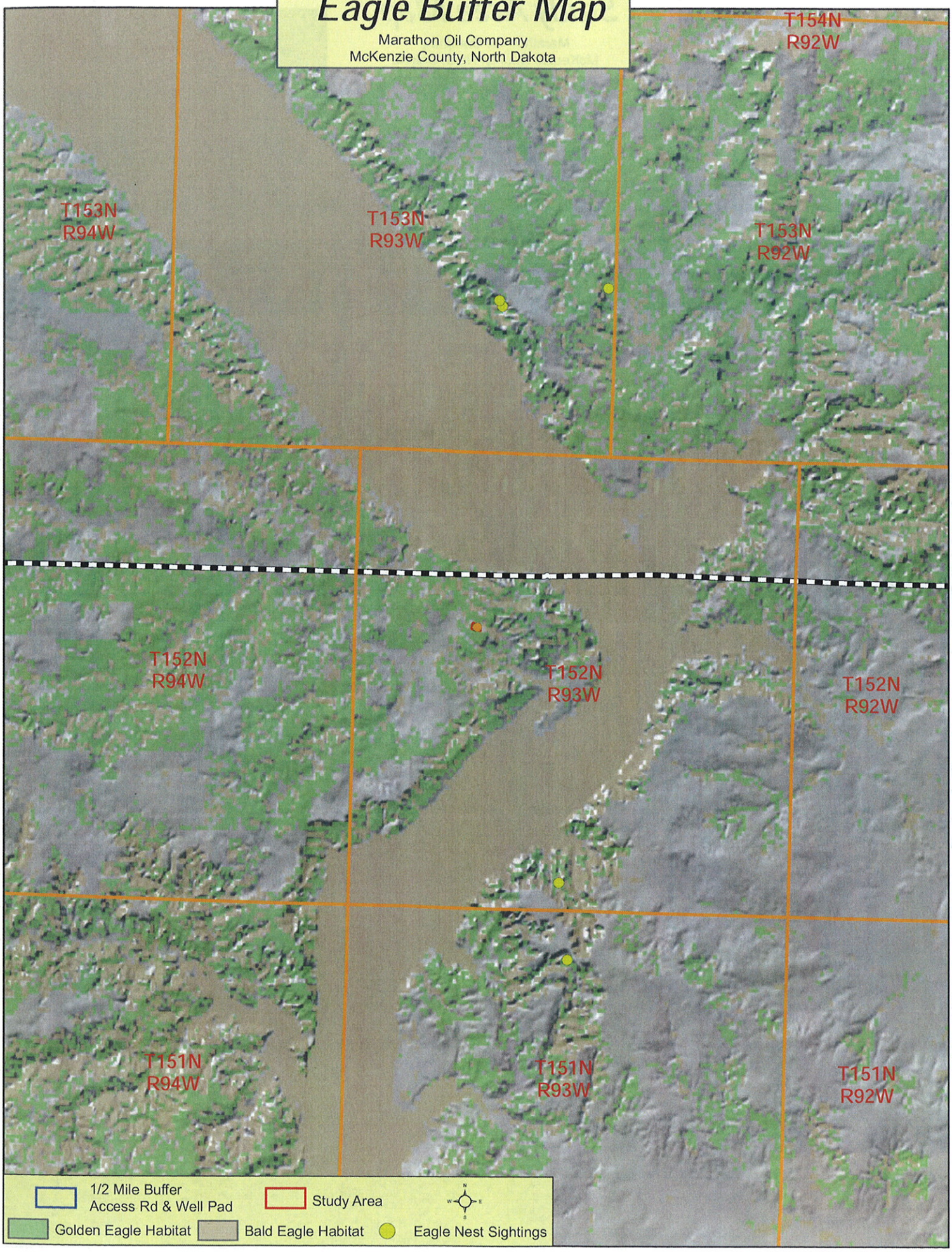
Marathon Oil Company
Proposed Wells
McKenzie County, ND

Study Area Map

Marathon Oil Company
McKenzie County, North Dakota

Eagle Buffer Map

Marathon Oil Company
McKenzie County, North Dakota



101101011804
Sub-Watershed
Antelope Creek State Wildlife Management Area
Watershed
Antelope Creek
Sub-Watershed
Four Bears Bay
Sub-Watershed
Sanish Bay
Watershed
101101011902
Sub-Watershed
Legend
N
W
E
S
Drainage Direction
Proposed Access Road
Proposed Well Pad
Kadrmas
Lee &
Jackson
Engineers Surveyors
Planners

CTitle	First	Last	Title	Department	Agency	Address	City	State	Zip
Mr.	Weldon	Louderemilk	Regional Director		Bureau of Indian Affairs	115 4th Ave. SE	Aberdeen	SD	57401
Mr.	Jeffrey	Desjarlais	Environmental Protection Specialist		Bureau of Indian Affairs	202 Main Street	New Town	SD	58763
				Environmental Management Division	Bureau of Reclamation	PO Box 1017	Bismarck	ND	58502-1017
Mr.	Thomas	Schauer	Manager	Bismarck Airports District Office	Federal Aviation Administration	2301 University Drive, Bldg 23B	Bismarck	ND	58504
Mr.	Dan	Cimarosti	Manager	ND Regulatory Office	US Army Corps of Engineers	1513 S. 12th St.	Bismarck	ND	58504
Mr.	Charles	Sorensen	Natural Resource Specialist	Riverdale Field Office	US Army Corps of Engineers	PO Box 527	Riverdale	ND	58565
			CENWO-PM-AC	Planning Branch	US Army Corps of Engineers, Omaha District	1616 Capital Avenue	Omaha	NE	68102
Ms.	Mary	Podoll	State Conservationist		Natural Resources Conservation Service	220 East Rosser Avenue	Bismarck	ND	58501
Mr.	Gerald	Paulson	Director, Transmission Linest Substations	ND Maintenance Office	US Department of Energy Western Area Power Admin.	PO Box 1173	Bismarck	ND	58502-1173
Ms.	Suzanne	Bohan	Director	NEPA Program, Region 8	US Environment Protection Agency	1595 Wynkoop Street	Denver	CO	80202-1129
Mr.	Richard	Clark	Wetlands Coordinator	Region 8, EPR-EP	US Environment Protection Agency	1595 Wynkoop Street	Denver	CO	80202-1129
Mr.	Jeffrey	Towner	Field Supervisor	ND Field Office	US Fish & Wildlife Service	3425 Miriam Ave.	Bismarck	ND	58501
Mr.	Scott	Davis	Executive Director		Indian Affairs Commission	600 E. Blvd. Ave. 1st Floor, Judicial Wing, Rm 117	Bismarck	ND	58505-0300
Mr.	Gregg	Wiche	Director	Water Resources Division	US Geological Survey	821 E. Interstate Ave.	Bismarck	ND	58501
Mr.	L. David	Glatt	Chief	Environmental Health Section Gold Seal Center	ND Department of Health	918 E. Divide Ave., 4th floor	Bismarck	ND	58501-1947
Mr.	Steve	Dyke	Conservation Section Supervisor		ND Game & Fish Department	100 Bismarck Expressway	Bismarck	ND	58501-5095
Mr.	Ed	Murphy	State Geologist		ND Geological Survey	600 E. Blvd. Avenue	Bismarck	ND	58505-0840
Mr.	Mark	Zimmerman	Director		ND Parks & Recreation Dept.	1600 E. Century Ave., Suite 3	Bismarck	ND	58503-0649
Mr.	Todd	Sando	State Engineer		ND State Water Commission	900 E. Blvd. Ave.	Bismarck	ND	58505-0850
Mr.	Scott	Hochhalter	Soil Conservation Specialist	NDSU Extension Service	Soil Conservation Committee	2718 Gateway Ave., #104	Bismarck	ND	58503
Mr.	Bill	Boyd	Construction Manager		Midcontinent Cable Company	719 Memorial Hwy	Bismarck	ND	58501
Mr.	Doug	Dixon	General Manager	Badlands Region	Montana Dakota Utilities	PO Box 1406	Williston	ND	58802-1406
Mr.	John	Skurupey	General Manager		McKenzie Electric Cooperitive	PO Box 649	Watford City	ND	58854-0649
				Right of Way Department	Northern Border Pipeline Company	13710 FNB Parkway, Suite 300	Omaha	NE	68154
Ms.	Mary	Massad	Manager/CEO		Southwest Water Authority	4665 2nd St. SW.	Dickinson	ND	58601
Mr.	David C.	Schelkoph	CEO		West Plains Electric Coop., Inc.	PO Box 1038	Dickinson	ND	58602-1038
			Manager		Xcel Energy	PO Box 2747	Fargo	ND	58108-2747
			Manager		Mountrail-Williams Electric Cooperative	355 Main St	New Town	ND	58763
			District Engineer	Dickinson District	ND Department of Transportation	1700 3rd Ave W. Suite 101	Dickinson	ND	58601-3009
Mr.	Lonny	Bagley	Field Office Manager	North Dakota Field Office	Bureau of Land Management	99 23rd Ave W. Suite A	Dickinson	ND	58601
Mr.	Mike	Nash	Assistant Field Office Manager	Division on Mineral Resources	Bureau of Land Management	99 23rd Ave W. Suite A	Dickinson	ND	58601
Mr.	Michael	Seivage	Tribal Chairman		Sisseton-Wahpeton Sioux Tribe	PO Box 509	Sisseton	SD	57262-0267
Ms.	Myra	Pearson	Tribal Chairman	Ft. Totten Tribal Business Office	Spirit Lake Sioux Tribe	PO Box 359	Ft. Totten	ND	58325
Mr.	Charles	Murphy	Tribal Chairman		Standing Rock Sioux Tribe	PO Box D	Fort Yates	ND	58538
Mr.	Joe	Gillies	Environmental Division Director	Natural Resources Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Elgin	Crows Breast	Tribal Historic Preservation Officer		Three Affiliated Tribes	HC3 Box 2	New Town	ND	58763
Mr.	Tex	Hall	Tribal Chairman		Three Affiliated Tribes	HC3 Box 2	New Town	ND	58763
Mr.	Merle	St. Claire	Tribal Chairman		Turtle Mountain Chippewa	PO Box 900	Belcourt	ND	58316-0900
Mr.	Damon	Williams	Tribal Attorney		Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Fred	Fox	Director	Energy Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Ms.	V. Judy	Brugh	Representative	Four Bears Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Arnold	Strahs	Representative	Mandaree Segment	Three Affiliated Tribes	PO Box 665	Mandaree	ND	58757
Mr.	Scott	Eagle	Representative	Shell Creek Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Mervin	Packineau	Representative	Parshall/Lucky Mound Segment	Three Affiliated Tribes	PO Box 468	Parshall	ND	58770
Mr.	Frank	Whitecalf	Representative	White Shield Segment	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Barry	Benson	Representative	Twin Buttes Segment	Three Affiliated Tribes	70879 E Ave NW	Halliday	ND	58636
Mr.	Fred	Poitra		Game and Fish Department	Three Affiliated Tribes	404 Frontage Road	New Town	ND	58763
Mr.	Lester	Crowsheart	Director	Fort Berthold Rural Water	Three Affiliated Tribes	308 Four Bears Complex	New Town	ND	58763
Mr.	Brooks	Goodall	Operations Manager		Reservation Telephone Cooperative	PO Box 68	Parshall	ND	58770-0068
Mr.	Linda	Svihovec	Auditor		McKenzie County	PO Box 543	Watford City	ND	58854
Ms.	Dale	Patten	Chairman	County Commission	McKenzie County	PO Box 543	Watford City	ND	58854

Appendix B

Agency Scoping Responses

List of Scoping Responses

Marathon Oil Company

Environmental Assessment for Drilling of

Foolish Bear USA 11-16TFH, Foolish Bear USA 12-16H, DCFH USA 12-16TFH, and DCFH USA 12-16H (Foolish Bear USA Well Pad)
Oil & Gas Wells

Fort Berthold Indian Reservation
McKenzie County, North Dakota

Federal

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

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

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

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

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

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

State

North Dakota Department of Health

North Dakota Game and Fish Department

North Dakota Parks and Recreation Department

North Dakota State Water Commission

Local

N/A

United States Department of Agriculture

NRCS

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

RECEIVED
AUG 13 2012
BY: JB

August 7, 2012

Mike Huffington
Kadrmas, Lee & Jackson
3203 32nd Avenue S, Suite 201
PO Box 9767
Fargo, ND 58106-9767

RE: Marithon Oil Company
Foolish Bear USA Four – Well Pad
McKenzie County, ND

Dear Mr. Huffington:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated July 12, 2012, concerning the Foolish Bear USA Four well pad with four wells in McKenzie County, North Dakota.

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

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

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

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

Sincerely,

WADE D. BOTT
State Soil Scientist

Mike Huffington

From: Sorensen, Charles G NWO <Charles.G.Sorensen@usace.army.mil>
Sent: Monday, July 30, 2012 2:16 PM
To: Mike Huffington
Subject: Foolish Bear Well Pad (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Mike

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

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

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

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

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

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

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

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

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

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

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

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
Riverdale, North Dakota Office
(701) 654 7411 ext 232

Classification: UNCLASSIFIED
Caveats: NONE

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

REPLY TO
ATTENTION OF

July 16, 2012

North Dakota Regulatory Office

Kadrmas Lee and Jackson
Attn: Mike Huffington
3203 32nd Ave S Suite 201
PO Box 9767
Fargo, ND 58106-9767

Dear Mr. Huffington:

This is in response to your letter dated July 12, 2012 on behalf of Marathon Oil Company, under the National Environmental Policy Act for the Bureau of Indian Affairs and Bureau of Land Management, requesting U.S. Army Corps of Engineers (Corps) comments concerning the development of one four-well pad, resulting in the drilling and completion of four oil and gas wells located in McKenzie County, North Dakota.

The Foolish Bear USA 11-16-TFH, 12-16H, 12-16TFH, and 13-16H are proposed to be located in the Section 17, Township 152 North, Range 93 West.

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

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

Printed on Recycled Paper

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 of phone at (701) 255-0015.

Sincerely,

Sam E. Werner

Sam Werner
Acting Regulatory Program Manager
North Dakota

Enclosure
ENG Form 4345

CF w/o encl
EPA Denver (Brent Truskowski)

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT *(33 CFR 325)*	OMB APPROVAL NO. 0710-0003 EXPIRES: 31 August 2012

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

PRIVACY ACT STATEMENT

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

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

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

(ITEMS BELOW TO BE FILLED BY APPLICANT)

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

STATEMENT OF AUTHORIZATION

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

APPLICANT'S SIGNATURE DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)

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

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

17. DIRECTIONS TO THE SITE

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

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

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

20. Reason(s) for Discharge

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

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

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

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

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

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

Address --

City -- State -- Zip --

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

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

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

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

SIGNATURE OF APPLICANT	DATE	SIGNATURE OF AGENT	DATE

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

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

Instructions for Preparing a
Department of the Army Permit Application

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DRAWINGS AND ILLUSTRATIONS

General Information.

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

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

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

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

RECEIVED
AUG 10 2012
BY: JB

REPLY TO
ATTENTION OF

July 18, 2012

Planning, Programs, and Project Management Division

Kadrmas Lee & Jackson
Attention: Mr. Mike Huffington
3203 32nd Avenue S Suite 201
P.O. Box 9767
Fargo, North Dakota 58106

Dear Mr. Huffington:

The U.S. Army Corps of Engineers, Omaha District (Corps) has reviewed your letter dated July 12, 2012, regarding Marathon Oil Company's proposed development, drilling and completion of four oil and gas wells on one four-well pad on the Fort Berthold Reservation in McKenzie County, North Dakota. The Corps offers the following comments.

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

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

The location for the proposed pad that will accommodate four wells appears to be located on top of a bluff that drains less than 2,000 feet into Lake Sakakawea. As previously stated, the Corps requests Marathon Oil Company consider in their EA alternative locations that would move the pad site further away from the lake. By setting back the pad site from the lake, potential environmental impacts resulting from accidental spills or blowouts may be reduced.

Printed on Recycled Paper

Additionally, removing the large pad from atop a lakeside bluff will also reduce the impact to visual resources experienced by recreational users on the lake.

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

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

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

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

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

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

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

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

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

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

U.S. Army Corps of Engineers, Omaha District
Environmental Resources and MRRP Plan Formulation
Attention: CENWO-PM-AC
1616 Capitol Ave.
Omaha, Nebraska 68102-4901

I am forwarding a copy of this letter to the Chairman of the Three Affiliated Tribes, Chairman Tex Hall; Three Affiliated Tribes Director of Game and Fish, Mr. Fred Poitra; Three Affiliated Tribes Energy Director, Mr. Fred Fox; Three Affiliated Tribes Natural Resource Director,

Ms. Annette Young Bird; Three Affiliated Tribes Tribal Historic Preservation Officer, Mr. Elgin Crows Breast all located at 404 Frontage Road, New Town, North Dakota 58763. If you have any questions, please contact Mr. Shannon Sjolie of my staff at (402) 995-2887.

Sincerely,

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

United States Department of the Interior

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

TAKE PRIDE® IN AMERICA

IN REPLY REFER TO:
DK-5000
ENV-6.00

AUG 6 2012

Mr. Mike Huffington
Environmental Planner
Kadrmas, Lee, & Jackson, Inc.
P.O. Box 9767
Fargo, ND 58106-9767

Subject: Solicitation for an Environmental Assessment by BIA and BLM for the Construction of One Four-Well Pad by Marathon Oil on the Fort Berthold Reservation in McKenzie County, North Dakota

Dear Mr. Huffington:

This letter is written to inform you that we received your letter of July 12, 2012, and the information and map you provided have been reviewed by Bureau of Reclamation staff.

Your well pad location is proposed for:

Foolish Bear-4-Section 17, T152N, R93W, Sanish, ND, McKenzie County

There are Federal, Reclamation facilities in Sections 16, 17, and 18, T152N, R93W in the form of Fort Berthold Rural Water System pipelines (blue lines). Please refer to our map (bottom page 2) of the general vicinity of your proposed well pad in order to assist you in determination of potential effects due to your proposed action. Please take note that Rural Water System pipelines commonly follow roads and/or section lines, as in this case.

Should you need to cross a Fort Berthold Rural Water System pipeline while accessing your proposed project or should you find need to relocate a Rural Water System pipeline, please contact our engineer Tom Thompson, as Reclamation requests that you provide us an opportunity to review the designs for any relocations or crossings of Federal Fort Berthold Rural Water lines.

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 the Fort Berthold Rural Water Director, Three Affiliated Tribes, 308 4 Bears Complex, New Town, North Dakota 58763. Further, Tom Thompson, will be your Reclamation engineering contact. For your convenience, we have included the specifications sheet for pipeline crossings as an initial example.

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 Tom Thompson, Civil Engineer, for engineering questions at 701-221-1220.

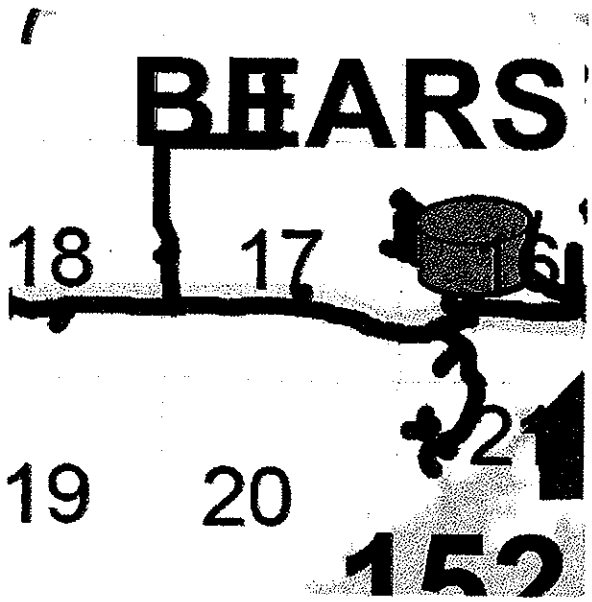
Sincerely,

Kelly B. McPhillips
Environmental Specialist

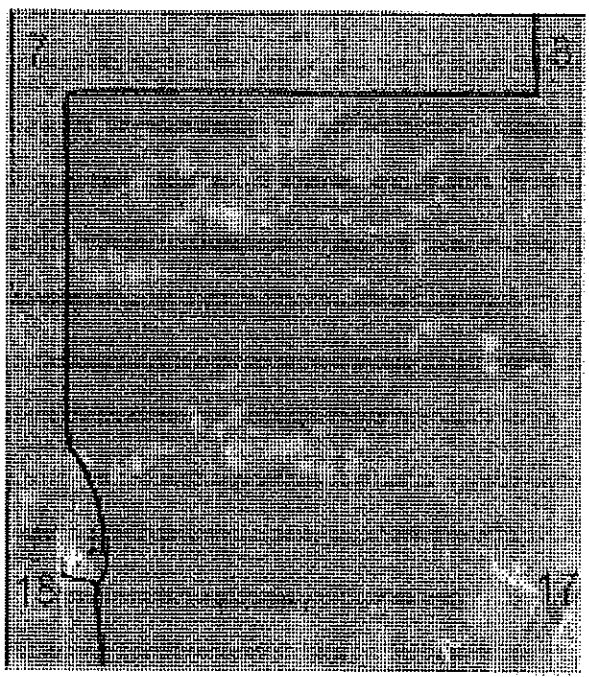
Enclosure

cc: Bureau of Indian Affairs
Great Plains Regional Office
Attention: Ms. Marilyn Bercier
Regional Environmental Scientist
115 Fourth Avenue S.E.
Aberdeen, SD 57401

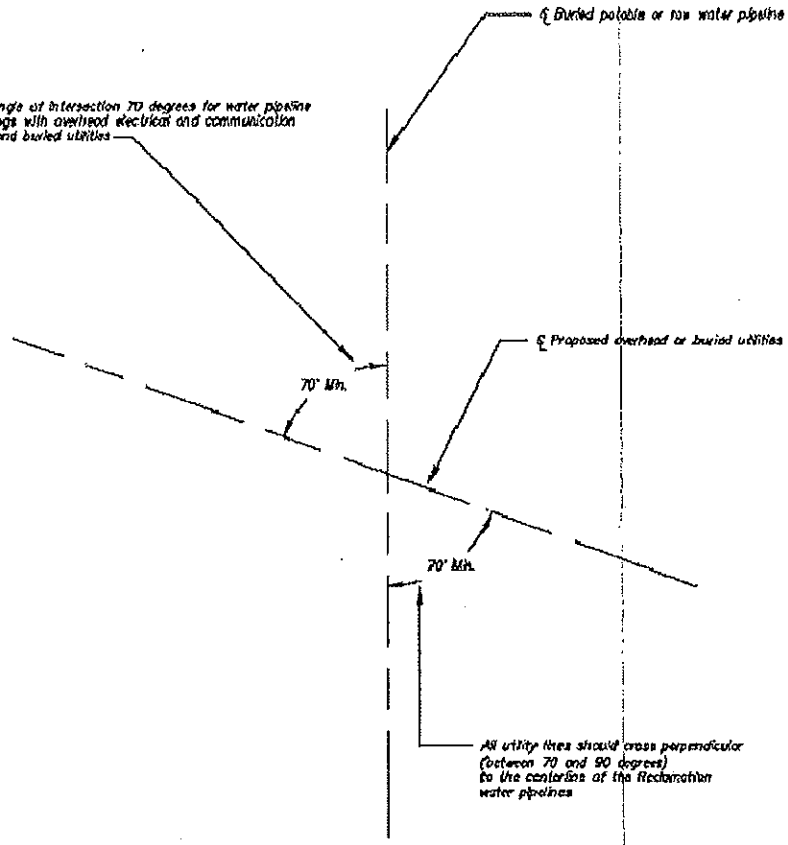
Fort Berthold Rural Water Director
Three Affiliated Tribes
308 4 Bears Complex
New Town, ND 58763
(w/encl)



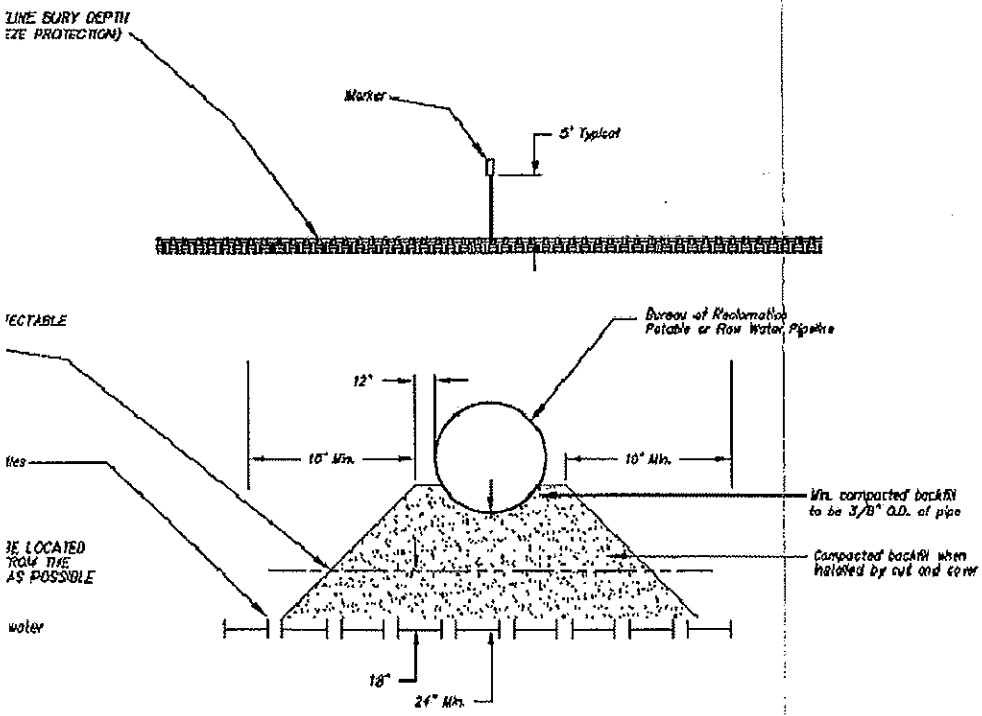
Section 17, T152N, R93W, Sanish NW, ND, McKenzie County



Pipeline shape file is blue line.



CROSSING PLAN



CROSSING

RECLAMATION
Managing Water in the West

ALWAYS THINK SAFETY

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
PICK-SLOAN MISSOURI RIVER BASIN PROGRAM
CARRISON DIVISION CARRISON DIVERSION UNIT, N.DAK.

MR&I RURAL WATER SYSTEMS
STANDARD CROSSING AND CLEARANCE REQ.
POTABLE AND RAW WATER PIPELINES

DESIGNED R. Waters
DRAWN R. Waters
CHECKED D. Fettig
TECH. APPR. Dale Arnold, P.E. – CIVIL ENGINEER
APPROVED Scott A. Anderson, P.E. – CIVIL ENGINEER
BISMARCK, NORTH DAKOTA 07-30-2010

769-603-25480
SHEET 1 OF 1

Kadrmas
Lee &
Jackson
Engineers Surveyors
Planners

U.S. FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES
ND FIELD OFFICE

Project as described will have no significant impact on fish and wildlife resources. No endangered or threatened species are known to occupy the project area and/or are not likely to be adversely affected. IF PROJECT DESIGN CHANGES ARE MADE, PLEASE SUBMIT PLANS FOR REVIEW.

8-31-12 Jeffrey K. Towner
Date Jeffrey K. Towner
Field Supervisor

July 12, 2012

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

Re: **Marathon Oil Company**
Foolish Bear USA Four- Well Pad
Fort Berthold Reservation
McKenzie County, North Dakota

Dear Mr. Jeffrey Towner,

On behalf of Marathon Oil Company (Marathon), Kadrmas, Lee & Jackson, Inc. (KL&J) is preparing an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) for the Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM). The proposed action includes approval by the BIA and BLM for the development of one four-well pad, resulting in the drilling and completion of four oil and gas wells in McKenzie County, North Dakota on the Fort Berthold Reservation. The proposed well pad is proposed to be positioned in Section 17, Township 152 North, Range 93 West, 5th P.M. and contain the following wells:

- Foolish Bear USA 11-16-TFH
- Foolish Bear USA 12-16H
- Foolish Bear USA 12-16TFH
- Foolish Bear USA 13-16H

Please refer to the enclosed Project Location Map.

The proposed action would advance the production of oil from the Bakken and Three Forks Formations. The well pads have been positioned to utilize existing roadways for access to the extent possible; however, the construction of new access roads would be required. Construction of the proposed well pads and access roads is scheduled to begin fall 2012.

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

701 232 5353
3203 32nd Ave S Suite 201
PO Box 9767
Fargo, ND 58106-9767
Fax 701 232 5354
kljeng.com

RECEIVED
SEP 04 2012
BY: JB

It is requested any comments or information be forwarded to our office on or before **August 12, 2012**. We request your comments by that date to ensure we will have ample time to review them and incorporate them into the necessary environmental documentation.

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

Sincerely,

Kadrmas, Lee & Jackson, Inc.

Mike Huffington
Environmental Planner

Enclosure (Project Location Map)

Kadrmas
Lee &
Jackson
Engineers Surveyors
Planners

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

July 19, 2012

RECEIVED
JUL 27 2012
BY JB

Mr. Mike Huffington
Environmental Planner
Kadrmas, Lee & Jackson, Inc.
P.O. Box 9767
Fargo, ND 58106-9767

Re: Marathon Oil Company
Foolish Bear USA Four-Well Pad
Fort Berthold Reservation, McKenzie County

Dear Mr. Huffington:

This department has reviewed the information concerning the above-referenced project submitted under date of July 12, 2012, 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, well pads or pipelines should have a minimal effect on air quality provided measures are taken to minimize fugitive dust. However, operation of the wells has the potential to release air contaminants capable of causing or contributing to air pollution. We encourage the development and operation of the wells in a manner that is consistent with good air pollution control practices for minimizing emissions. Detailed guidance is available at www.ndhealth.gov/AQ/OilAndGasWells.htm.

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

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 in North Dakota may be required to obtain a permit to discharge storm water runoff from the U.S. Environmental Protection

Agency. Further information may be obtained from the U.S. EPA's website or by calling the U.S. EPA – Region 8 at (303) 312-6312. Also, cities or counties may impose additional requirements and/or specific best management practices for construction affecting their storm drainage system. Check with the local officials to be sure any local storm water management considerations are addressed.

4. Projects that involve construction, drilling, completion and/or production of crude oil or natural gas wells should select locations that minimize the potential for environmental damage during development of the well and in the event of a spill, restrict fluids from reaching surface waters. Well placement should avoid close proximity to drainage areas and steep slopes. Environmental damage can be reduced by developing a spill response plan that emphasizes rapid deployment of prepositioned assets necessary to contain spills and subsequent cleanup. Proper surveillance and monitoring of pipelines is necessary for the early detection of leaks.

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

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

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

Sincerely,

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

LDG:cc
Attach.

NORTH DAKOTA
DEPARTMENT of HEALTH

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

Construction and Environmental Disturbance Requirements

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

Soils

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

Surface Waters

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

Fill Material

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

RECEIVED
AUG 0 1 2012
BY: JB

"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

July 25, 2012

Mike Huffington
Environmental Planner
Kadrmas, Lee & Jackson, Inc.
PO Box 9767
Fargo, ND 58106-9767

Dear Mr. Huffington:

RE: Bell USA
Charging USA
Fredericks USA
Foolish Bear USA

Marathon Oil Company is proposing 18 oil and gas wells on four well pads on the Fort Berthold Reservation in Dunn & McKenzie Counties, North Dakota.

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

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

Sincerely,

Steve Dyke

(for) Greg Link
Chief
Conservation & Communication Division

js

RECEIVED
AUG 13 2012
BY: JB

Jack Dalrymple, Governor
Mark A. Zimmerman, Director

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

August 6, 2012

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

Re: Marathon Oil Co. Foolish Bear USA Four – Well Pad, Fort Berthold Reservation, McKenzie County

Dear Mr. Huffington,

The North Dakota Parks and Recreation Department (the Department) has reviewed the above referenced proposed development of one four-well pad, resulting in the drilling and completion of four oil and gas wells in McKenzie County on the Fort Berthold Indian Reservation.

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

The Department is also responsible for coordinating the ND's Scenic Byways and Backways Program. This proposed project is along the Killdeer Mountain Four Bears Scenic Byway and as such we recommend any project development be completed with the least amount of or no visual impact to the immediate and distant views from the above mentioned Backways/Byways. Please contact Kevin Stankiewicz (701-328-5364 or kstankiewicz@nd.gov) if additional Byways and Backways information is needed.

The North Dakota Natural Heritage biological conservation database has been reviewed to determine if any plant or animal species of concern or other significant ecological communities are known to occur within an approximate one-mile radius of the project area. Based on this review, there are a number of documented animal species of concern occurrences in our database adjacent to 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.

The Department recommends that the project be accomplished with minimal impacts and that all efforts be made to ensure that critical habitats not be disturbed in the project area to help secure rare species conservation in North Dakota. Regarding any reclamation efforts, we recommend that any impacted areas be revegetated with species native to the project area.

We appreciate your commitment to rare plant, animal and ecological community conservation, management and inter-agency cooperation to date. For additional information please contact Kathy Duttenhefner at (701-328-5370 or kgduttenhefner@nd.gov). Thank you for the opportunity to comment on this proposed project.

Sincerely,

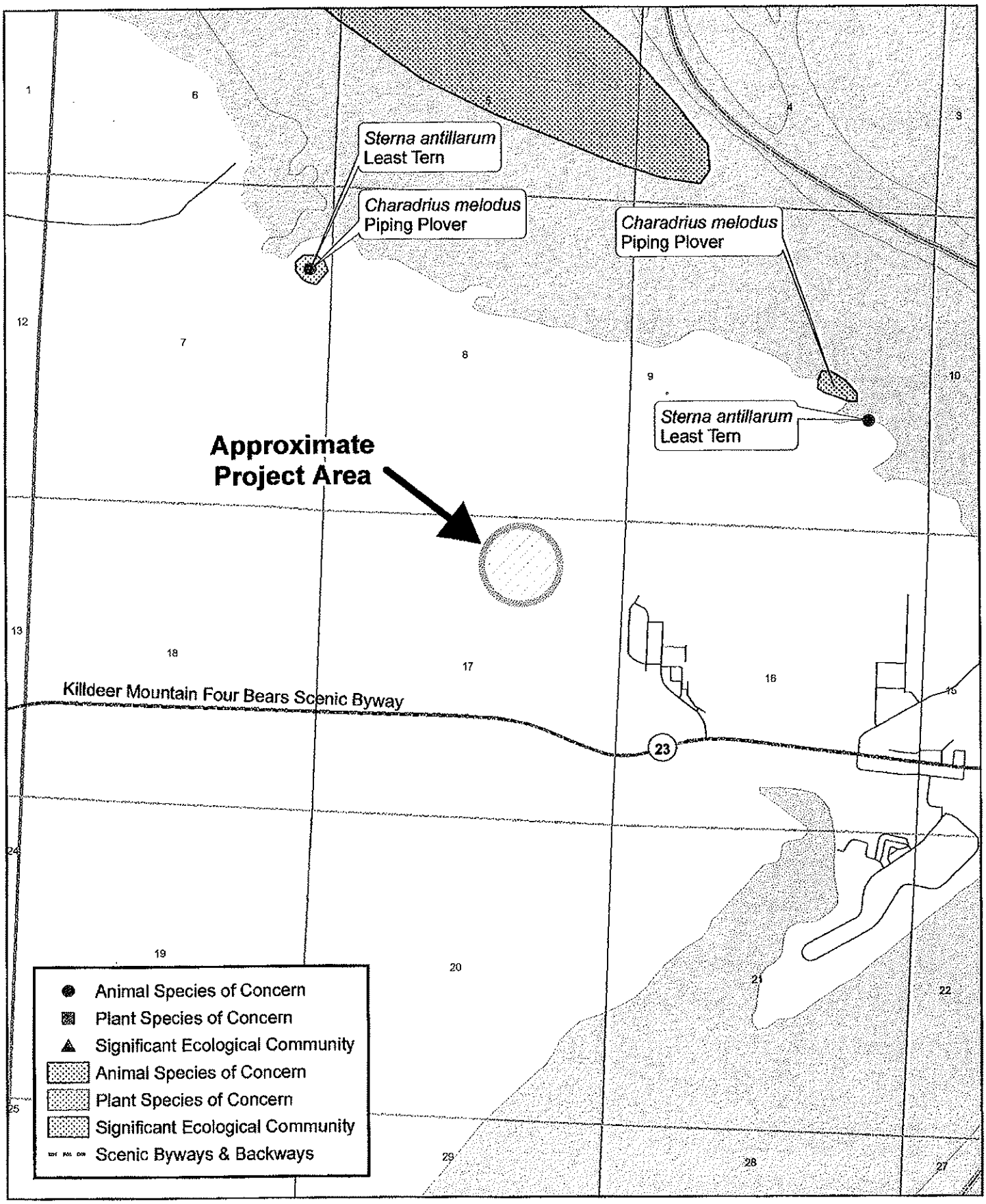
for Kathy Duttenhefner

Jesse Hanson, Manager
Planning and Natural Resource Division

R.USNDNHI*2012-182KD7/25/2012DL7.12.2012

Play in our backyard!

North Dakota Parks and Recreation Department
North Dakota Natural Heritage Inventory



July 2012

North Dakota Natural Heritage Inventory

Rare Animal and Plant Species and Significant Ecological Communities

State Scientific Name	State Common Name	State Rank	Global Rank	Federal Status	Township Range Section	County	Last Observation	Estimated Representation Accuracy	Precision
Charadrius melodus	Piping Plover	S1S2	G3	LE, LT	152N093W - 07	McKenzie	1988	Medium	S
Charadrius melodus	Piping Plover	S1S2	G3	LE, LT	152N093W - 09	McKenzie	1996	Medium	S
Sterna antillarum	Least Tern	S1	G4		152N093W - 07	McKenzie	1988-07	Medium	S
Sterna antillarum	Least Tern	S1	G4		152N093W - 09	McKenzie	1990-07	Medium	S

North Dakota Natural Heritage Inventory Biological and Conservation Data Disclaimer

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

Estimated Representation Accuracy

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

Very high (>95%)
High (>80%, <= 95%)
Medium (>20%, <= 80%)
Low (>0%, <= 20%)
Unknown
(null) - Not assessed

Precision

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

S - Seconds: accuracy of locality mappable within a three-second radius; 100 meters from the centerpoint
M - Minute: accuracy of locality mappable within a one-minute radius; 2 km from the centerpoint
G - General: accuracy of locality mappaibe to map or place name precision only; 8 km from centerpoint
U - Unmappable

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

July 17, 2012

Mike Huffington
Kadrmas, Lee and Jackson
PO Box 9767
Fargo, ND 58106-9767

Dear Mr. Huffington:

This is in response to your request for review of environmental impacts associated with the Marathon Oil Company, Foolish Bear USA Four – Well Pad, Fort Berthold Reservation, McKenzie County, North Dakota. The proposed well pad is proposed to be positioned in Section 17, Township 152 North, Range 93 West, 5th P.M. and contain the following wells: Foolish Bear USA 11-16-TFH, Foolish Bear USA 12-16H; Foolish Bear USA 12-16TFH, and Foolish Bear USA 13-16H.

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

- There are no floodplains identified and/or mapped where this proposed project is to take place. The project takes place in an unmapped county. No floodplain permits are necessary from McKenzie County relative to the National Flood Insurance Program.

- 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 701-328-4967.

Sincerely,

Linda Weispfenning
Water Resource Planner

LW:dp/1570
Encls.

United States Department of the Interior

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

IN REPLY REFER TO:
DESCRM
MC-208

SEP 2 1 2012

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

Dear Mr. Crows Breast:

We have considered the potential effects on cultural resources of two oil well pad projects in Dunn and McKenzie Counties, North Dakota. Approximately 124 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the areas depicted in the enclosed reports. Four archaeological sites (32MZ2340, 32MZ2341, 32MZ2342, 32MZ2343) were located that may possess the quality of integrity and meet at least one of the criteria (36 C.F.R. § 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 U.S.C. § 1996 [1994]).

As the surface management agency, and as provided for in 36 C.F.R. § 800.5 (2005), we have reached a determination of **no historic properties affected** for these undertakings, as the archaeological sites will be avoided. Catalogued as **BIA Case Number AAO-3027/FB/12**, the proposed undertakings, locations, and project dimensions are described in the following reports:

Asbury, Sophia L.
(2012) Hale USA 11-26H Well Pad and Access Road: A Class III Cultural Resource Inventory in Dunn County, North Dakota. KLJ Cultural Resources for Marathon Oil Company, Dickinson, ND.

Klinner, Duane
(2012) Foolish Bear USA 12-16H Well Pad and Access Road: A Class III Cultural Resource Inventory in McKenzie County, North Dakota. KLJ Cultural Resources for Marathon Oil Company, Dickinson, ND.

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

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

Sincerely,

Acting Tim LaPointe
Regional Director

Enclosures

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

Appendix C

Well Pad Plats

WELL LOCATION PLAT

Marathon Oil Company

3172 Hwy 22 North, Dickinson, North Dakota 58601

DCFH USA 12-16TFH

982 feet from the north line and 1709 feet from the east line (surface location)

Section 17, T. 152 N., R. 93 W., 5th P.M.

1980 feet from the north line and 250 feet from the east line (bottom location)

Section 15, T. 152 N., R. 93 W., 5th P.M.

McKenzie County, North Dakota

Surface owner @ well site – 1853–A

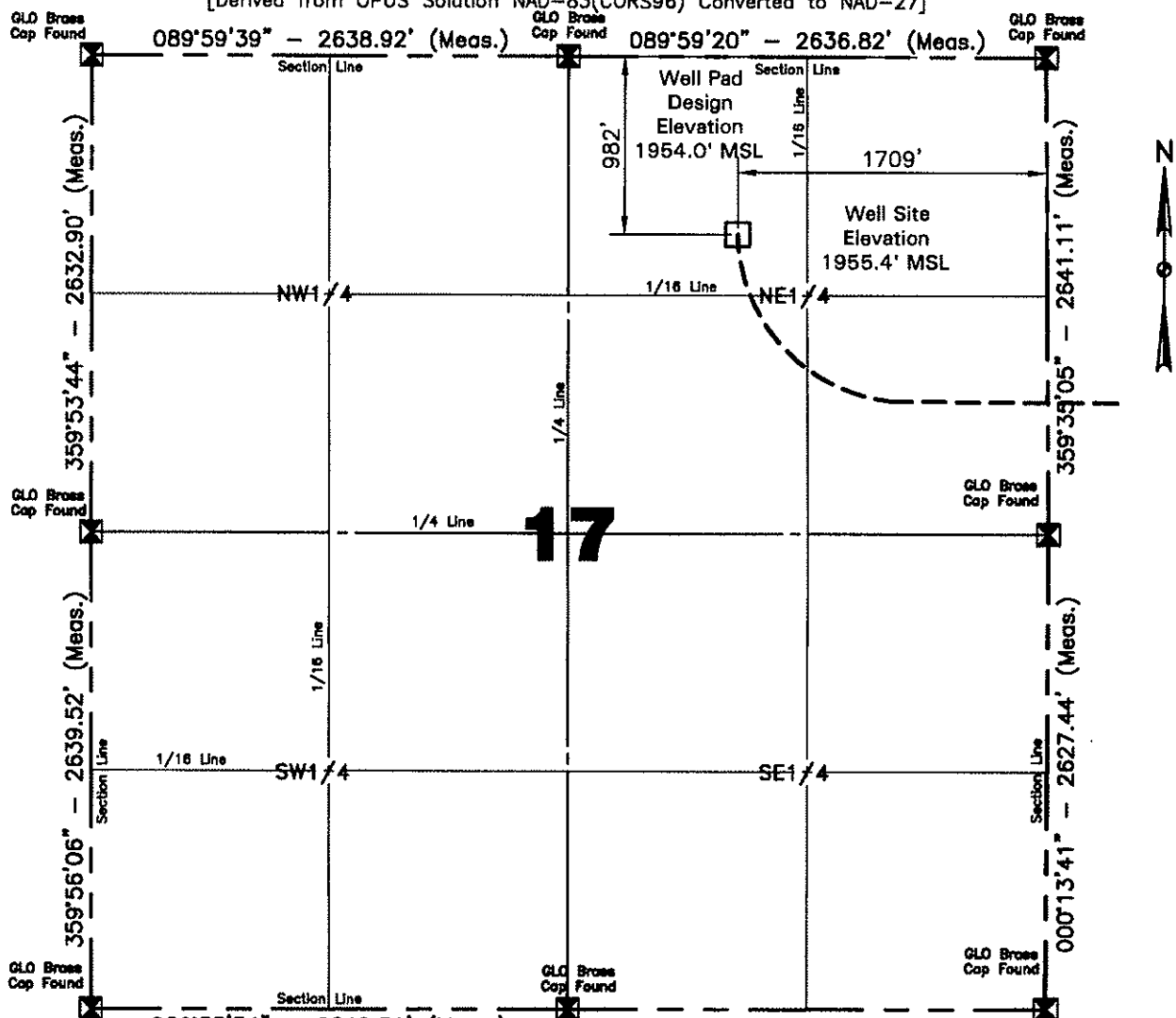
NAD 83 Latitude 47°59'22.144" North; Longitude 102°36'26.675" West (surface location)

NAD 27 Latitude 47°59'22.082" North; Longitude 102°36'25.015" West (surface location)

NAD 83 Latitude 47°59'12.559" North; Longitude 102°33'30.041" West (bottom location)

NAD 27 Latitude 47°59'12.501" North; Longitude 102°33'28.386" West (bottom location)

[Derived from OPUS Solution NAD–83(CORS96) Converted to NAD–27]



Confidentiality Notice: The information contained on this plat is legally privileged and confidential information intended only for the use of recipients. If you are not the intended recipients, you are hereby notified that any use, dissemination, distribution or copying of this information is strictly prohibited.

NOTE:
All corners shown on this plat were found in the field during Marathon Oil Company DCFH USA 12-16TFH oil well survey on April 5, 2012. Distances to all others are calculated. The azimuths shown on this plat are grid, based upon **Geodetic North** derived from GPS measurements at the center of the project origin located at RTK*CP Section 14, Latitude 47°58'39.586" North; Longitude 102°39'53.906" West. Azimuths represent the calculated value from the central meridian using the forward ing. The well location shown hereon is not an as-built location.

I, Quentin Obrigewitsch, Professional Land Surveyor, N.D. No. 5999, do hereby certify that the survey plat shown hereon was made by me, or under my direction, from notes made in the field, and the same is true and correct to the best of my knowledge and belief.

Scale 1"=1000'

Justin Semerad — 4/5/2012

Surveyed By — Date

REGISTERED LAND SURVEYOR QUENTIN OBRIGEWITSCH LS-5999 DATE 8/13/12 NORTH DAKOTA

Vertical Control Datum Used
North American Vertical Datum 1988 (NAVD 88)
Based on elevation derived from OPUS Solution on RTK*CP Sec. 14 (iron rebar) Located a distance of 11,779.77' on an azimuth of 243°20'55" from the NW corner of Section 17 T.152N., R.93W., 5th P.M. being at 2082.96' Elevation MSL.

Professional Consulting Engineers and Surveyors
Registered in
North Dakota, South Dakota
Montana, Wyoming & Minnesota
Tele-Fax No. 701-483-2795
Bus. Phone No. 701-483-1284
P.O. Box 290
677 27th Ave. East
Dickinson, North Dakota 58602
Certificate of Authorization #C-061

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Project No.	3712987
Book OW–289 Pg. 16–18	Staking

Aug 08, 2012 – 3:26pm – J:\oilfield\Marathon Oil\3712987\CADD\3712987BAS01.dwg

© Kadrmas, Lee & Jackson 2012

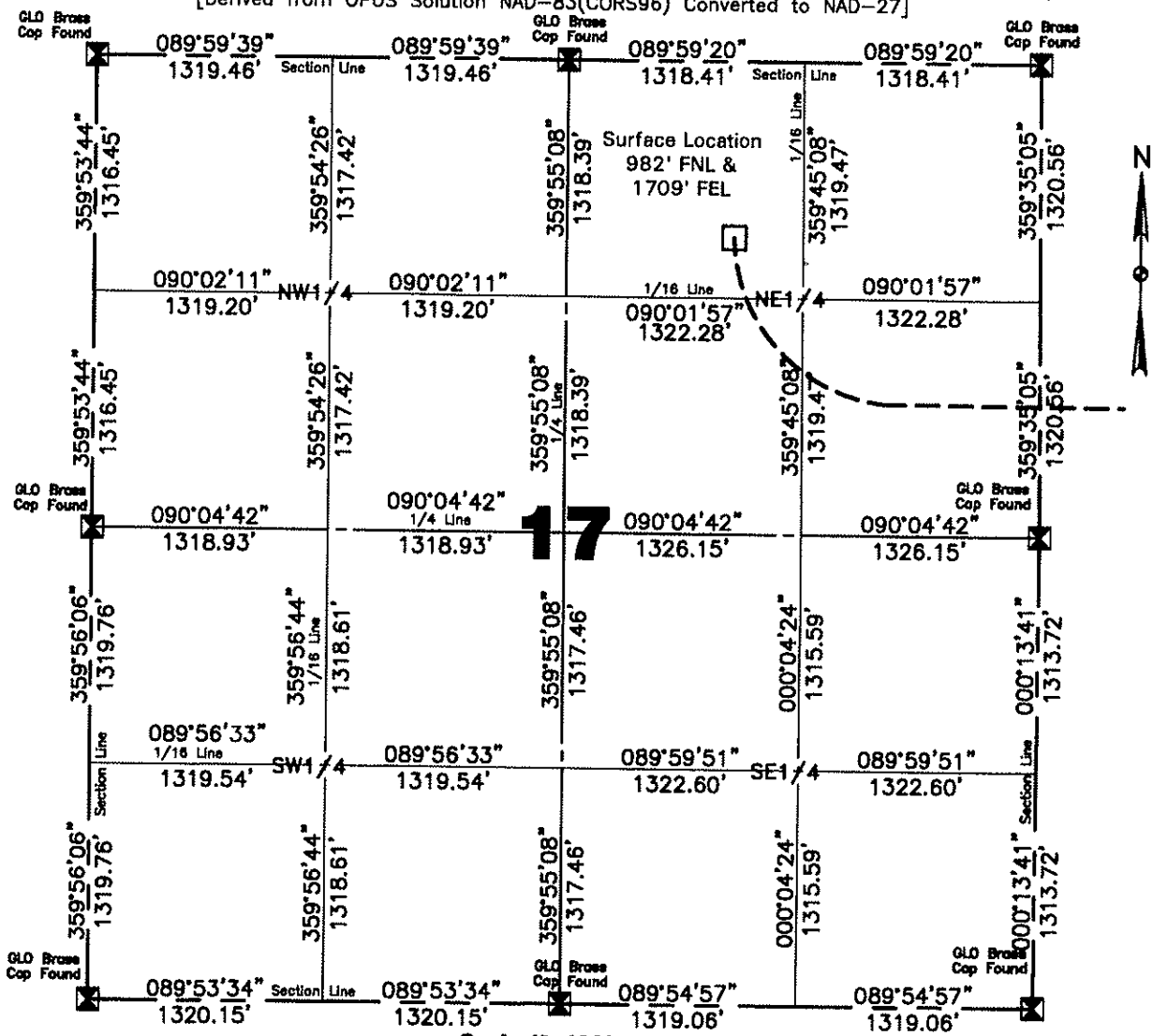
HORIZONTAL SECTION PLAT

Marathon Oil Company
3172 Hwy 22 North, Dickinson, North Dakota 58601

DCFH USA 12-16TFH

982 feet from the north line and 1709 feet from the east line (surface location)
Section 17, T. 152 N., R. 93 W., 5th P.M.
1980 feet from the north line and 250 feet from the east line (bottom location)
Section 15, T. 152 N., R. 93 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site – 1853–A

NAD 83 Latitude 47°59'22.144" North; Longitude 102°36'26.675" West (surface location)
NAD 27 Latitude 47°59'22.082" North; Longitude 102°36'25.015" West (surface location)
NAD 83 Latitude 47°59'12.559" North; Longitude 102°33'30.041" West (bottom location)
NAD 27 Latitude 47°59'12.501" North; Longitude 102°33'28.386" West (bottom location)
[Derived from OPUS Solution NAD–83(CORS96) Converted to NAD–27]



Scale 1"=1000'

Confidentiality Notice: The information contained on this plat is legally privileged and confidential information intended only for the use of recipients. If you are not the intended recipients, you are hereby notified that any use, dissemination, distribution or copying of this information is strictly prohibited.

I, Quentin Obrigewitsch, Professional Land Surveyor, N.D. No. 5999, do hereby certify that the survey plat shown hereon was made by me, or under my direction, from notes made in the field, and the same is true and correct to the best of my knowledge and belief.

REGISTERED LAND SURVEYOR
QUENTIN OBRIGEWITSCH
LS-5999
DATE 8/13/12
NORTH DAKOTA

NOTE:
All corners shown on this plat were found in the field during Marathon Oil Company DCFH USA 12-16TFH oil well survey on April 5, 2012. Distances to all others are calculated. The azimuths shown on this plat are grid, based upon **Geodetic North** derived from GPS measurements at the center of the project origin located at RTK*CP Section 14, Latitude 47°58'39.586" North; Longitude 102°39'53.906" West. Azimuths represent the calculated value from the central meridian using the forward ing. The well location shown hereon is not an as-built location.

Surveyed By	Field Book
Justin Semerad	OW–289
Computed & Drawn By	**Project No.**
R.C./J.L.	3712987

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Aug 10, 2012 – 11:04am – J:\oilfield\Marathon Oil\3712987\CADD\3712987BAS01.dwg

© Kadrmas, Lee & Jackson 2012

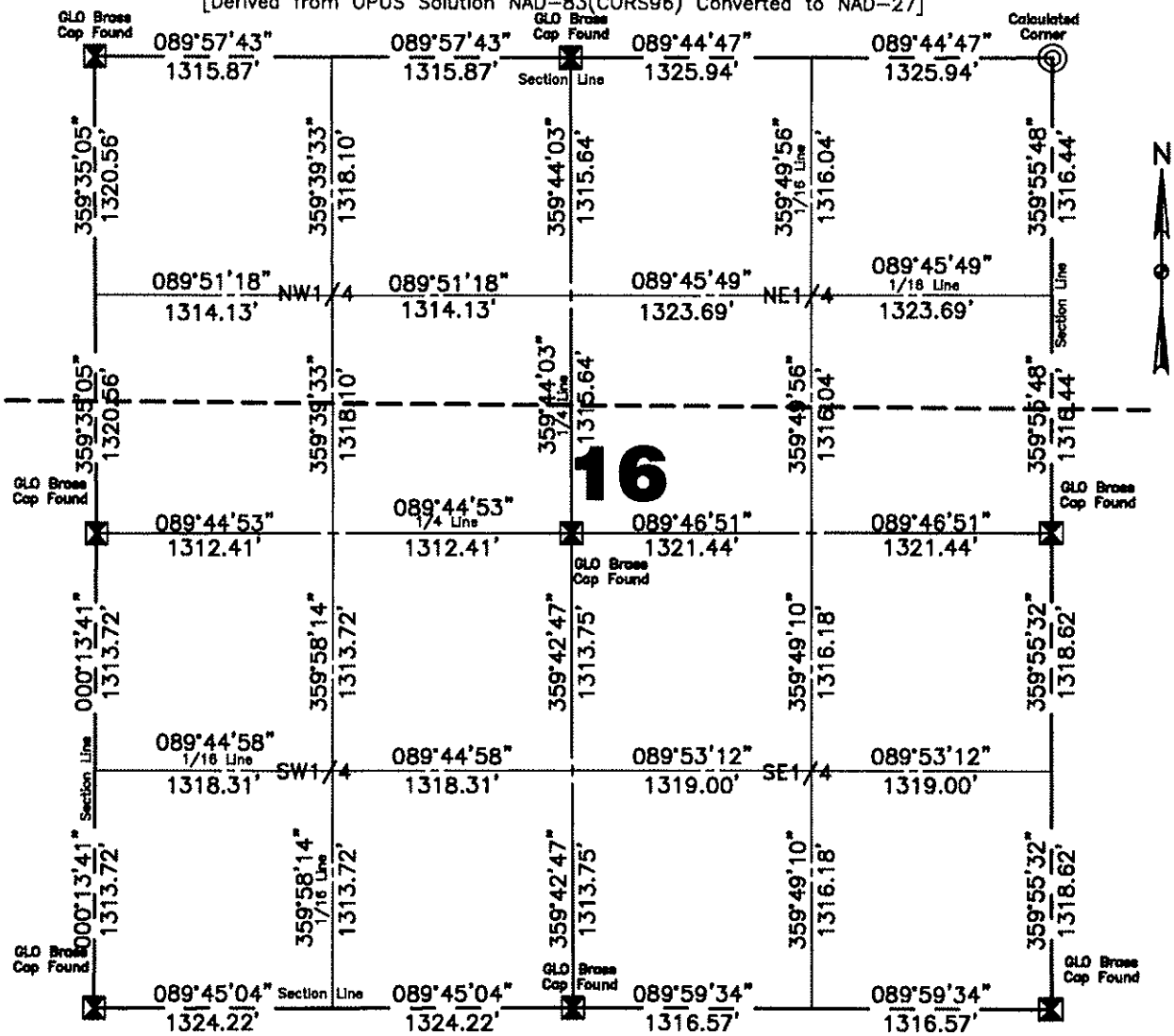
HORIZONTAL SECTION PLAT

Marathon Oil Company
3172 Hwy 22 North, Dickinson, North Dakota 58601

DCFH USA 12-16TFH

982 feet from the north line and 1709 feet from the east line (surface location)
Section 17, T. 152 N., R. 93 W., 5th P.M.
1980 feet from the north line and 250 feet from the east line (bottom location)
Section 15, T. 152 N., R. 93 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site – 1853-A

NAD 83 Latitude 47°59'22.144" North; Longitude 102°36'26.675" West (surface location)
NAD 27 Latitude 47°59'22.082" North; Longitude 102°36'25.015" West (surface location)
NAD 83 Latitude 47°59'12.559" North; Longitude 102°33'30.041" West (bottom location)
NAD 27 Latitude 47°59'12.501" North; Longitude 102°33'28.386" West (bottom location)
[Derived from OPUS Solution NAD-83(CORS96) Converted to NAD-27]



Scale 1"=1000'

Confidentiality Notice: The information contained on this plat is legally privileged and confidential information intended only for the use of recipients. If you are not the intended recipients, you are hereby notified that any use, dissemination, distribution or copying of this information is strictly prohibited.

I, Quentin Obrigewitsch, Professional Land Surveyor, N.D. No. 5999, do hereby certify that the survey plat shown hereon was made by me, or under my direction, from notes made in the field, and the same is true and correct to the best of my knowledge and belief.

NOTE:
All corners shown on this plat were found in the field during Marathon Oil Company DCFH USA 12-16TFH oil well survey on April 5, 2012. Distances to all others are calculated. The azimuths shown on this plat are grid, based upon **Geodetic North** derived from GPS measurements at the center of the project origin located at RTK*CP Section 14, Latitude 47°58'39.586" North; Longitude 102°39'53.906" West. Azimuths represent the calculated value from the central meridian using the forward ing. The well location shown hereon is not an as-built location.

REGISTERED LAND SURVEYOR
QUENTIN OBRIGEWITSCH
LS-5999
DATE 8/13/12
NORTH DAKOTA

Surveyed By	Field Book
Justin Semerad	OW-289
Computed & Drawn By	**Project No.**
R.C./J.L.	3712987

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Aug 08, 2012 – 3:26pm – J:\oilfield\Marathon Oil\3712987\CADD\3712987BAS01.dwg

© Kadrmas, Lee & Jackson 2012

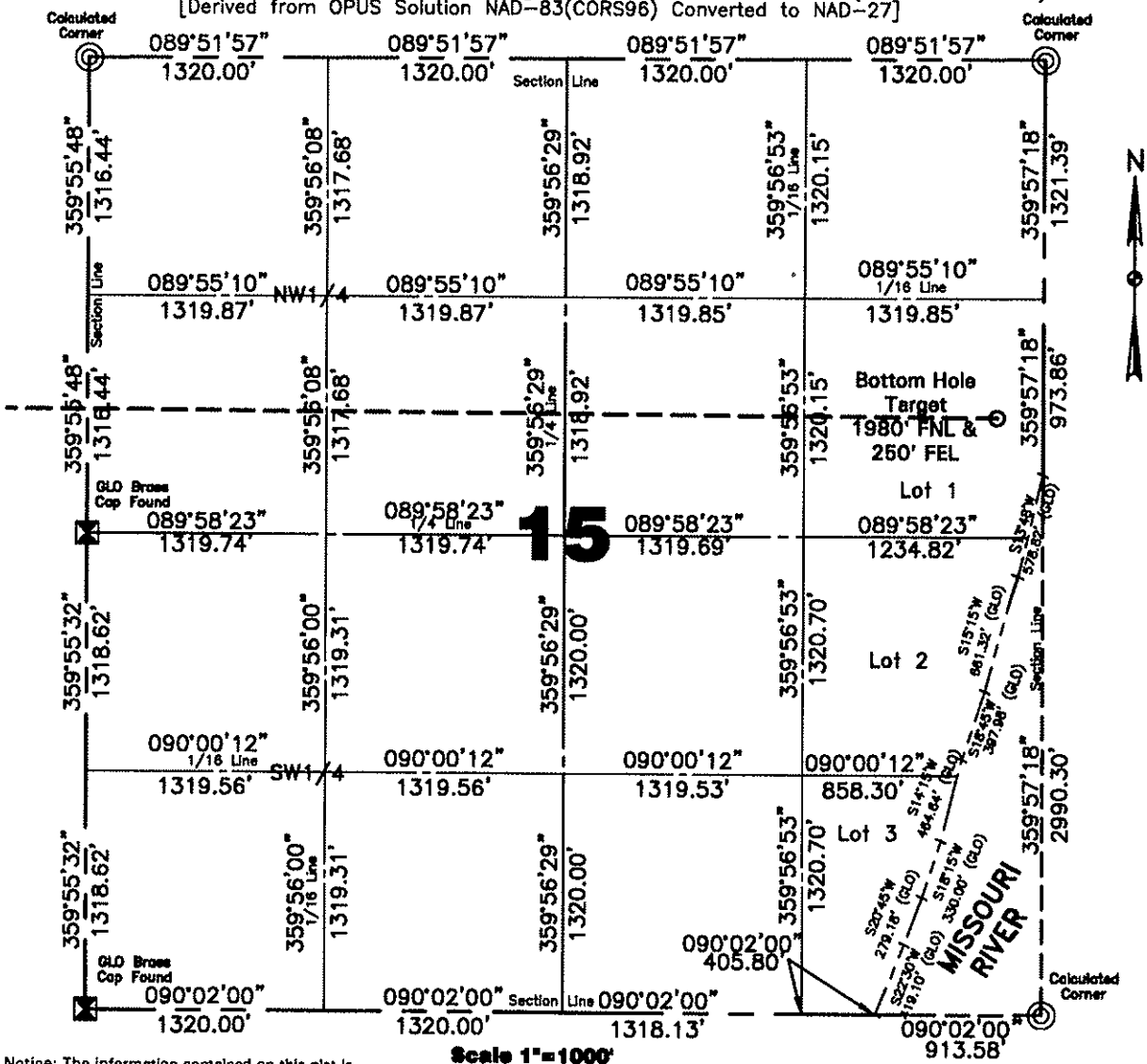
HORIZONTAL SECTION PLAT

Marathon Oil Company
3172 Hwy 22 North, Dickinson, North Dakota 58601

DCFH USA 12-16TFH

982 feet from the north line and 1709 feet from the east line (surface location)
Section 17, T. 152 N., R. 93 W., 5th P.M.
1980 feet from the north line and 250 feet from the east line (bottom location)
Section 15, T. 152 N., R. 93 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site – 1853-A

NAD 83 Latitude 47°59'22.144" North; Longitude 102°36'26.675" West (surface location)
NAD 27 Latitude 47°59'22.082" North; Longitude 102°36'25.015" West (surface location)
NAD 83 Latitude 47°59'12.559" North; Longitude 102°33'30.041" West (bottom location)
NAD 27 Latitude 47°59'12.501" North; Longitude 102°33'28.386" West (bottom location)
[Derived from OPUS Solution NAD-83(CORS96) Converted to NAD-27]



Scale 1"=1000'

Confidentiality Notice: The information contained on this plat is legally privileged and confidential information intended only for the use of recipients. If you are not the intended recipients, you are hereby notified that any use, dissemination, distribution or copying of this information is strictly prohibited.

I, Quentin Obrigewitsch, Professional Land Surveyor, N.D. No. 5999, do hereby certify that the survey plat shown hereon was made by me, or under my direction, from notes made in the field, and the same is true and correct to the best of my knowledge and belief.

NOTE:
All corners shown on this plat were found in the field during Marathon Oil Company DCFH USA 12-16TFH oil well survey on April 5, 2012. Distances to all others are calculated. The azimuths shown on this plat are grid, based upon **Geodetic North** derived from GPS measurements at the center of the project origin located at RTK*CP Section 14, Latitude 47°58'39.586" North; Longitude 102°39'53.906" West. Azimuths represent the calculated value from the central meridian using the forward ing. The well location shown hereon is not an as-built location.

REGISTERED LAND SURVEYOR
QUENTIN OBRIGEWITSCH
LS-5999
DATE 8/13/12
NORTH DAKOTA

Surveyed By	Field Book
Justin Semerad	OW-289
Computed & Drawn By	**Project No.**
R.C./J.L.	3712987

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Aug 08, 2012 – 3:26pm – J:\oilfield\Marathon Oil\3712987\CADD\3712987BAS01.dwg

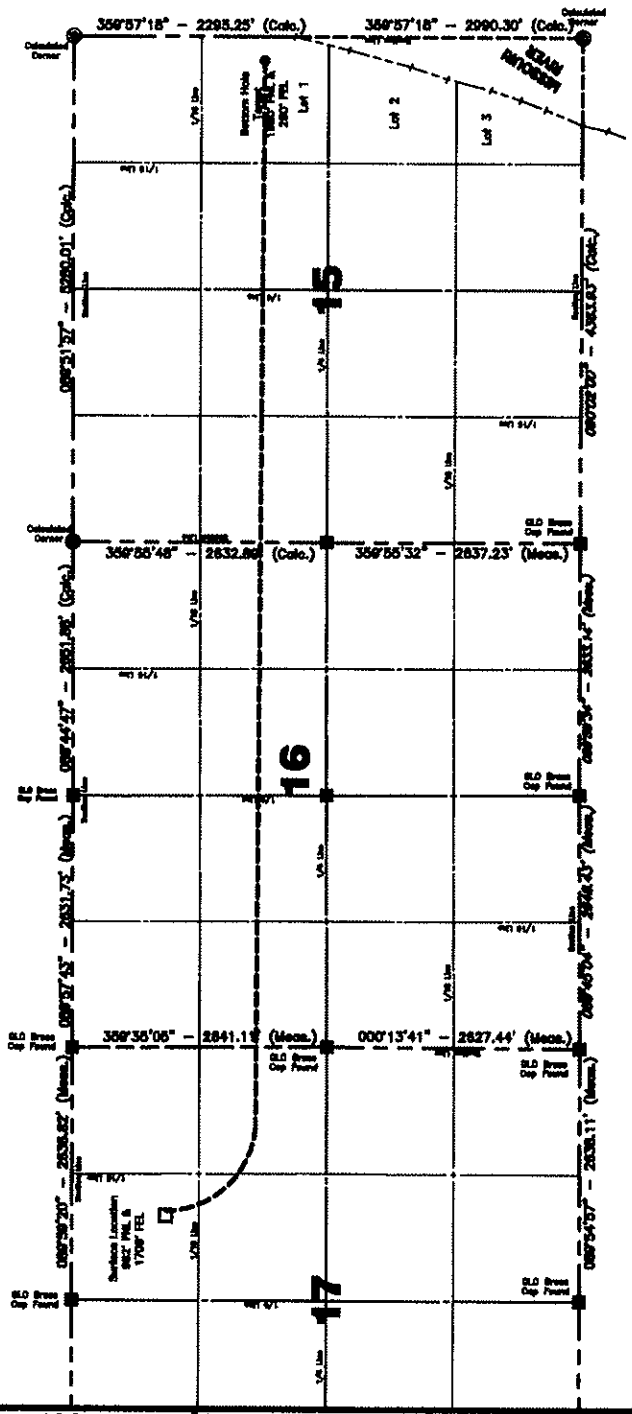
© Kadrmas, Lee & Jackson 2012

BOTTOM HOLE LOCATION PLAT

Marathon Oil Company
3172 Hwy 22 North, Dickinson, North Dakota 58601

DCFH USA 12-16TFH

982 feet from the north line and 1709 feet from the east line (surface location)
Section 17, T. 152 N., R. 93 W., 5th P.M.
1980 feet from the north line and 250 feet from the east line (bottom location)
Section 15, T. 152 N., R. 93 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site – 1853-A
NAD 83 Latitude 47°59'22.144" North; Longitude 102°36'26.675" West (surface location)
NAD 27 Latitude 47°59'22.082" North; Longitude 102°36'25.015" West (surface location)
NAD 83 Latitude 47°59'12.559" North; Longitude 102°33'30.041" West (bottom location)
NAD 27 Latitude 47°59'12.501" North; Longitude 102°33'28.386" West (bottom location)
[Derived from OPUS Solution NAD-83(CORS96) Converted to NAD-27]



NOTE:
All corners shown on this plat were found in the field during Marathon Oil Company DCFH USA 12-16TFH oil well survey on April 5, 2012. Distances to all others are calculated. The azimuths shown on this plat are grid, based upon Geodetic North derived from GPS measurements at the center of the project origin located at RTK*CP Section 14, Latitude 47°58'39.586" North; Longitude 102°39'53.906" West. Azimuths represent the calculated value from the central meridian using the forward ing. The well location shown hereon is not an as-built location.

Confidentiality Notice: The information contained on this plat is legally privileged and confidential information intended only for the use of recipients. If you are not the intended recipients, you are hereby notified that any use, dissemination, distribution or copying of this information is strictly prohibited.

N

Scale 1"=2000'

I, Quentin Obrigewitsch, Professional Land Surveyor, N.D. No. 5999, do hereby certify that the survey plat shown hereon was made by me, or under my direction, from notes made in the field, and the same is true and correct to the best of my knowledge and belief.

REGISTERED LAND SURVEYOR
QUENTIN OBRIGEWITSCH
LS-5999
DATE 8/13/12
NORTH DAKOTA

Computed & Drawn By	Surveyed By	Approved By	Scale	Date
R.C./J.L.	Justin Semerad	Q. Obrigewitsch	1"=2000'	8/8/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-289	B.H. Layout	–	3712987	5

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Aug 08, 2012 – 3:27pm – J:\oilfield\Marathon Oil\3712987\CADD\3712987BAS01.dwg

© Kadrmas, Lee & Jackson 2012

Marathon Oil Company
DCFH USA 12-16TFH
Section 17, T 152 N, R 93 W, 5th P.M.
McKenzie County, North Dakota

Well Site Elevation	1955.4' MSL
Well Pad Elevation	1954.0' MSL

Excavation	39,870 C.Y.
Plus Pit–150' x 70'	3,540 C.Y.
Plus Pit–90' x 50'	1,160 C.Y.
Plus Pit–90' x 50'	1,160 C.Y.
	45,730 C.Y.
Embankment	23,430 C.Y.
Plus Shrinkage (+30%)	7,030 C.Y.
	30,460 C.Y.
Stockpile Pit–150' x 70'	3,540 C.Y.
Stockpile Pit–90' x 50'	1,160 C.Y.
Stockpile Pit–90' x 50'	1,160 C.Y.
Stockpile Top Soil (8")	6,365 C.Y.
Road Embankment & Stockpile from Pad	3,045 C.Y.
Disturbed Area From Pad – 1853–A	5.92 Acres
Area Inside Barbed Wire Fence–Drilling – 1853–A	8.75 Acres
Area Inside Barbed Wire Fence – Production – 1853–A	5.00 Acres

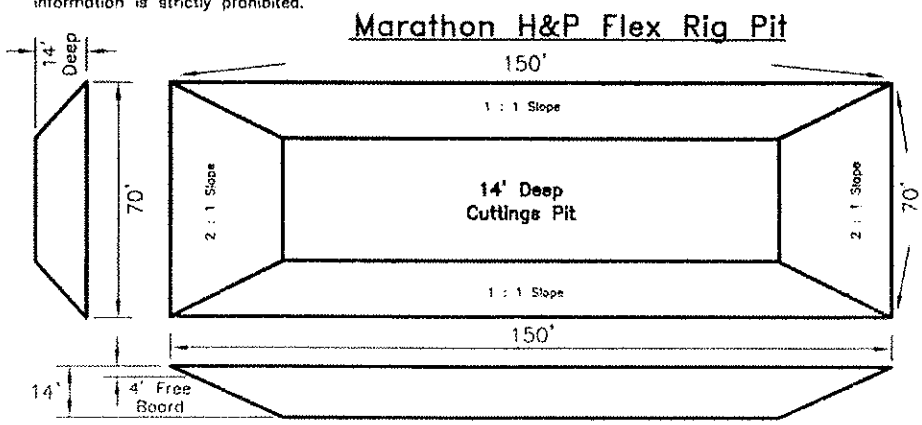
NOTE:
- All Fill End Slopes Are Designed With 2:1 Slopes To Be Seeded With S31 Erosion Control Blanket Installed.
- All Cut End Slopes Are Designed With 2:1 Slopes
- Build Water Diversion Trench With Berm Along Cut Slopes.
- All Stockpiles Are To Be Built At 2:1 Slopes.

Confidentiality Notice:
The information contained on this plat is legally privileged and confidential information intended only for the use of recipients. If you are not the intended recipients, you are hereby notified that any use, dissemination, distribution or copying of this information is strictly prohibited.

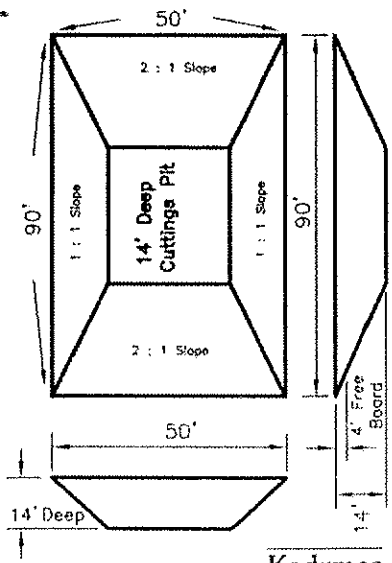
DCFH USA 12–16TFH

982' FNL
1709' FEL

Marathon H&P Flex Rig Pit



Additional Pit



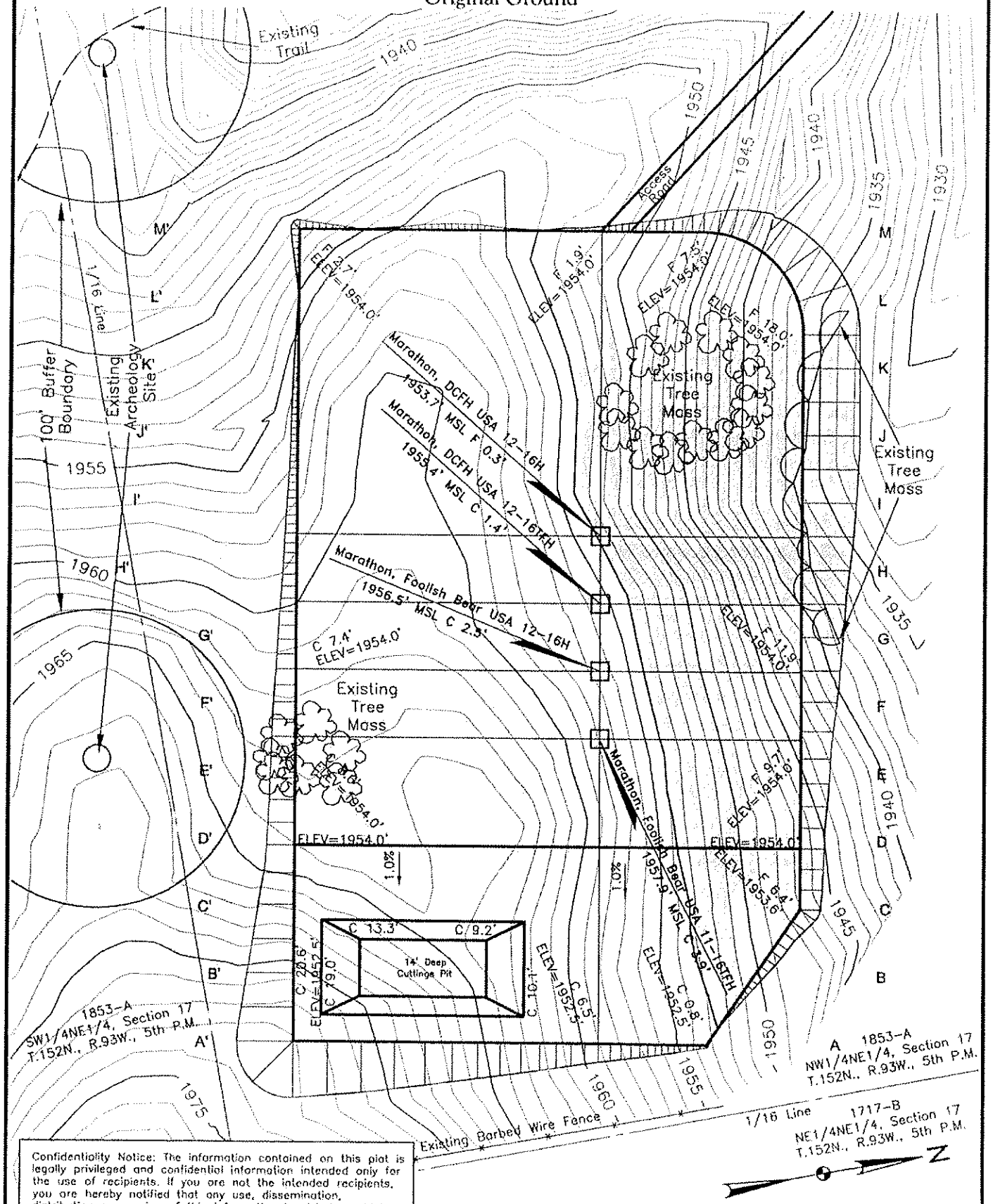
Drawn By	Surveyed By	Approved By	Scale	Date
R.C./J.L.	Justin Semerad	Q. Obrigewitsch	None	7/26/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW–289	Quantities	9/22/2012	3712987	6

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Sep 22, 2012 – 10:39am – J:\oilfield\Marathon Oil\3712987\CADD\3712987BAS02.dwg

© Kadrmas, Lee & Jackson 2012

DCFH USA 12-16TFH
Original Ground



Confidentiality Notice: The information contained on this plat is legally privileged and confidential information intended only for the use of recipients. If you are not the intended recipients, you are hereby notified that any use, dissemination, distribution or copying of this information is strictly prohibited.

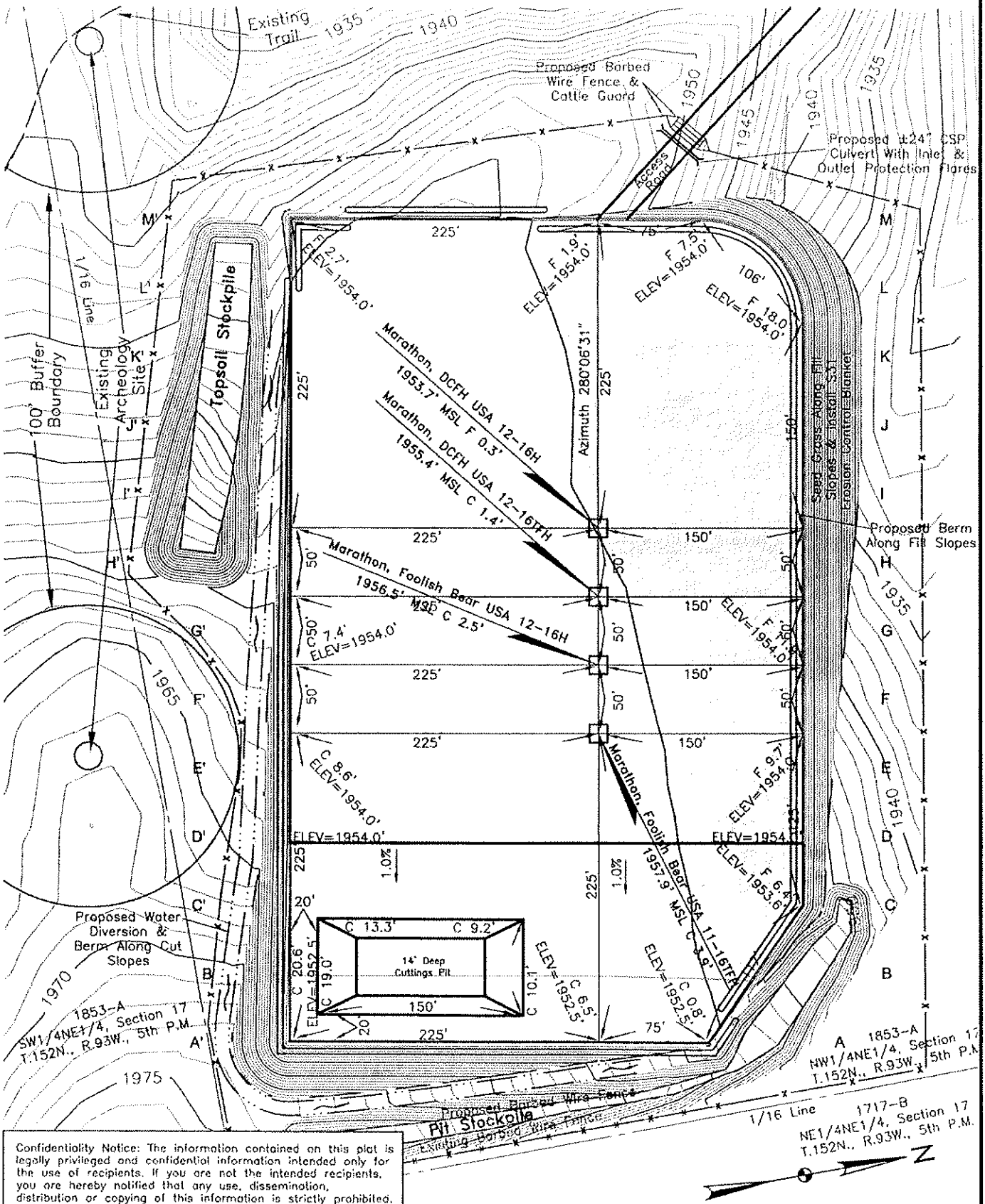
Drawn By	Surveyed By	Approved By	Scale	Date
R.C./J.L.	Justin Semerad	Q. Obrigewitsch	1"=100'	7/26/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-289	Original Ground	9/22/2012	3712987	7

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Sep 22, 2012 - 10:39am - J:\oilfield\Marathon Oil\3712987\CADD\3712987BASO2.dwg

© Kadrmas, Lee & Jackson 2012

DCFH USA 12-16TFH
Pad Layout



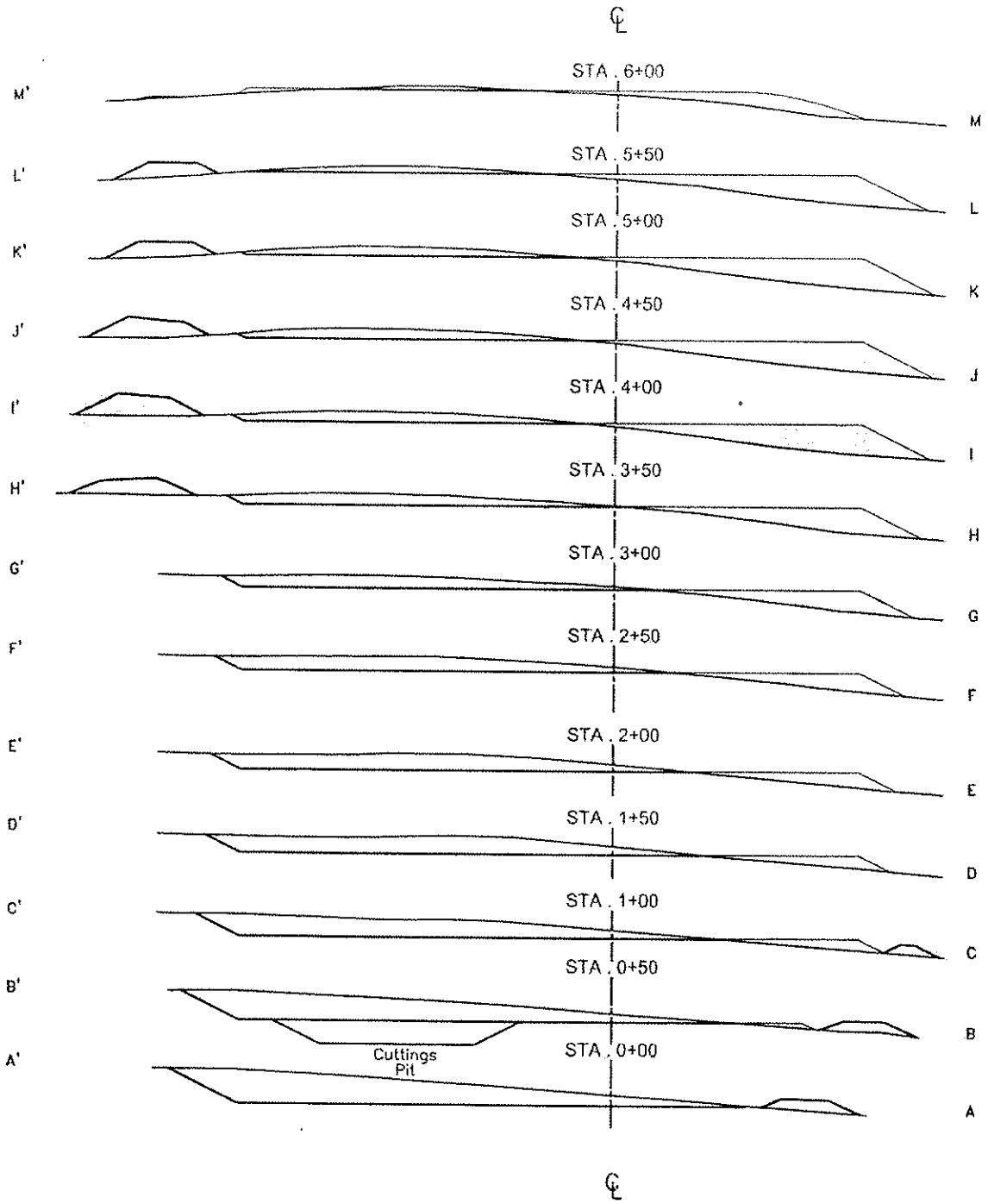
Confidentiality Notice: The information contained on this plat is legally privileged and confidential information intended only for the use of recipients. If you are not the intended recipients, you are hereby notified that any use, dissemination, distribution or copying of this information is strictly prohibited.

Drawn By	Surveyed By	Approved By	Scale	Date
R.C./J.L.	Justin Semerad	Q. Obrigewitsch	1"=100'	7/26/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-289	Pad Layout	9/22/2012	3712987	8

Kadrmas Lee & Jackson
Engineers Surveyors Planners

© Kadrmas, Lee & Jackson 2012

DCFH USA 12-16TFH
Cross Sections



Confidentiality Notice: The information contained on this plat is legally privileged and confidential information intended only for the use of recipients. If you are not the intended recipients, you are hereby notified that any use, dissemination, distribution or copying of this information is strictly prohibited.

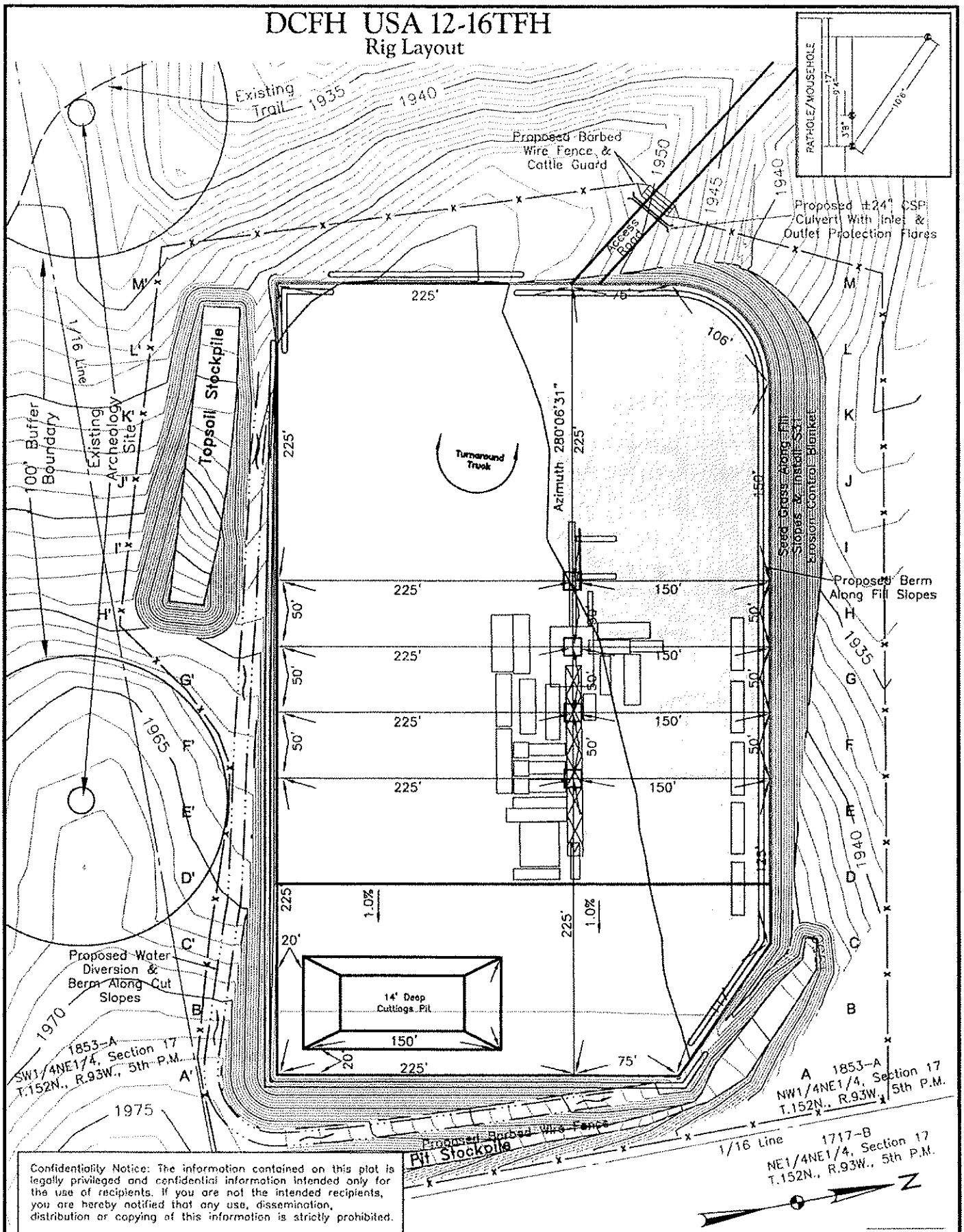
Drawn By	Surveyed By	Approved By	Scale	Date
R.C./J.L.	Justin Semerad	Q. Obrigewitsch	1"=100'	7/26/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-289	Cross Sections	9/22/2012	3712987	9

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Sep 22, 2012 – 10:39am – J:\oilfield\Marathon Oil\3712987\CADD\3712987BAS02.dwg

© Kadrmas, Lee & Jackson 2012

DCFH USA 12-16TFH
Rig Layout



Confidentiality Notice: The information contained on this plat is legally privileged and confidential information intended only for the use of recipients. If you are not the intended recipients, you are hereby notified that any use, dissemination, distribution or copying of this information is strictly prohibited.

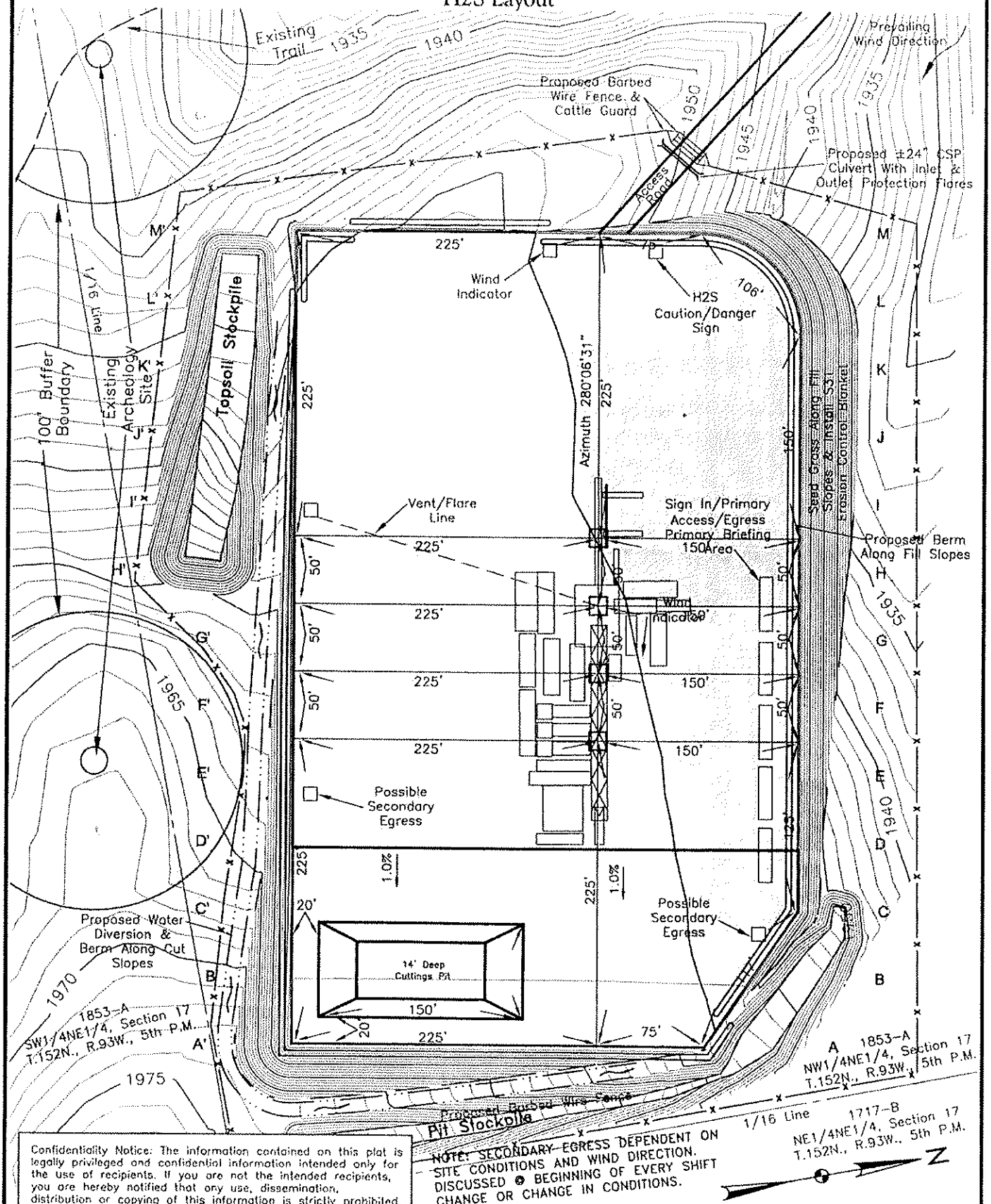
Drawn By	Surveyed By	Approved By	Scale	Date
R.C./J.L.	Justin Semerad	Q. Obrigewitsch	1"=100'	7/26/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-289	Rig Layout	9/22/2012	3712987	10

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Sep 22, 2012 - 10:39am - d:\oilfield\Marathon Oil\3712987\CADD\3712987BAS02.dwg

© Kadrmas, Lee & Jackson 2012

DCFH USA 12-16TFH
H2S Layout



Confidentiality Notice: The information contained on this plat is legally privileged and confidential information intended only for the use of recipients. If you are not the intended recipients, you are hereby notified that any use, dissemination, distribution or copying of this information is strictly prohibited.

NOTE: SECONDARY EGRESS DEPENDENT ON SITE CONDITIONS AND WIND DIRECTION. DISCUSSED @ BEGINNING OF EVERY SHIFT CHANGE OR CHANGE IN CONDITIONS.

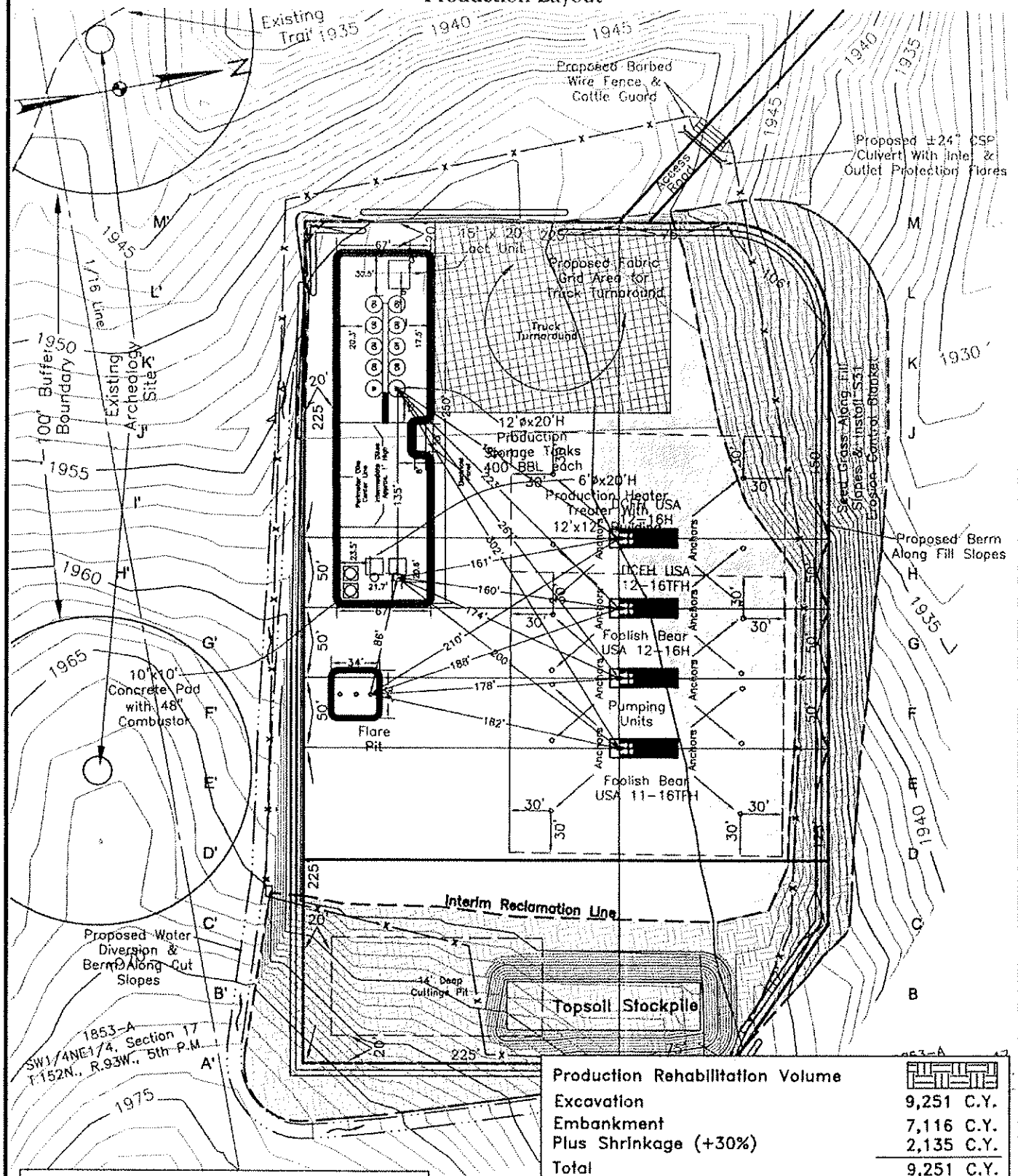
Drawn By	Surveyed By	Approved By	Scale	Date
R.C./J.L.	Justin Semerad	Q. Obrigewitsch	1"=100'	7/26/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-289	H2S Layout	9/22/2012	3712987	11

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Sep 22, 2012 - 10:39am - J:\oilfield\Marathon Oil\3712987\CADD\3712987BAS02.dwg

© Kadrmas, Lee & Jackson 2012

DCFH USA 12-16TFH
Production Layout



Production Rehabilitation Volume	
Excavation	9,251 C.Y.
Embankment	7,116 C.Y.
Plus Shrinkage (+30%)	2,135 C.Y.
Total	9,251 C.Y.
Reclaimed Area	2.16 Acres
Production Pad Area	3.76 Acres
Total Disturbed Area	5.92 Acres

Confidentiality Notice: The information contained on this plat is legally privileged and confidential information intended only for the use of recipients. If you are not the intended recipients, you are hereby notified that any use, dissemination, distribution or copying of this information is strictly prohibited.

Drawn By	Surveyed By	Approved By	Scale	Date
R.C./J.L.	Justin Semerad	Q. Obrigewitsch	1"=100'	7/26/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-289	Prod Layout	9/22/2012	3712987	12

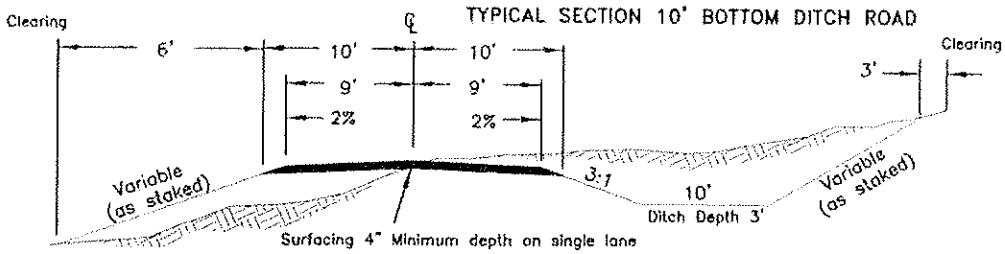
Kadrmas Lee & Jackson
Engineers Surveyors Planners

Sep 22, 2012 – 10:39am – J:\oilfield\Marathon Oil\3712987\CADD\3712987BAS02.dwg

© Kadrmas, Lee & Jackson 2012

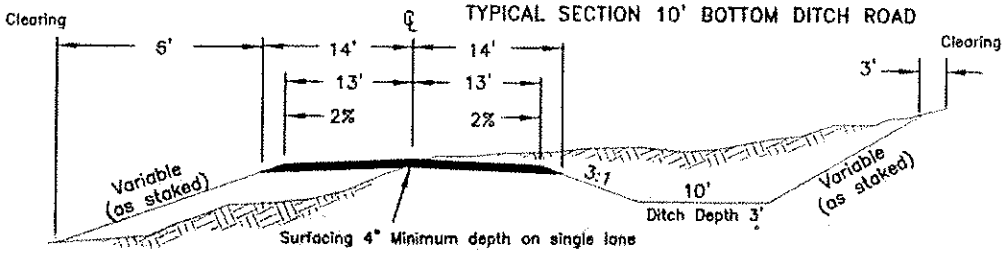
DCFH USA 12-16TFH

Roadway Typical Sections



TYPICAL "A"

No Scale



TYPICAL "B" SECTION LINE

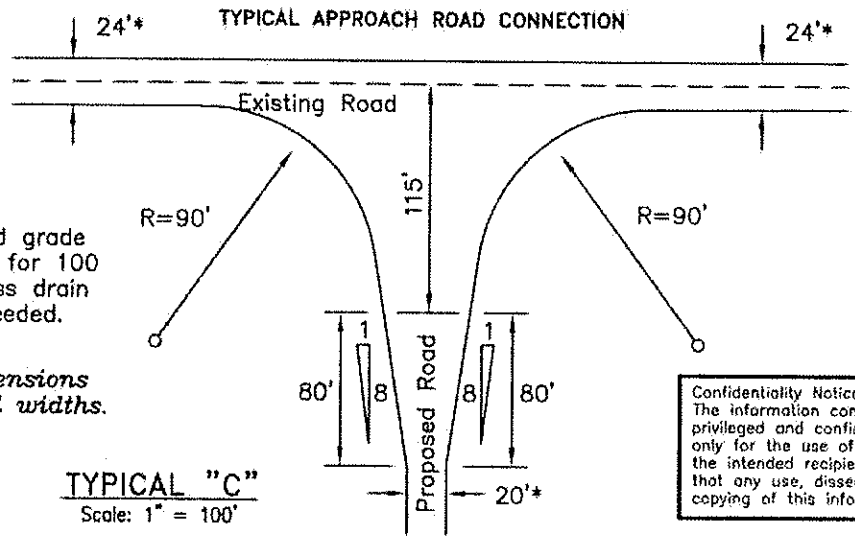
No Scale

FILL SLOPES
3:1 Under 4' Height
2:1 Over 4' Height
(–) Slopes steeper than 2:1 will be subject to FS approval

FILL WIDENING
2' to 5' high/add 1'
Over 5' high/add 2'

CURVE WIDENING
130 / R

CUT SLOPES
3:1 Under 10' height
2:1 10' to 20' height
(–) Variable over 20' height W/FS approval



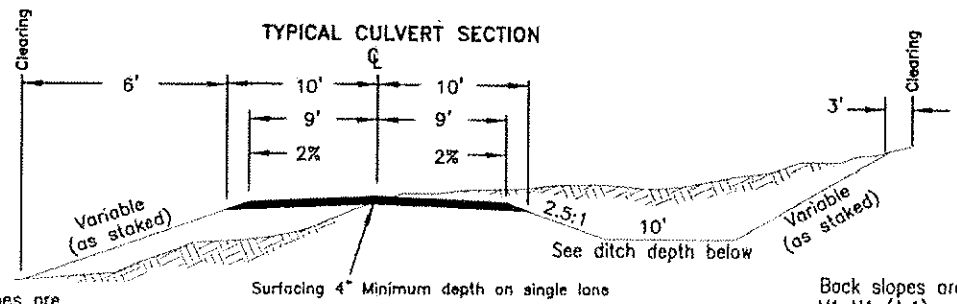
Approach road grade 2% maximum for 100 ft. Install cross drain pipe where needed.

NOTE: ****Dimensions are surfaced widths.***

TYPICAL "C"

Scale: 1" = 100'

Confidentiality Notice:
The information contained on this plat is legally privileged and confidential information intended only for the use of recipients. If you are not the intended recipients, you are hereby notified that any use, dissemination, distribution or copying of this information is strictly prohibited.



Ditch width shall be the larger of the following:
A. Standard ditch width
B. 2 times the pipe diameter
C. 4.25'

Ditch depth shall be:

CMP diameter	Ditch depth
18"	2.5'
24"	3.0'
36"	4.0'
48"	5.0'

Fill slopes are V1 H1.5 (1.5:1) or as staked

Back slopes are V1 H1 (1:1) or as staked

TYPICAL "D"

No Scale

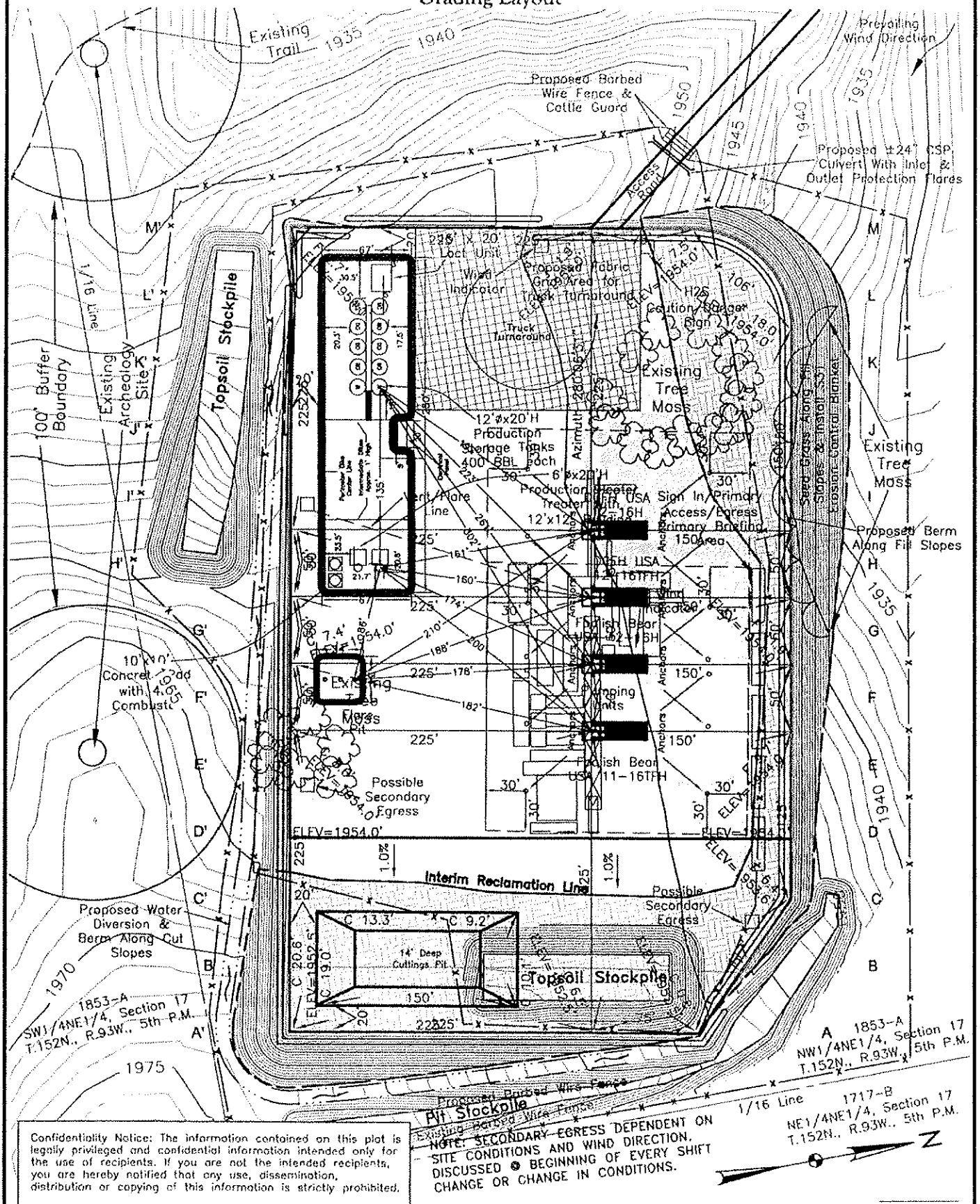
Drawn By	Surveyed By	Approved By	Scale	Date
R.C./J.L.	Justin Semerad	Q. Obrigewitsch	None	7/26/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-289	Road Typical	9/22/2012	3712987	13

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Sep 22, 2012 - 10:39am - J:\oilfield\Marathon Oil\3712987\CADD\3712987BA502.dwg

© Kadrmas, Lee & Jackson 2012

DCFH USA 12-16TFH
Grading Layout



NOTE: SECONDARY EGRESS DEPENDENT ON SITE CONDITIONS AND WIND DIRECTION. DISCUSSED @ BEGINNING OF EVERY SHIFT CHANGE OR CHANGE IN CONDITIONS.

Confidentiality Notice: The information contained on this plat is legally privileged and confidential information intended only for the use of recipients. If you are not the intended recipients, you are hereby notified that any use, dissemination, distribution or copying of this information is strictly prohibited.

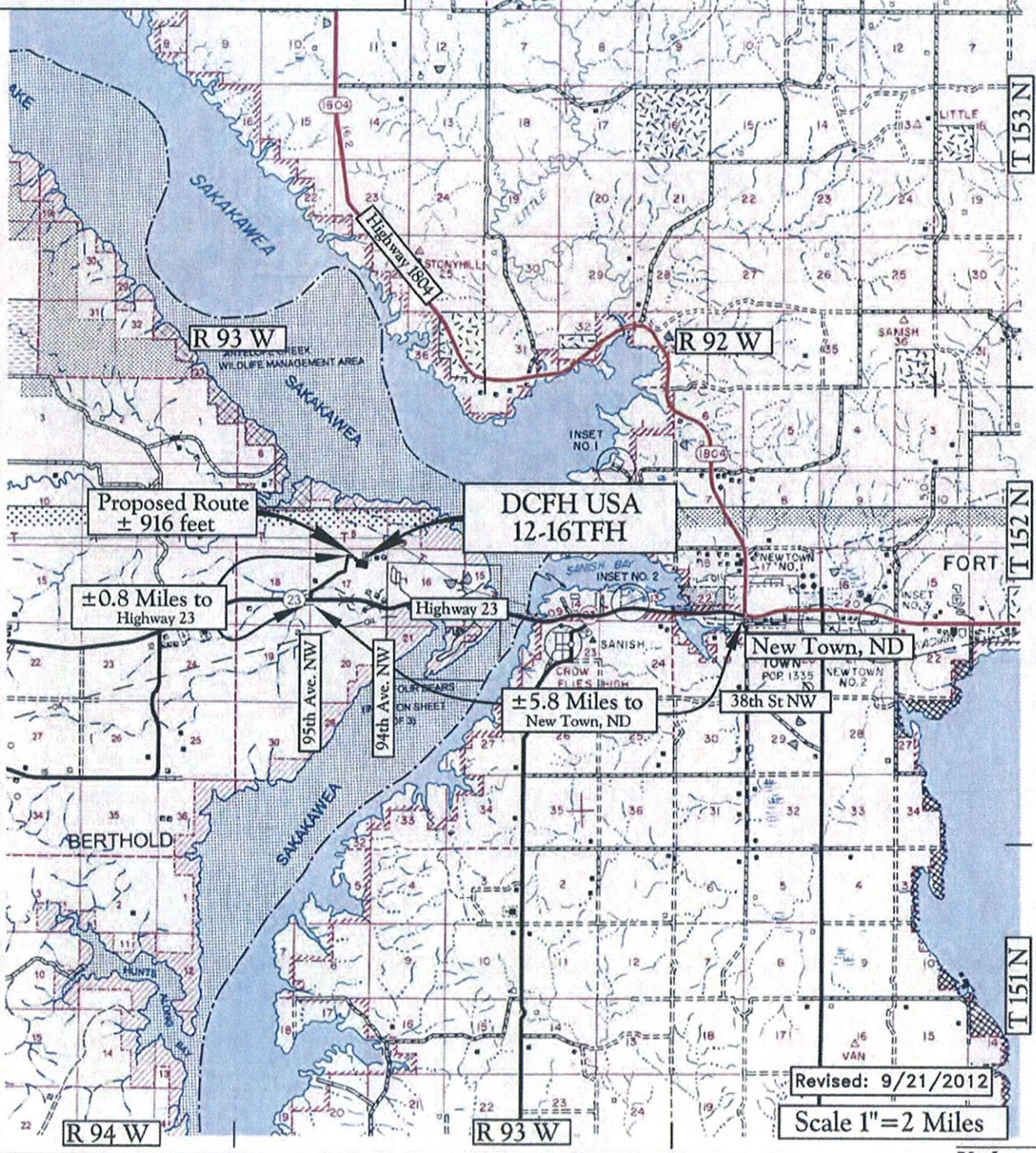
Drawn By	Surveyed By	Approved By	Scale	Date
R.C./J.L.	Justin Semerad	Q. Obrigewitsch	1"=100'	7/26/2012
Field Book	**Material**	**Revised**	**Project No.**	**Drawing No.**
OW-289	Grading Layout	9/22/2012	3712987	14

Kadrmas Lee & Jackson
Engineers Surveyors Planners

© Kadrmas, Lee & Jackson 2012

Marathon Oil Company
DCFH USA 12-16TFH
982' FNL & 1709' FEL
NW1/4NE1/4 Section 17
T.152N., R.93W., 5th P.M.
McKenzie County, ND

Confidentiality Notice: The information contained on this plat is legally privileged and confidential information intended only for the use of recipients. If you are not the intended recipients, you are hereby notified that any use, dissemination, distribution or copying of this information is strictly prohibited.



Map "A"
County Access Route

Legend

Existing Roads ————————

Proposed Roads — — — —

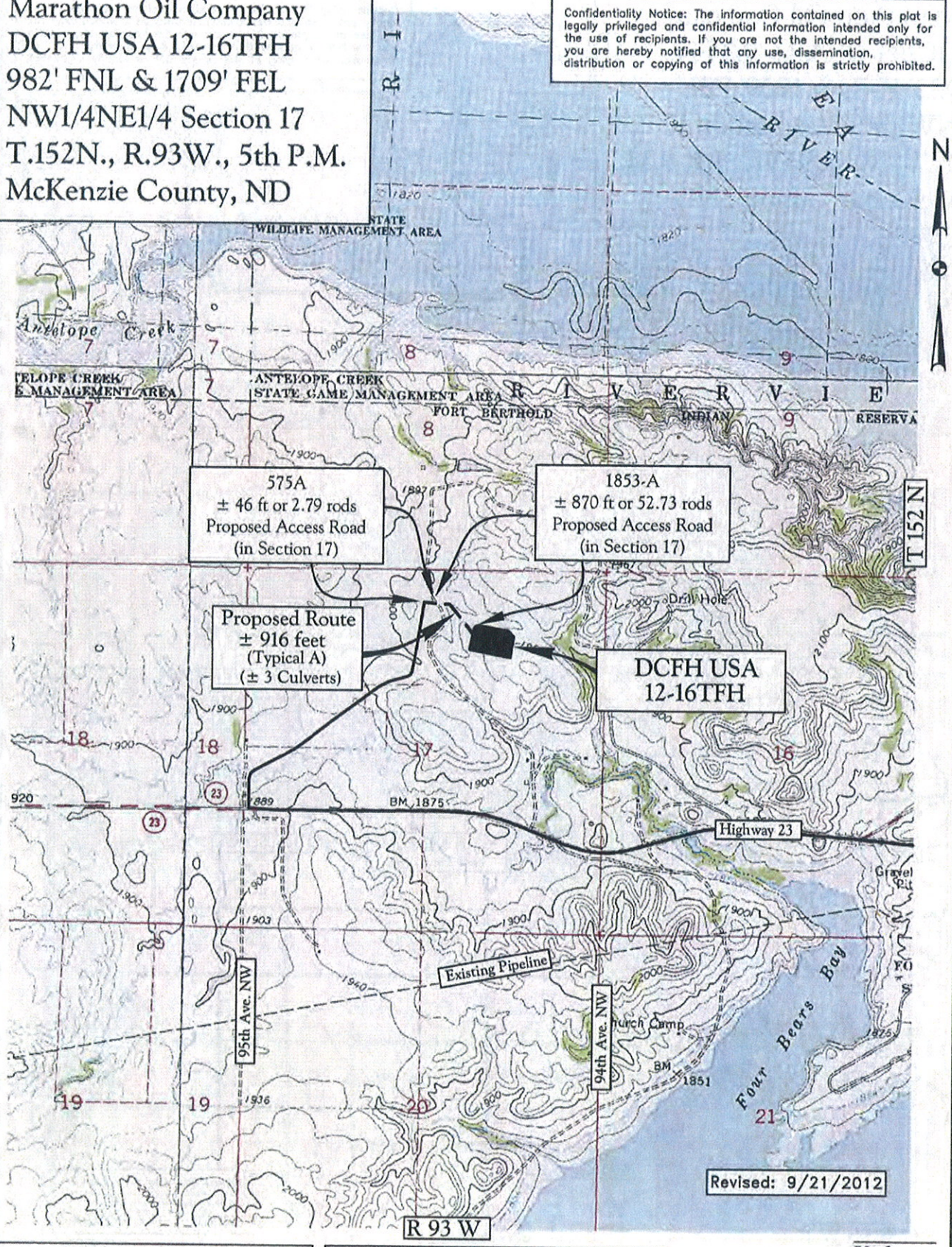
Kadrmas Lee & Jackson
Engineers Surveyors Planners

Sep 21, 2012 – 3:36pm – J:\oilfield\Marathon Oil\3712987\CADD\3712987LOC01.dwg

© Kadrmas, Lee & Jackson 2012

Marathon Oil Company
DCFH USA 12-16TFH
982' FNL & 1709' FEL
NW1/4NE1/4 Section 17
T.152N., R.93W., 5th P.M.
McKenzie County, ND

Confidentiality Notice: The information contained on this plat is legally privileged and confidential information intended only for the use of recipients. If you are not the intended recipients, you are hereby notified that any use, dissemination, distribution or copying of this information is strictly prohibited.



Map "B"
Quad Access Route

Legend
Existing Roads
Proposed Roads

Scale 1"=2000'

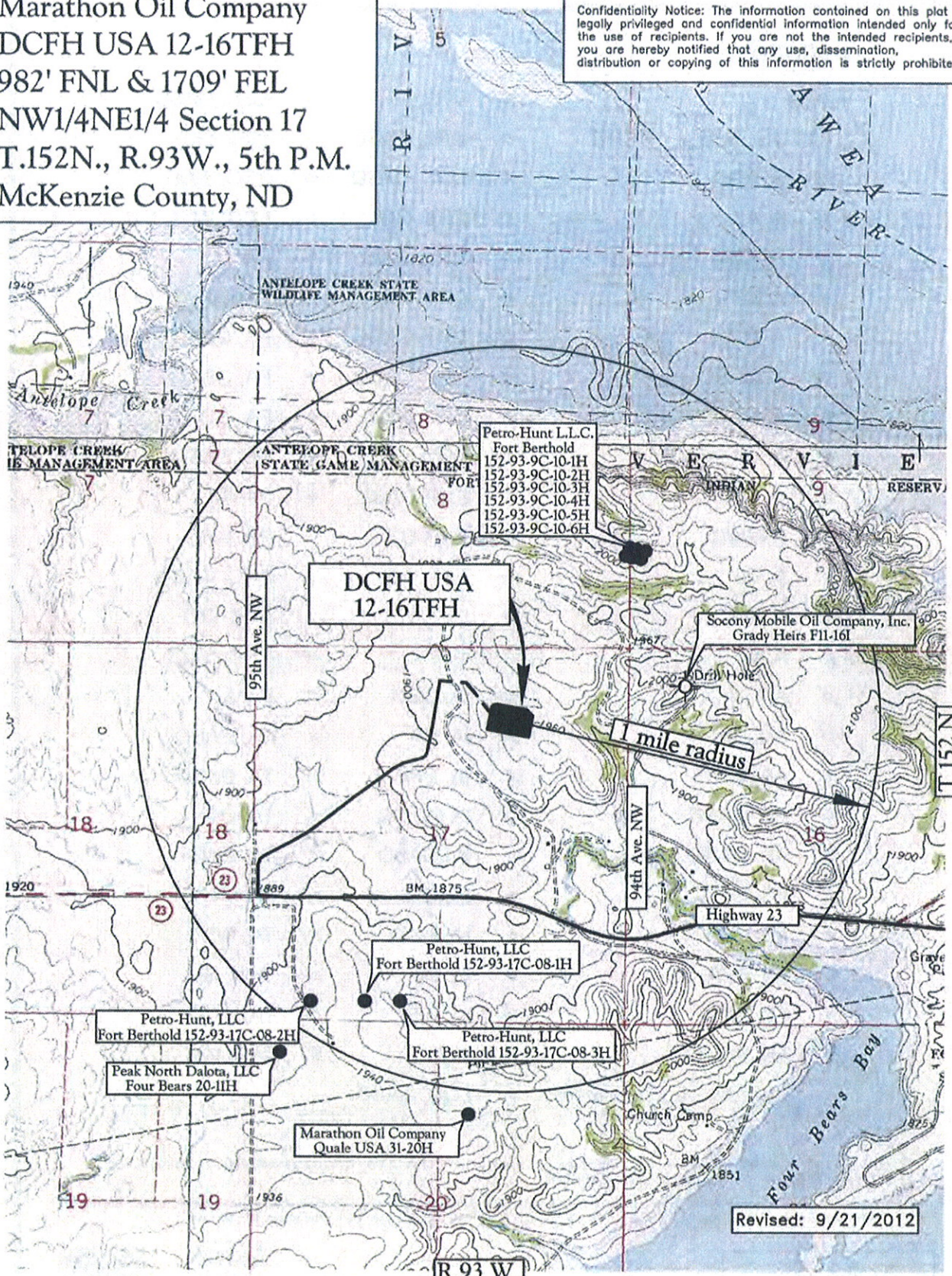
Kadrmas Lee & Jackson
Engineers Surveyors Planners

Sep 21, 2012 - 3:37pm - J:\oilfield\Marathon Oil\3712987\CADD\3712987LOC01.dwg

© Kadrmas, Lee & Jackson 2012

Marathon Oil Company
DCFH USA 12-16TFH
982' FNL & 1709' FEL
NW1/4NE1/4 Section 17
T.152N., R.93W., 5th P.M.
McKenzie County, ND

Confidentiality Notice: The information contained on this plat is legally privileged and confidential information intended only for the use of recipients. If you are not the intended recipients, you are hereby notified that any use, dissemination, distribution or copying of this information is strictly prohibited.



Map "C"
One Mile Radius Map

Legend
Existing Roads
Proposed Roads

Scale 1"=2000'

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Sep 21, 2012 – 3:37pm – J:\oilfield\Marathon Oil\3712987\CADD\3712987LOC01.dwg

© Kadrmas, Lee & Jackson 2012

Legend

wells

STATUS, WELL_TYPE

- A, AGD
- A, AI
- A, CBM
- A, DF
- A, DFP
- A, GASC
- A, GASD
- A, GASN
- A, OG
- A, SWD
- A, WI
- A, WS
- A,AI
- AB, AI
- AB, DF
- AB, DFP
- AB, GASC
- AB, GASD
- AB, GI
- AB, OG
- AB, SWD
- AB, WI
- AB, WS
- Confidential, Confidential
- DRL, AI
- DRL, GASC
- DRL, GASD
- DRL, OG
- DRL, SWD
- DRL, WI
- DRY, GASC
- DRY, GASD
- DRY, OG
- DRY, ST
- EXP, GASD
- EXP, OG
- EXP, SWD
- EXP, WS
- IA, AI
- IA, CBM
- IA, DF
- IA, DFP
- IA, GASC
- IA, GASD
- IA, OG
- IA, SWD
- IA, WI
- IA, WS
- IA,AI
- LOC, GASC
- LOC, GASD
- LOC, OG
- LOC, SWD
- LOC, WI
- PA, DF
- PA, GASC
- PA, GASD
- PA, GS
- PA, OG
- PA, SWD
- PA, WI
- PA, WS
- PNC, GASD
- PNC, OG
- PNC, SWD
- TA, AI
- TA, GASC
- TA, GASD
- TA, OG
- TA, SWD
- TA, WI
- TA, WS
- TAO, GI
- TAO, OG
- TAO, WI

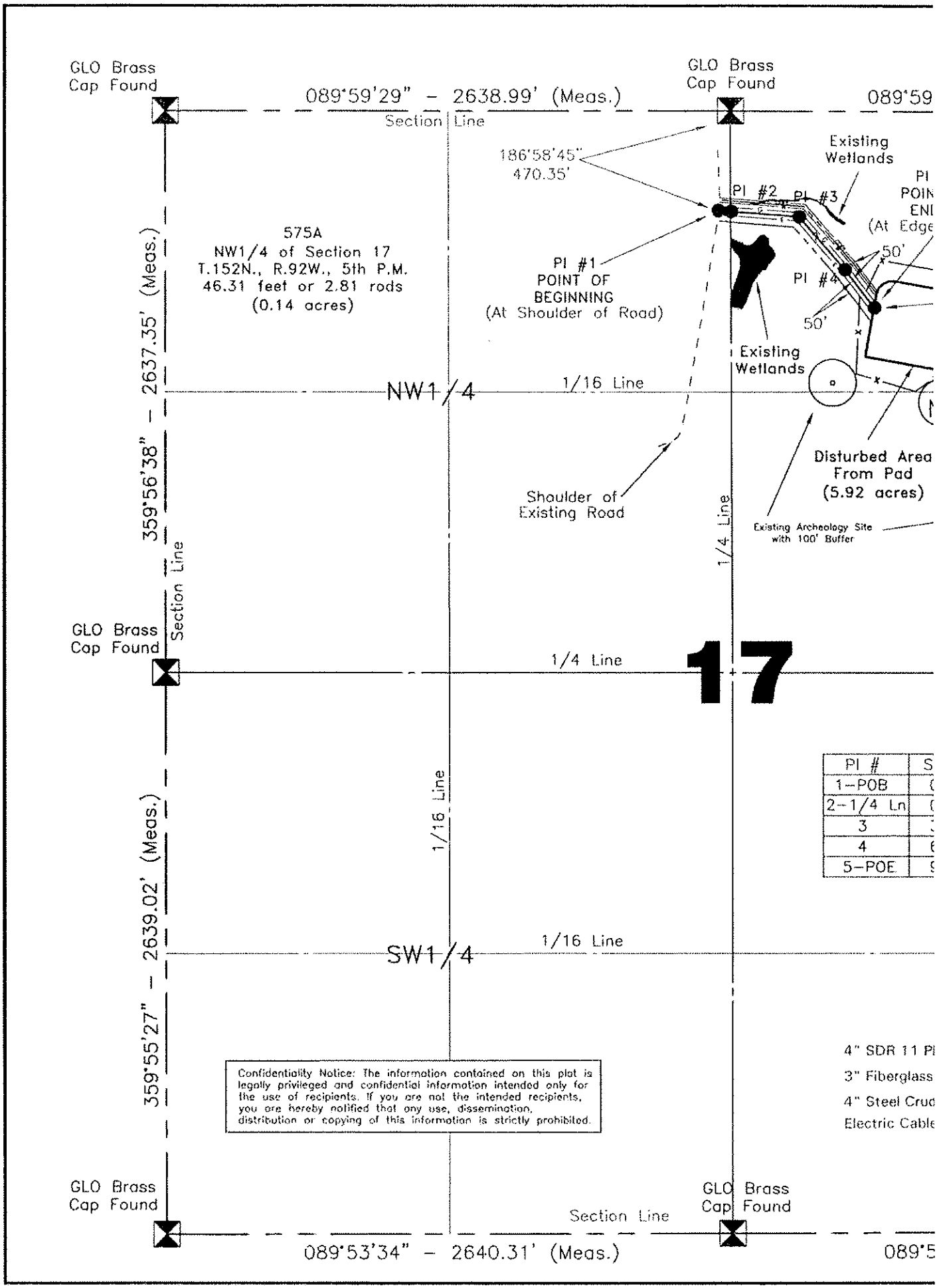
A = Active, AB = Abandoned, DRL = Drilling, Dry = Dry, EXP = Expired, IA = Inactive, LOC = Location, PA = Producer Abandoned, PNC = Permit Now Cancelled
TA = Temporarily Abandoned, TAO = Temporarily Abandoned Observation.

AGD = Acid Gas Disposal, AI = Air Injection, DF = Dump Flood, DFP = Dump Flood Producing, GASN = Nitrogen Gas Well, GASC = Gas Condensate, GASD = Gas Dry, GI = Gas Injection, GS = Gas Storage, OG = Oil or Gas Well, SWD = Salt Water Disposal, WI = Water Injection, WS = Water Supply, ST = Strat Test

Exhibit "D"
GIS Well Symbols

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Prepared by N.D.I.C. Oil and Gas Division



PI #	S
1-POB	
2-1/4 Ln	
3	
4	
5-POE	

Sep 22, 2012 - 11:08am - J:\oilfield\Marathon Oil\3712987\CADD\3712987BASD3.dwg

Notice of Availability and Appeal Rights

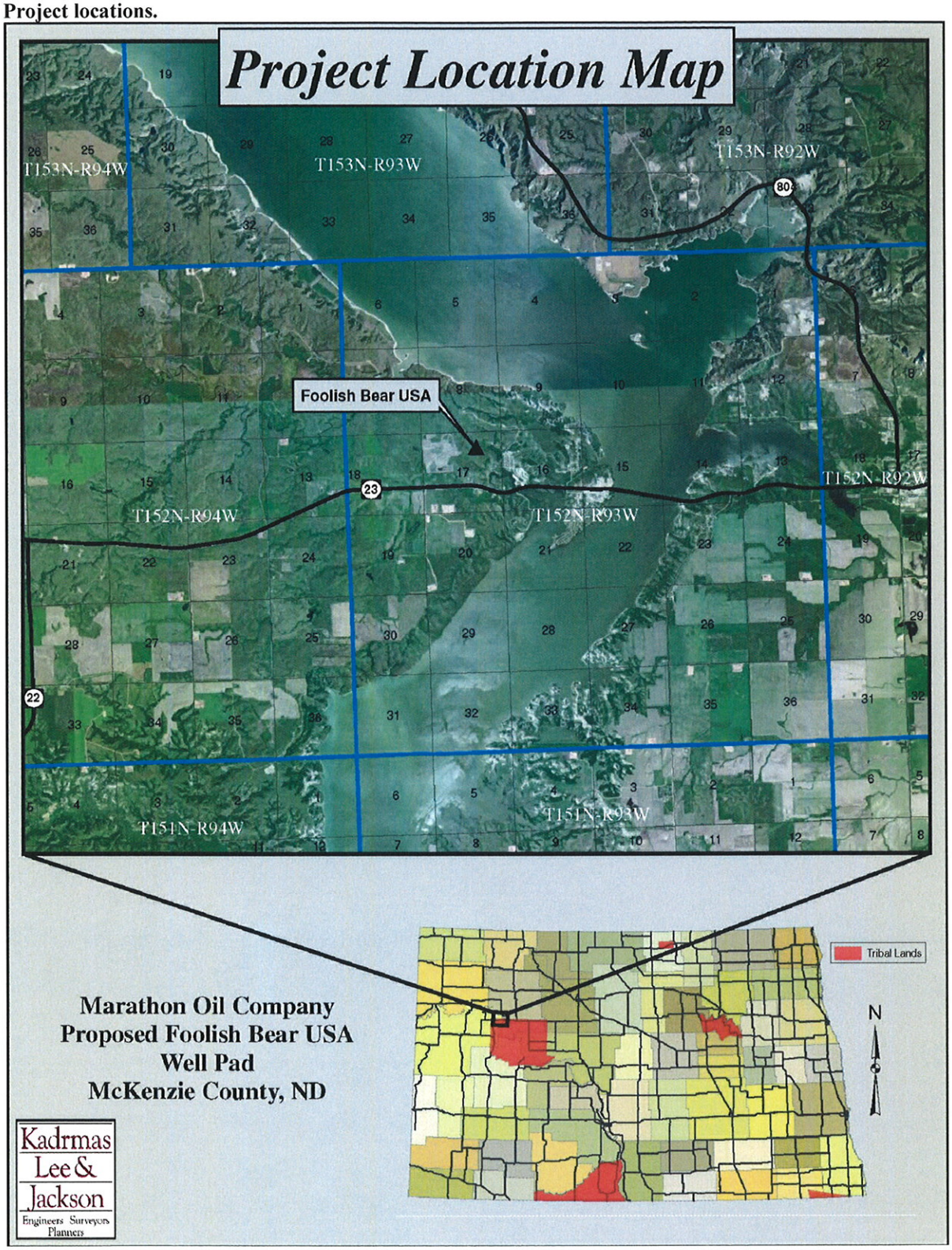
Marathon Oil Company: Four Oil and Gas Wells atop One Well Pad-
Foolish Bear USA Well Pad

The Bureau of Indian Affairs (BIA) is planning to issue administrative approvals related to Four Oil and Gas Wells atop One Well Pad - Foolish Bear USA on the Berthold Reservation as shown on the attached map. Construction by Marathon Oil is expected to begin in 2012.

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

The FONSI is only a finding on environmental impacts – it is not a decision to proceed with an action and *cannot* be appealed. BIA's decision to proceed with administrative actions *can* be appealed until November 24, 2012, by contacting:

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

Procedural details are available from the BIA Fort Berthold Agency at 701-627-6570.

Project locations.