# 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

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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 (EA) has been completed and a Finding of No Significant Impact (FONSI) has been issued. The EA authorizes land use to drill five oil and gas wells from three well pad locations 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 FONSI (40 C.F.R. Part 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.

Marilyn Bercier

Attachment

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

# Finding of No Significant Impact

**Petro Hunt, LLC (Petro Hunt)**

**Environmental Assessment for**
**Drilling of Five Wells on Three Well Pads Consisting of Fort Berthold 152-94-15B-22-3H / Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H / Fort Berthold 152-94-22C-15-4H Oil & Gas Wells**

**Fort Berthold Indian Reservation**
**McKenzie County, North Dakota**

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

- Fort Berthold 152-94-15B-22-3H: NW¼ of Section 15, Township 152 North, Range 94 West
- Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H: N½ of Section 15, Township 152 North, Range 94 West
- Fort Berthold 152-94-22C-15-4H: SW¼ of Section 22, Township 152 North, Range 94 West

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

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

This determination is based on the following factors:

1. Agency and public involvement solicited for the preceding NEPA document was sufficient to ascertain potential environmental concerns associated with the currently proposed project.

2. Protective and prudent measures were designed to minimize impacts to air, water, soil, vegetation, wetlands, wildlife, public safety, water resources, and cultural resources. The remaining potential for impacts was disclosed for both the proposed action and the No Action alternatives.

3. Guidance from the U.S. Fish and Wildlife Service has been fully considered regarding wildlife impacts, particularly in regard to threatened or endangered species. This guidance includes the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.) (MBTA), the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.) (NEPA), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250) (BGEPA), Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds", and the Endangered Species Act (16 U.S.C. 1531 et seq.) (ESA).

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

5. Environmental justice was fully considered.

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

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

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

Acting Regional Director

Date 4/2/12

# ENVIRONMENTAL ASSESSMENT

United States Bureau of Indian Affairs

Great Plains Regional Office
Aberdeen, South Dakota

Petro Hunt, LLC

Drilling of Five Wells on Three Well Pads Consisting of Fort Berthold 152-94-15B-22-3H / Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H / Fort Berthold 152-94-22C-15-4H

Fort Berthold Indian Reservation

March 2012

*For information contact:*

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

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# CHAPTER 1 PURPOSE AND NEED FOR ACTION

## 1.1 Introduction

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

## 1.2 Description of the Proposed Action

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

The Fort Berthold Reservation lies atop the Bakken Formation, a geologic formation rich in oil and gas deposits that extends approximately 25,000 square miles beneath North Dakota and Montana, United States, and Saskatchewan and Manitoba, Canada. Approximately two-thirds of the Bakken Formation is beneath North Dakota. The Three Forks Formation lies beneath the Bakken. The North Dakota Department of Mineral Resources estimates that there are approximately 2 billion barrels of recoverable oil in each of these 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 remaining years of production, or more if technology improves.

The proposed action includes a positive recommendation by the Bureau of Indian Affairs (BIA) and approval by the Bureau of Land Management (BLM) for Petro Hunt, LLC (Petro Hunt) to construct three well pads on the Fort Berthold Reservation, resulting in the drilling and completion of five wells, targeting the Bakken and Three Forks Formations. The proposed action includes the following well pad locations in McKenzie County:

- Fort Berthold 152-94-15B-22-3H: NW¼ of Section 15, Township 152 North, Range 94 West
- Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H: N½ of Section 15, Township 152 North, Range 94 West
- Fort Berthold 152-94-22C-15-4H: SW¼ of Section 22, Township 152 North, Range 94 West

Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H would contain three well heads while Fort Berthold 152-94-15B-22-3H and Fort Berthold 152-94-22C-15-4H would each contain one well head. Each well pad would have its own corresponding spacing unit in which the minerals are to be efficiently developed. Proposed completion activities include acquisition of rights-of-way (ROW), infrastructure (including gathering lines and electrical lines) for the proposed wells and roadway

improvements to provide access to and from the wells. Please refer to ***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) for the five 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 Three Affiliated Tribes with needed employment and income. Furthermore, the proposed action gives the United States an opportunity to reduce its dependence on foreign oil and gas by accessing 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 Petro Hunt's lease areas by drilling five wells at the identified locations.

## 1.5 Regulations that Apply to Oil and Gas Development Activities

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

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

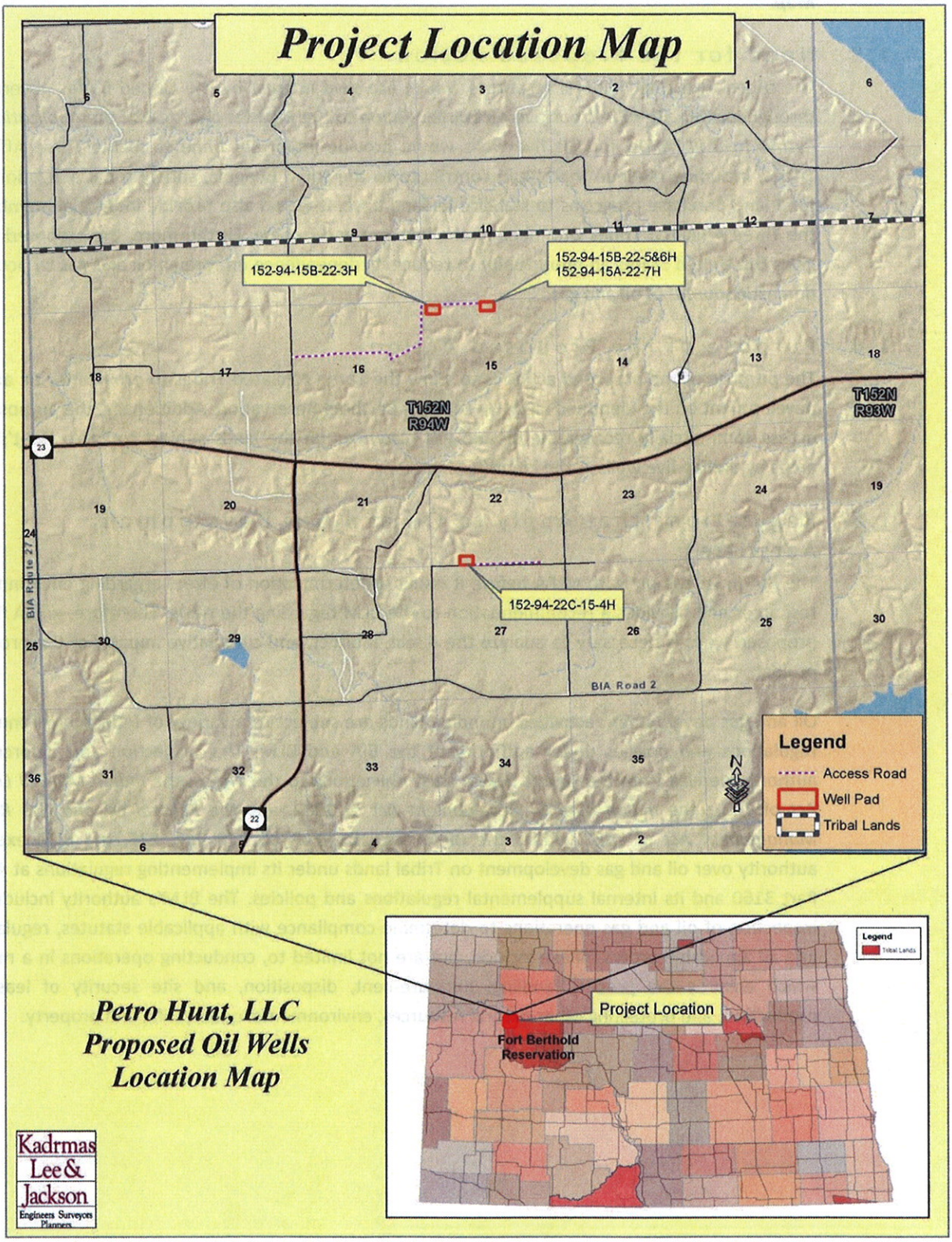


*Figure 1.1, Project Location Map*

# CHAPTER 2 ALTERNATIVES

## 2.1 Introduction

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

## 2.2 Alternative A: No Action

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

## 2.3 Alternative B: Proposed Action

The proposed action (Alternative B) includes a positive recommendation by the BIA and authorization by the BLM to construct three well pads, resulting in the drilling and completion of up to five exploratory oil and gas wells as well as associated ROW acquisition, roadway improvements and infrastructure for the wells. Infrastructure may include subsurface oil, gas and water gathering pipelines, buried electrical lines and any additional infrastructure needed to support drilling or production at the wells. Associated infrastructure would be located within the access road ROW.

One well pad would contain three well heads, while the other two well pads would each contain one well head.[1] Each well pad would have an access road, associated infrastructure and separate spacing unit.[2] The location of the proposed well sites, access roads, utility corridors and horizontal drilling techniques were chosen to minimize surface disturbance.

The well pads would require new ROW for access points, supporting electrical lines, gathering pipelines and other utilities used for oil and gas production. ROW would be located to avoid sensitive surface resources and any cultural resources identified in site surveys. Access roads would be improved as necessary to eliminate overly steep grades, maintain current drainage patterns and provide all-weather driving surfaces.

Pedestrian resource surveys of the well pads and access roads were conducted on September 21 and 30, 2011 with the BIA Environmental Protection Specialist, Petro Hunt, and Kadrmas, Lee & Jackson (KL&J) present. The purpose of these surveys was to gather site-specific data and photos with regards to biological, botanical, soil and water resources. A study area of 10 acres centered on the well pads center point and 200-foot wide access road corridors were evaluated during these visits. Resources were evaluated using visual inspection and pedestrian transects across the sites.

[1] The well pad is where the actual surface disturbance caused by drilling activities would occur.

[2] The spacing unit is the location of the minerals that are to be developed.

In addition, surveys for eagles and eagle nests within 0.5 miles of all project disturbance areas (well pad, access road and associated ROW) were conducted. These surveys consisted of pedestrian transects focusing specifically on potential nesting sites within 0.5 miles of the project disturbance areas where survey permission allowed, including cliffs and wooded draws.

The BIA EA on-site assessments of the proposed well pad and access road sites were also conducted on September 21 and 30, 2011. The BIA Environmental Protection Specialist, representatives from the Tribal Historic Preservation Office (THPO), Petro Hunt and KL&J participated in these assessments. Construction suitability with respect to topography, stockpiling, drainage, erosion control and other surface issues were considered. The well pad and access road locations were finalized and the BIA gathered information needed to develop site-specific mitigation measures and best management practices (BMPs) to be incorporated into the final APDs. Those present at the on-site assessments agreed that the selected locations, along with the minimization measures Petro Hunt plans to implement, are positioned to minimize impacts to sensitive wildlife and botanical resources. In addition, comments received from the United States Fish and Wildlife Service (USFWS) have been considered in the development of this project.

### 2.3.1 Fort Berthold 152-94-15B-22-3H Well Pad

The Fort Berthold 152-94-15B-22-3H well pad would have one well located upon it. The well pad would be located in the NW¼ of Section 15, Township 152 North, Range 94 West, 5th P.M. to access potential oil and gas resources within the spacing unit consisting of Sections 15 and 22, Township 152 North, Range 94 West, 5th P.M. Please refer to ***Figure 2.1, Fort Berthold 152-94-15B-22-3H Well Overview*** for a visual depiction of the spacing units.

The Fort Berthold 152-94-15B-22-3H well pad would be accessed from the west. A new access road approximately 113 feet long would be constructed and would connect to the access road proposed for the 152-94-15B-22-5&6H and 152-94-15A-22-7H well pad. The access road has been situated to avoid drainages and wooded draws to the extent possible. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignment. Culverts and cattle guards would be installed as needed along this new access road. Associated utilities would also be located along the access road in the utility corridor.

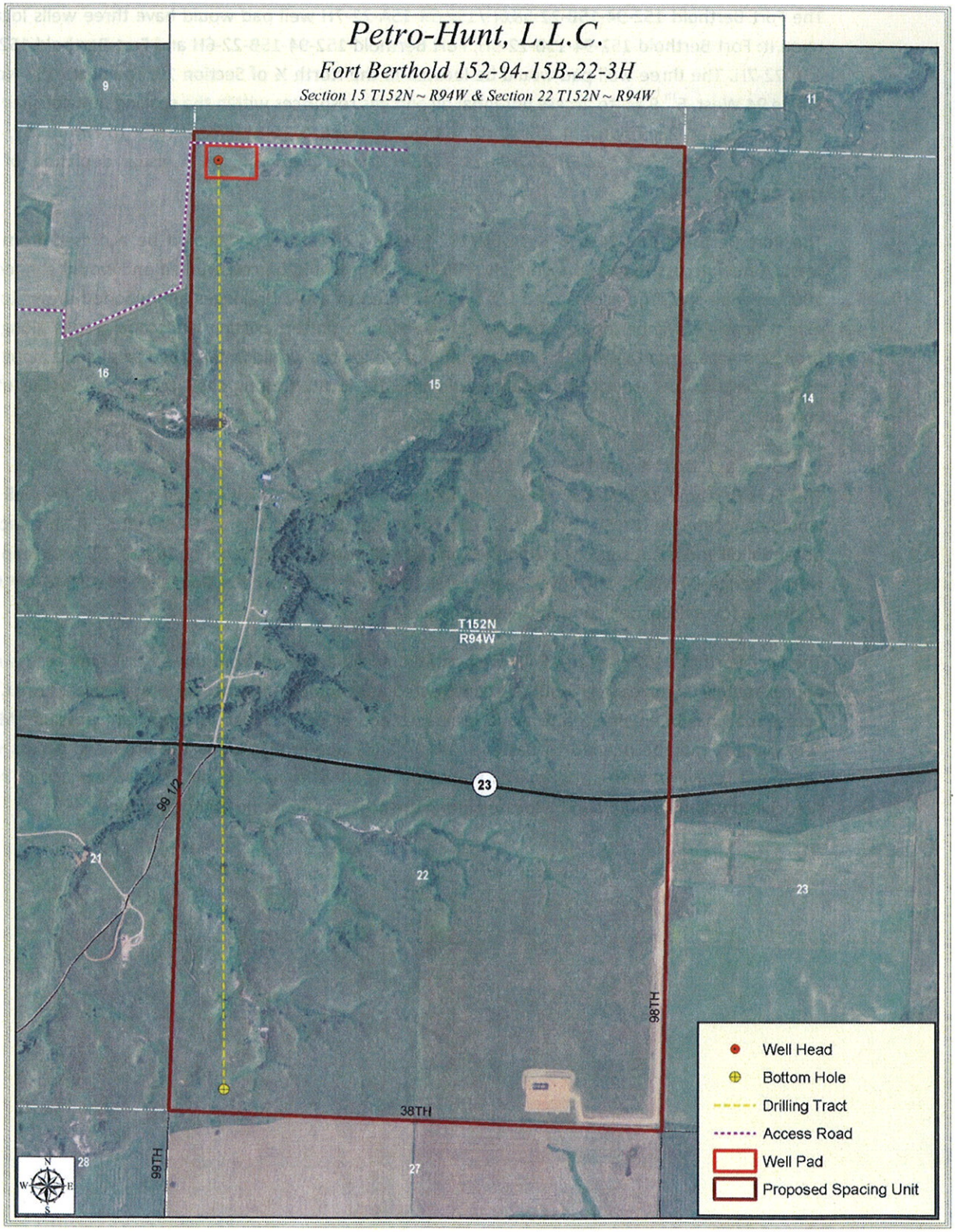


*Figure 2.1, Fort Berthold 152-94-15B-22-3H Well Overview*

### 2.3.2 Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H Three Well Pad

The Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H well pad would have three wells located upon it: Fort Berthold 152-94-15B-22-5H, Fort Berthold 152-94-15B-22-6H and Fort Berthold 152-94-15A-22-7H. The three well pad would be located in the North ½ of Section 15, Township 152 North, Range 94 West, 5th P.M. to access potential oil and gas resources within the spacing unit consisting of Sections 15 and 22, Township 152 North, Range 94 West, 5th P.M. Please refer to ***Figure 2.2, Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H Wells Overview*** for a visual depiction of the spacing units.

The Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H well pad would be accessed from the west. A new access road approximately 9636 feet long would be constructed and would connect to 100th Avenue NW. The access road has been situated to avoid drainages and wooded draws to the extent possible. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignment. Culverts and cattle guards would be installed as needed along this new access road. Associated utilities would also be located along the access road in the utility corridor.

### 2.3.3 Fort Berthold 152-94-22C-15-4H Well Pad

The Fort Berthold 152-94-22C-15-4H well pad would have one well located upon it. The well pad would be located in the SW¼ of Section 22, Township 152 North, Range 94 West, 5th P.M. to access potential oil and gas resources within the spacing unit consisting of Sections 15 and 22, Township 152 North, Range 94 West, 5th P.M. Please refer to ***Figure 2.3, Fort Berthold 152-94-22C-15-4H Well Overview*** for a visual depiction of the spacing units.

The Fort Berthold 152-94-22C-15-4H well pad would be accessed from the east. A new access road approximately 0.5 miles long would be constructed and would connect to an existing access road. The access road has been situated to avoid drainages and wooded draws to the extent possible. Minor spot grading may be needed to flatten existing landscape grades along the proposed access road alignment. Culverts and cattle guards would be installed as needed along this new access road. Associated utilities would also be located along the access road in the utility corridor.

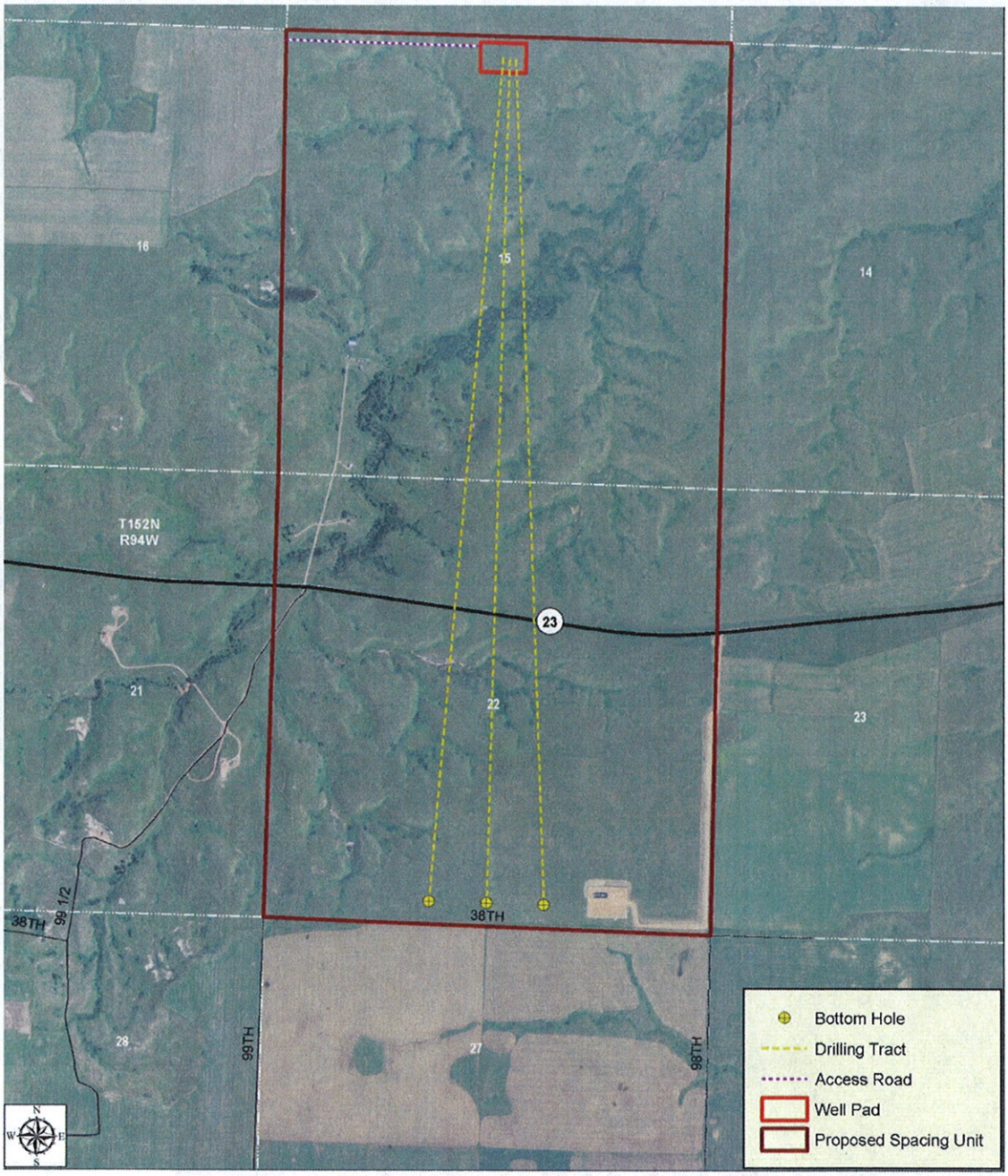


*Figure 2.2, Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H Wells Overview*

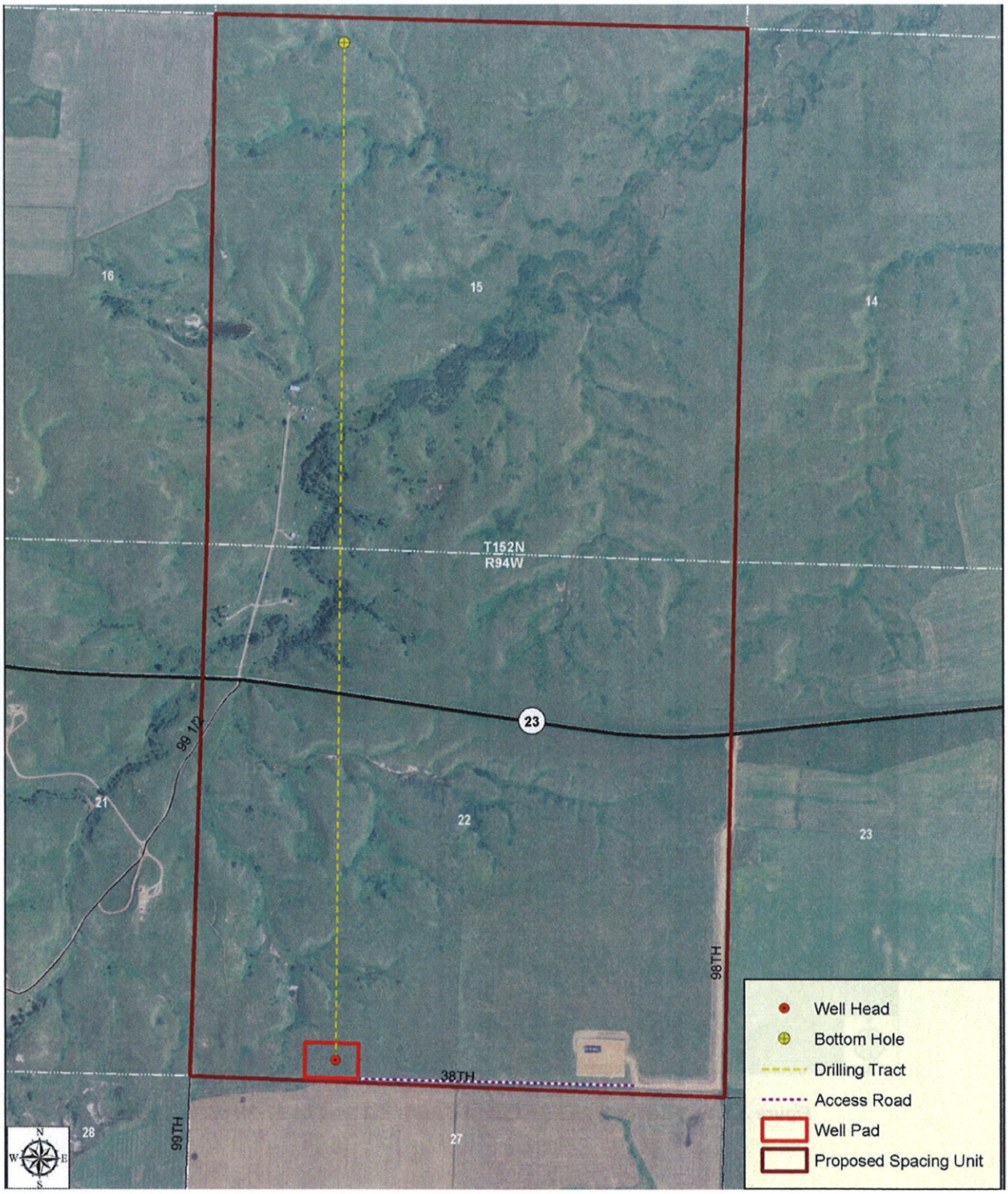


*Figure 2.3, Fort Berthold 152-94-22C-15-4H Well Overview*

### 2.3.4 Activities that Apply to Development of All Wells

The following includes discussion of items that would be consistent for construction of all proposed well locations.

### 2.3.5 Field Camps

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

### 2.3.6 Access Roads

Existing roadways would be used to the extent possible to access the proposed wells; however, the improvement of existing roadways and construction of new access road segments would also be required. The running surface of the access roads would be surfaced with crushed gravel or scoria from a previously approved location, and erosion control measures would be installed as necessary. A maximum ROW width of 100 feet would be disturbed, consisting of a 16-foot wide roadway with the remainder of the disturbed area due to borrow ditches, construction slopes, gathering pipelines, buried electrical lines and associated infrastructure. The outslope portions of constructed access roads would be re-seeded upon completion of construction to reduce access road related disturbance. Access road construction shall follow road design standards outlined in the BLM's *Gold Book*.

Construction activities may occur during the migratory bird breeding and nesting season (February 1 to July 15). In the event that construction takes place within the nesting and breeding season, pre-construction surveys for migratory birds or their nests would be conducted by a qualified biologist within five days prior to the initiation of construction activities. An alternative to pre-construction surveys, if chosen by Petro Hunt, would be to mow/grub the area prior to the nesting/breeding season to deter use of the area by migratory birds.

### 2.3.7 Well Pads

The proposed well pads would consist of a leveled area surfaced with several inches of gravel or crushed scoria. The pad would be used for the drilling rig and related equipment. A closed loop system would be used during drilling at all three sites proposed in this EA. Drill cuttings would be hauled off site and disposed of in an approved manner. Please refer to ***Table 2.1, Well Pad Areas,*** for well pad dimensions.

***Table 2.1, Well Pad Areas***

| WELL PAD NAME | LEVEL PAD DIMENSIONS | AREA WITHIN FENCE (DISTURBED AREA) |
|---|---|---|
| Fort Berthold 152-94-15B-22-3H | 450 x 300 Feet | 6.26 Acres |
| Fort Berthold 152-94-22C-15-4H | 450 x 300 Feet | 5.21 Acres |
| Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H | 640 x 300 Feet | 8.90 Acres |

The entire well pad would also be fenced if livestock will be grazing the area. An 18-inch high berm would be constructed around the well pad to control runoff. Any fluid that accumulates along the berm would be pumped out and disposed of properly. The storage tanks and heater/treater would be surrounded by an impermeable berm that would act as secondary containment to guard against possible spills. The berm would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. Please refer to ***Appendix A, Plats,*** for proposed well pad dimensions and layout.

Well pad areas would be cleared of vegetation, stripped of topsoil and graded to specifications in the APDs submitted to the BLM. Construction would comply with the standards and guidelines prescribed in the BLM's *Gold Book.* Topsoil would be stockpiled and stabilized until disturbed areas are reclaimed and re-vegetated. Excavated subsoils would be used in pad construction. Erosion control at the sites would be maintained through the use of BMPs, which may include, but are not limited to, water bars, diversion ditches, bio-logs, silt fences and re-vegetation via hydro-seeding or matting of disturbed areas.

Construction activities may occur during the migratory bird breeding and nesting season (February 1 to July 15). In the event that a construction takes place within the nesting and breeding season, pre-construction surveys for migratory birds or their nests would be conducted by a qualified biologist within five days prior to the initiation of construction activities. An alternative to pre-construction surveys, if chosen by Petro Hunt, would be to mow/grub the area prior to the nesting/breeding season to inhibit use of the area by migratory birds.

### 2.3.8 Drilling

Following the access road construction and well pad preparation, a drilling rig would be rigged up at the well site. The time for rigging up, drilling the well and rigging down the well is anticipated to be about 60 days. During this phase, vehicles and equipment would access the site several times a day.

Initial drilling would be vertical to a depth of approximately 9,800 feet to reach the Bakken Formation and 10,200 feet to reach the Three Forks Formation, at which it would angle to become horizontal. The laterals along the horizontal plane would extend approximately 11,200 feet. This horizontal drilling technique would minimize surface disturbance. At this point Petro Hunt has not determined which wells would target the Three Forks Formation.

For the first 2,500 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. Water would be obtained from a commercial source for this drilling stage. 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. Once the seven-inch production casing is set and cemented through the curve (into the lateral), a saltwater based drilling mud would be utilized for the horizontal portion of the wellbore.

Drilling fluids would be separated from cuttings and contained in steel tanks placed on liners until they were ready for re-use.

### 2.3.9 Casing and Cementing

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

### 2.3.10 Completion and Evaluation

Once each well is drilled and cased, approximately 30-45 additional days (depending on availability of services) would be required to complete and evaluate it. Completion and evaluation activities include cleaning out the well bore, pressure testing the casing, perforating and fracturing to stimulate the horizontal portion of the well and running production tubing for potential future commercial production. Fluids utilized in the completion process would be captured in tanks and would be disposed of in accordance with BLM and NDIC rules and regulations. Once each of the wells are completed, site activity and vehicle access would be reduced. If the wells are determined to be successful, tank trucks (and, if appropriate, natural gas gathering lines) would transport the product to market.

### 2.3.11 Commercial Production

If commercially recoverable oil and gas resources are found at the proposed well sites, the site(s) would become established as production facilities. Production equipment, including a well pumping unit, vertical heater/treater, storage tanks (typically four 400 barrel steel oil tanks and one 400 barrel fiberglass saltwater tank per well) and a flare with associated piping would be installed. The tanks would be connected by a pipe and valve near the top of each tank, which would allow for overflow into the next tank. The storage tanks and heater/treater would be surrounded by an impermeable berm that would act as secondary containment to guard against possible spills. The berm would be sized to hold 100% of the capacity of the largest storage tank plus one full day's production. An 18-inch high berm would be constructed around the well pad to control runoff. All permanent above ground production facilities would be painted to blend into the surrounding landscape, as determined by the BIA, based on standard colors recommended by the BLM.

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

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

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

### 2.3.12 Reclamation

The drill cuttings would be dried during drilling operations and hauled to an approved site for disposal. Other interim reclamation measures to be implemented upon well completion include reduction of cut and fill slopes where necessary, redistribution of stockpiled topsoil, and re-seeding of the disturbed areas via hydro-seeding or matting. Per recommendations made at the BIA EA on-site, small trees or saplings impacted by the project shall be ground up and incorporated into topsoil piles to help stabilize the soil. If commercial production equipment is installed, the well site would be reduced in size to accommodate the production facilities, while leaving adequate room to conduct normal well maintenance and potential recompletion operations, with the remainder of the well pad reclaimed. Reclamation activities would include leveling, re-contouring, treating, backfill, and re-seeding with native vegetation. Erosion control measures would be installed as appropriate. Stockpiled topsoil would be redistributed and reseeded as recommended by the BIA.

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

### 2.3.13 Potential for Future Development

Development beyond the drilling of Fort Berthold 152-94-15B-22-3H, Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H and Fort Berthold 152-94-22C-15-4H wells, access roads and associated infrastructure discussed in this document is not included in this NEPA analysis. 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, as appropriate.

# CHAPTER 3 DESCRIPTION OF THE AFFECTED ENVIRONMENT AND IMPACTS

## 3.1 Introduction

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

## 3.2 Climate, Geologic Setting, and Land Use

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

According to High Plains Regional Climate Center data collected at the Keene weather station from 1971-2000, temperatures in excess of 80 degrees Fahrenheit are common in summer months. The area receives approximately 16.1 inches of rain annually, predominantly during spring and summer. Winters in this region are cold, with temperatures often falling near zero degrees Fahrenheit. Snow generally remains on the ground from November to March, and about 32.4 inches of snow are received annually.

The topography within the project area is primarily identified as part of the Missouri Plateau ecoregion. According to the United States Geological Survey (USGS), the landscape opens up to become the "wide open spaces" of the American West. The topography of this ecoregion was largely unaffected by glaciation and retains its original soils and complex stream drainage pattern.

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 area of the proposed well pads and access roads is composed of grasslands (100 percent). Please refer to ***Figure 3.1, Land Use.***

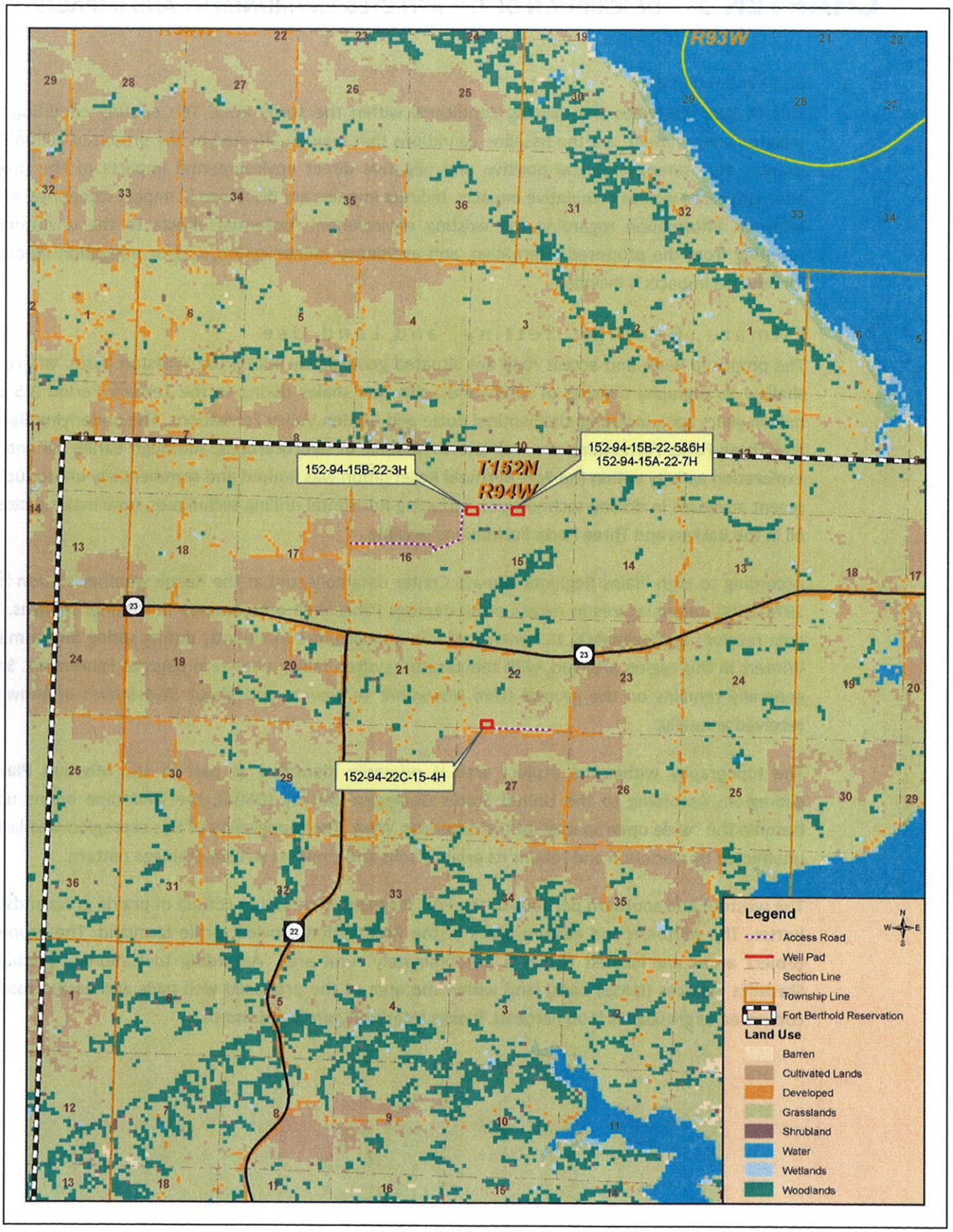


*Figure 3.1, Land Use*

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

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

Alternative B (Proposed Action) – Alternative B would result in the conversion of approximately 49.3 acres, 20.4 acres from well pad construction and 28.9 acres from access road construction, of land from present uses to part of an oil and gas network. Please refer to ***Table 3.1, Summary of Land Use Conversion***.

***Table 3.1, Summary of Land Use Conversion***

| WELL SITE | WELL PAD ACRES | ACCESS ROAD ACRES | TOTAL ACRES |
|---|---|---|---|
| Fort Berthold 152-94-15B-22-3H | 6.3 | 0.3 | 6.6 |
| Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H | 8.9 | 22.1 | 31.0 |
| Fort Berthold 152-94-22C-15-4H | 5.2 | 6.5 | 11.7 |
| **Total** | | | **49.3** |

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

## 3.3 Soils

The Natural Resource Conservation Service (NRCS) Soil Survey of McKenzie County dates from 2006, with updated information available online through the NRCS Web Soil Survey. Six soil types were identified within the project impact areas. Location and characteristics of these soils are identified in

*Table 3.2,* Soils.

All of the soils listed have moderate susceptibility to sheet and rill erosion. In addition, all of the soils can tolerate high levels of erosion without loss of productivity. Depth to the water table is generally recorded at greater than six feet. The soils listed within the project impact areas are not susceptible to flooding or ponding.

*Table 3.2, Soils*

| MAP UNIT SYMBOL | SOIL NAME | PERCENT SLOPE | COMPOSITION (IN UPPER 60 INCHES) | | | EROSION FACTOR | | HYDROLOGIC SOIL GROUP |
|---|---|---|---|---|---|---|---|---|
| | | | % SAND | % SILT | % CLAY | T | KF | |
| 41 | Williams-Bowbells loams | 0 to 3 | 34.8 | 35.2 | 30.0 | 5 | .28 | B |
| 41B | Williams-Bowbells loams | 3 to 6 | 34.8 | 35.2 | 30.0 | 5 | .28 | B |
| 42C | Williams loam | 6 to 9 | 34.8 | 35.2 | 30.0 | 5 | .28 | B |
| 43C | Williams-Zahl loams | 6 to 9 | 35.0 | 35.2 | 30.6 | 5 | .28 | B |
| 44D | Zahl-Williams loams | 9 to 15 | 35.0 | 34.3 | 30.6 | 5 | .28 | B |
| 442F | Zahl-Williams loams, dissected | 15 to 45 | 35.0 | 34.3 | 30.6 | 5 | .28 | B |

### 3.3.1 Soil Impacts/Mitigation

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

Alternative B (Proposed Action) – Construction activities associated with the proposed well site and access road would result in soil disturbances, though impacts to soils are not anticipated to be significant. Stockpile quantities for the location were calculated using an assumed six inches of existing topsoil. Topsoil requirements for each site are identified in ***Table 3.3, Topsoil Requirements for Future Site Reclamation.***

***Table 3.3, Topsoil Requirements for Future Site Reclamation***

| WELL PAD NAME | CUBIC YARDS OF TOPSOIL | CUBIC YARDS OF SUB-SOIL MATERIAL |
|---|---|---|
| Fort Berthold 152-94-15B-22-3H | 3,375 | 405 |
| Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H | 4,995 | 725 |
| Fort Berthold 152-94-22C-15-4H | 3,050 | 200 |

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

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

Topsoil depths taken during the onsite survey indicated a soil depth of six inches at the well pad sites. The stockpiles would be positioned to assist in diverting runoff away from the disturbed areas, thus minimizing erosion, and to allow for interim reclamation soon after the wells are put into production. Topsoil and embankment stockpile locations for each proposed site are identified in ***Table 3.4, Topsoil and Embankment Stockpile Locations.***

***Table 3.4, Topsoil and Embankment Stockpile Locations***

| WELL PAD NAME | TOPSOIL STOCKPILE LOCATIONS |
|---|---|
| Fort Berthold 152-94-15B-22-3H | south side of pad |
| Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H | east side of pad |
| Fort Berthold 152-94-22C-15-4H | west side of pad |

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

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

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

## 3.4 Water Resources

The Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act of 1977, provides the authority to the Environmental Protection Agency (EPA) and United States Army Corps of Engineers (USACE) to establish water quality standards, control discharges into surface and ground waters, develop waste treatment management plans and practices, and issue permits for discharges (Section 402) and for dredged or fill material (Section 404).

Within the Fort Berthold Reservation, the Missouri River and Lake Sakakawea are both considered navigable waters and are therefore subject to Section 10 of the Rivers and Harbors Act of 1899.

The EPA also has the authority to protect the quality of drinking water under the Safe Drinking Water Act (SDWA) of 1974. As amended in 1986 and 1996, the SDWA requires many actions to protect drinking water and its sources: rivers, lakes reservoirs, springs, and ground water wells[5]. The Energy Policy Act of 2005 excludes hydraulic fracturing operations related to oil, gas, or geothermal production activities from EPA regulation under the SDWA[6].

### 3.4.1 Surface Water

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

The proposed project is located in the Lake Sakakawea basin, meaning surface waters within this basin drain to Lake Sakakawea. In addition, the proposed project areas are located in the Antelope Creek State Wildlife Management Area Watershed. Please refer to ***Figure 3.2, Surface Water Resources.*** Each proposed well pad would have an 18-inch high berm constructed around the sides of the well pad to contain runoff from the proposed well pad. The Fort Berthold 152-94-15B-22-3H well pad would flow overland to the east/southeast for approximately 1-mile, then to the east/northeast for approximately 6.6 miles into Antelope Creek and then Lake Sakakawea, for a total drainage distance of approximately 7.6 miles. The Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H well pad drains from both the east and west sides of the pad: from the west approximately 450 feet to the southwest, then 0.6 miles to the southeast before flowing approximately 0.2 miles to the northeast and into the drainage from the east side of the pad; and from the east approximately 0.5 miles to the southeast. All drainage from the well pad would then flow approximately 6.4 miles into Antelope Creek and eventually Lake Sakakawea. The Fort Berthold 152-94-22C-15-4H site also drains from both the east and west sides of the pad. Drainage from the west side of the proposed pad flows to the north overland for approximately 1.2 miles. Drainage from the east side of the pad flows to the north overland for approximately 0.9 miles. All drainage from the pad then flows northeast approximately eight miles, draining into Antelope Creek and eventually Lake Sakakawea.

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

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

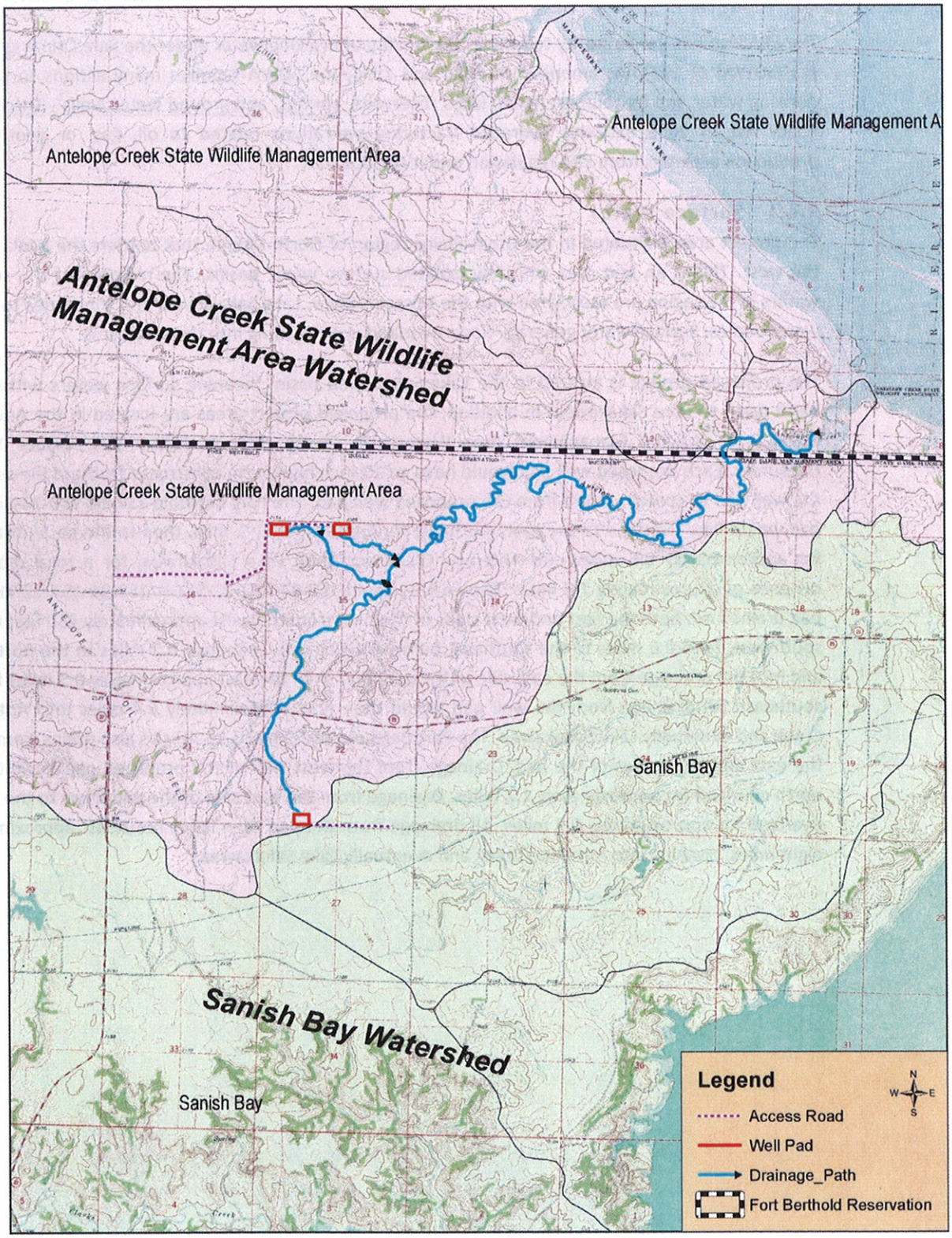


*Figure 3.2, Surface Water Resources*

#### *3.4.1.1 Surface Water Impacts/Mitigation*

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

Alternative B (Proposed Action) –No significant impacts to surface water are expected to result from Alternative B. The proposed project has been sited to avoid direct impacts to surface waters and to minimize the disruption of drainage patterns across the landscape. Construction site plans include measures to divert surface runoff around the well pad. Culverts would be implemented as needed. Roadway engineering and the implementation of BMPs to control erosion would minimize runoff of sediment downhill or downstream. Storage tanks and the heater/treater would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from the site. The berm would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. Each proposed well pad would have an 18-inch high berm constructed around the sides of the well pad to contain runoff from the proposed well pad. Alternative B is not anticipated to result in measurable increases in runoff or impacts to surface waters. The proposed project would not alter stream channels or change drainage patterns.

### 3.4.2 Ground Water

The North Dakota State Water Commission's electronic records revealed 11 active/permitted water wells within one-mile of the proposed sites. No sole source aquifers have been identified within the state of North Dakota. Please refer to ***Figure 3.3, Aquifers and Groundwater Wells.***

#### *3.4.2.1 Ground water Impacts/Mitigation*

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

Alternative B (Proposed Action) – Limited scientific data is available regarding potential effects of hydraulic fracturing on groundwater[7]. The proposed drilling tracts would not occur in any identified aquifers. As there are no ground water wells within the spacing units being developed no significant impacts to groundwater are expected to result from Alternative B. As required by applicable law, all proposed wells would be cemented and cased to isolate aquifers from potentially productive hydrocarbon and disposal/injection zones.

[7] The EPA is currently conducting a study on groundwater impacts from hydraulic fracturing, which is expected to be completed in 2012.

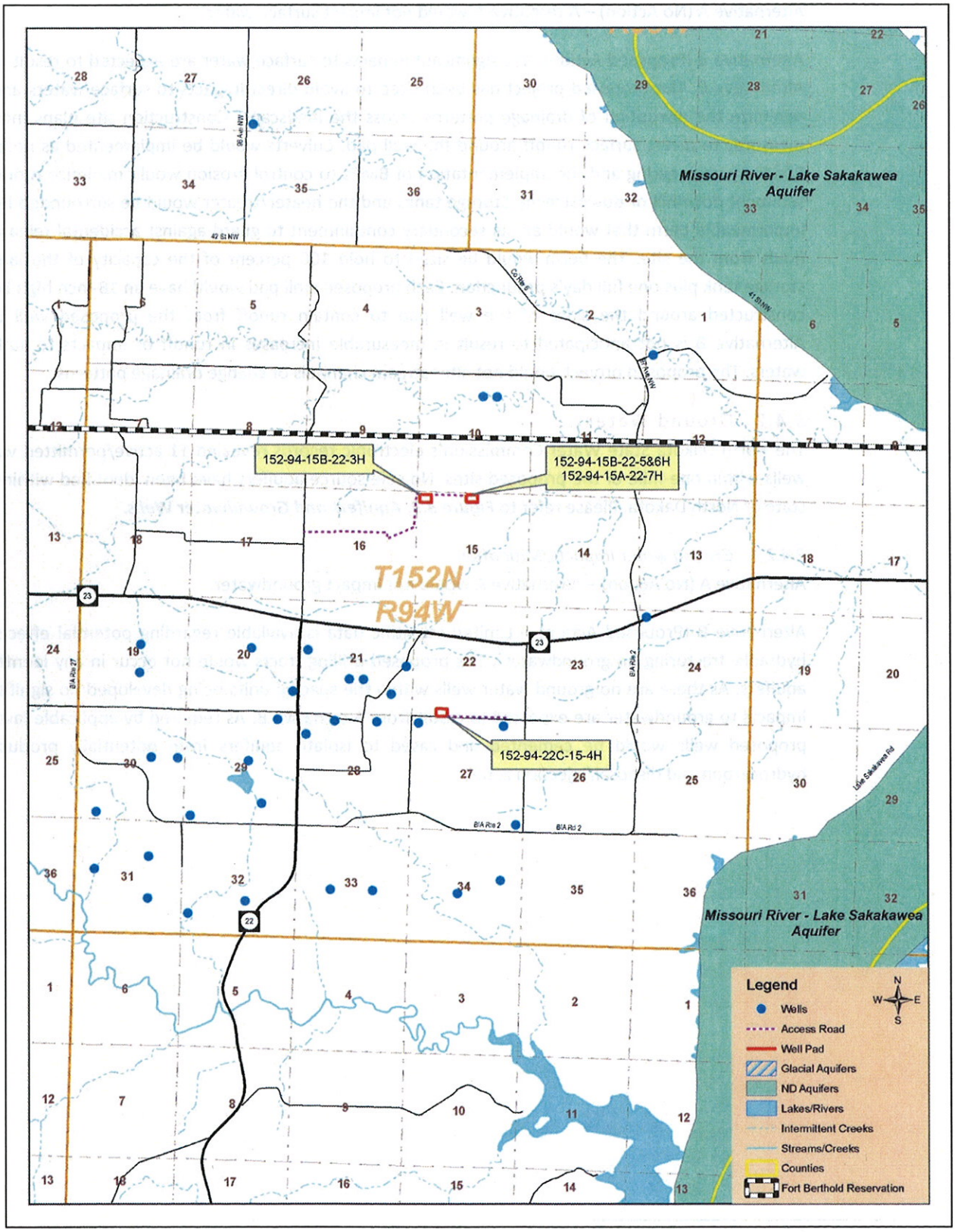


*Figure 3.3, Aquifers and Groundwater Wells*

## 3.5 Wetlands

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

Wetlands were not observed at any of the proposed well pad sites.

### 3.5.1 Wetland impacts/Mitigation

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

Alternative B (Proposed Action) – Due to the absence of wetlands within the proposed project area, Alternative B would not impact wetlands.

## 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 the Theodore Roosevelt National Park-North Unit (TRNP-NU), North Dakota, approximately 34.9 miles southwest of the three well pad sites proposed in this EA. Criteria pollutants tracked under EPA's National Ambient Air Quality Standards in the Clean Air Act include sulfur dioxide (SO2), particulate matter (PM), nitrogen dioxide (NO2), ozone (O3), lead (Pb), and carbon monoxide (CO). In addition, the NDDH has established state air quality standards. State standards must be as stringent as (but may be more stringent than) federal standards. The federal and state air quality standards for these pollutants are summarized in ***Table 3.5, Federal and State Air Quality Standards and Reported Data for TRNP-NU*** (EPA 2006, NDDH 2009, TRNP-NU 2009).

North Dakota was 1 of 13 states in 2009 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 (EPA 2006, NDDH 2010, TRNP-NU 2009).

In addition, the Fort Berthold Reservation complies with the North Dakota National Ambient Air Quality Standards and visibility protection. The *Clean Air Act* affords additional air quality protection near Class I areas. Class I areas include national parks greater than 6,000 acres in size, national monuments, national seashores and federally designated wilderness areas larger than 5,000 acres designated prior to 1977. There are no Federal Class I areas within the project area. The TRNP-NU is the nearest Class I area, located approximately 34.9 miles southwest of the proposed well sites.

*Table 3.5, 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 2009 REPORTED DATA | |
|---|---|---|---|---|---|---|---|
| | | $\mu g/m^3$ | PARTS PER MILLION | $\mu g/m^3$ | PARTS PER MILLION | $\mu g/m^3$ | PARTS PER MILLION |
| **$SO_2$** | 24-Hour | 365 | 0.14 | 260 | 0.099 | — | .0065 |
| | Annual Mean | 80 | 0.030 | 60 | 0.023 | — | .0012 |
| **$PM_{10}$**[8] | 24-Hour | 150 | — | 150 | — | 38.0 | — |
| | Annual Mean | 50 | — | 50 | — | 9.2 | — |
| **$PM_{2.5}$**[9] | 24-Hour | 35 | — | 35 | — | 11.0 | — |
| | Weighted Annual Mean | 15 | — | 15 | — | 4.1 | — |
| **$NO_2$** | Annual Mean | 100 | 0.053 | 100 | 0.053 | — | .001 |
| **CO** | golden | 40,000 | 35 | 40,000 | 35 | — | — |
| | 8-Hour | 10,000 | 9 | 10,000 | 9 | — | — |
| **Pb** | 3-Month | 1.5 | — | 1.5 | — | — | — |
| **$O_3$** | 1-Hour | 240 | 0.12 | 235 | 0.12 | — | .067 |
| | 8-Hour | — | 0.08 | — | 0.08 | — | .058 |

### 3.6.1 Air Quality Impacts/Mitigation

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

Alternative B (Proposed Action) – The Fort Berthold Reservation complies with North Dakota National Ambient Air Quality Standards and visibility protection. In addition, the 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 areas and are not anticipated to cause or contribute to a violation of National Ambient Air Quality Standards. No detectable or long-term impacts to air quality or visibility are expected within the airsheds of the Fort Berthold Reservation, State or Theodore Roosevelt National Park. No mitigation or monitoring measures are recommended. Petro Hunt would obtain a synthetic minor source permit from the EPA as required.

## 3.7 Endangered, Threatened, and Candidate Species

In accordance with Section 7 of the *Endangered Species Act* (ESA) of 1973, 50 CFR Part 402, as amended, each federal agency is required to ensure the following two criteria. First, any action funded or carried out by such agency must not be likely to jeopardize the continued existence of any federally-listed endangered or threatened species or species proposed to be listed. Second, no such action can result in the destruction or adverse modification of habitat of such species that is determined to be critical by the Secretary. An endangered species is in danger of extinction throughout all or a significant portion of its range. A threatened species is one that is likely to become

[8] $PM_{10}$ refers to particulates 10 micrometers ($\mu$) or less in size.

[9] $PM_{2.5}$ refers to particulates 2.5 micrometers ($\mu$) or less in size.

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 these species as having significant value and worth protecting.

The proposed action area was evaluated to determine the potential for occurrences of federally-listed threatened, endangered, and candidate species. The USFWS February 2012 Endangered, Threatened, and Candidate Species and Designated Critical Habitat in North Dakota county list identified the black-footed ferret, gray wolf, interior least tern, pallid sturgeon and whooping crane as endangered species that may be found within McKenzie County. The piping plover is listed as a threatened species. 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 these species were observed in the field. Habitat requirements, the potential for suitable habitat within the project area, and other information regarding listed species for McKenzie County are as listed in the following subsections.

### 3.7.1 Endangered Species

**Black-Footed Ferret (*Mustela nigripes*)**

The black-footed ferret historically could be found throughout the Rocky Mountains and Great Plains. In North Dakota, the black-footed ferret may potentially be present within prairie dog towns. However, the species has not been confirmed in North Dakota for over 20 years and is presumed 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.

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

**Gray Wolf (*Canis Lupis*)**

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

The project area is located far from other known wolf populations.

**Interior Least Tern (*Aterna antillarum*)**

The interior least tern nests along inland rivers. The interior least tern is found in isolated areas along the Missouri, Mississippi, Ohio, Red, and Rio Grande Rivers. In North Dakota, it is sighted along the Missouri River during the summer nesting season. The interior least tern nests in sandbars or barren beaches, preferably in the middle of a river for increased safety while nesting. These birds nest close together, using safety in numbers to scare away predators. According to the USFWS, the interior least tern may travel 30 miles or more from its nesting site to forage during the nesting season.

There is no existing or potential tern habitat within the project area. Potential habitat in the form of Lake Sakakawea shoreline may exist approximately 2.3 miles away from the proposed site at the nearest point (access road of Fort Berthold 152-94-22C-15-4H well pad).

**Pallid Sturgeon (*Scaphirhynchus albus*)**

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

Potential habitat for pallid sturgeon can be found in Lake Sakakawea approximately 2.3 miles from the project site at the closest point.

**Whooping Crane (*Grus Americana*)**

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

The proposed project is located in the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred. Lake Sakakawea, which also provides potential stopover habitat for whooping crane migration, is approximately 2.3 miles away from the sites at the nearest point.

### 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 habitat within the project area. According to USFWS data, critical habitat occurs throughout the entire shoreline of Lake Sakakawea. Lake Sakakawea is located approximately 2.3 miles away from the proposed project site at the closest point. Based on the lake level at the time of the surveys, the shoreline in the vicinity of the project areas did not provide suitable habitat for piping plovers. However, this does not preclude the potential for habitat to exist in the future due to fluctuating late levels.

### 3.7.3 Candidate Species

**Dakota Skipper (*Hesperia dacotae*)**

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

The proposed project area consists of actively grazed rangeland with abundant wildflowers. Therefore, the project sites may contain suitable habitat for the Dakota skipper. No Dakota skippers were observed during the field visits; however, the visits occurred after the Dakota Skipper butterfly life stage.

**Sprague's pipit (*Anthus spragueii*)**

The Sprague's pipit is a small songbird found in prairie areas throughout the Northern Great Plains. Preferred habitat includes open, rolling, well-drained, upland, mixed-grass prairie habitat with high plant species diversity. The Sprague's pipit breeds in large patches of habitat with minimal human disturbance and will avoid grasslands with excessive shrubs. The majority of the project area consisted of actively grazed rangeland which may provide potential habitat for the Sprague's pipit. No Sprague's pipit were observed during the field survey.

*3.7.3.2 Endangered, Threatened, and Candidate Species Impacts/Mitigation*

Alternative A (No Action) – Alternative A would not impact threatened or endangered species or designated critical habitat.

Alternative B (Proposed Action) –Suitable habitat for the interior least tern, pallid sturgeon and piping plover is largely associated with Lake Sakakawea and its shoreline. Potential habitat for these species exists approximately 2.3 miles southeast of the proposed sites at the nearest point. The well pads and access roads are located on upland bluffs composed of grassland, with Lake Sakakawea and its shoreline located below the bluffs (approximately 300 feet below in elevation at the nearest point). The topographic features of the area and distance from the shoreline should assist in providing sight and sound buffers for shoreline-nesting birds.

The Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H well pad is the closest proposed well pad to Lake Sakakawea in regards to water runoff concerns. This pad drains from both the east and west sides of the pad: from the west approximately 450 feet to the southwest, then 0.6 miles to the southeast before flowing approximately 0.2 miles to the northeast and into the drainage from the east side of the pad; and from the east approximately 0.5 miles to the southeast. All drainage from the well pad would then flow approximately 6.4 miles into Antelope Creek and eventually Lake Sakakawea. Upon completion of construction of the pad, all stormwater and potential spills would be contained on the pad.

Storage tanks and the heater/treater would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from the site. The berm would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. Upon completion of construction of the pad, all stormwater and potential spills would be contained on the pad. An 18-inch high berm would be placed around all sides of the well pads to act as

additional containment. Due to the implementation of secondary containment measures, the transfer of accidentally released fluids to Lake Sakakawea and its associated habitats is unlikely. However, due to the proximity of the proposed well pads to Lake Sakakawea (2.3 miles) the proposed project may affect but is not likely to adversely affect the interior least tern, pallid sturgeon and piping plover. The proposed project may affect, but is not likely to adversely affect, critical habitat for the piping plover. USFWS concurred with this determination in correspondence dated November 1, 2011. Please refer to Appendix B for correspondence.

The proposed project is located within the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred. Per USFWS recommendations, if a whooping crane is sighted within one-mile of the well sites or associated facilities while under construction, then 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. Potential forage and stopover habitat may exist near the west end of the access road for the proposed Fort Berthold 152-94-15B-22-3H well pad in the form of cropland. The proposed project sites and access roads do not contain wetlands. It is determined that the proposed project may affect, but is not likely to adversely affect, the whooping crane.

The proposed project area consists of native upland grasses with abundant wildflowers. Due to the presence of potential habitat for the Dakota skipper within the project area, the proposed action may impact individuals or habitat. An "effect determination" under Section 7 of the Endangered Species Act has not been made due to the current unlisted status of the species.

Due to the presence of potential habitat for the Sprague's pipit within the project area, the proposed action may impact individuals or habitat. An "effect determination" under Section 7 of the *Endangered Species Act* has not been made due to the current unlisted status of the species. In the event that construction takes place during the migratory bird nesting season, a pre-construction survey for migratory birds or their nests would be conducted by a qualified biologist within five days prior to the initiation of all construction activities. An alternative to pre-construction surveys, if chosen by Petro Hunt, would be to mow the area prior to the nesting/breeding season to inhibit use of the area by migratory birds.

## 3.8 Migratory Birds, Eagles, and Other Wildlife

An intensive, pedestrian resource survey of the proposed well pad and access road was conducted on September 21 and 30, 2011 by KL&J. The purpose of these surveys was to gather site-specific data and photos with regards to botanical, biological, and water resources. The study area consisted of 10 acres centered on the proposed well pads center points and a 200-foot wide corridor along the proposed access roads. Resources were evaluated using visual inspection and pedestrian transects across the sites. In addition, a survey for raptors and raptor nests within 0.5 miles of all project disturbance areas (well pad, access road, and associated rights-of-way) was conducted. This survey consisted of pedestrian transects focusing specifically on potential nesting sites within 0.5 miles of the project disturbance areas where survey permission allowed, including cliffs and wooded draws.

The BIA EA on-site assessment of the well pads and access roads were also conducted on September 21 and 30, 2011. The BIA Environmental Protection Specialist, representatives from the Tribal Historic Preservation Office, Petro Hunt and KL&J participated in these assessments. Construction suitability with respect to topography, stockpiling, drainage, erosion control, and other surface issues were

considered. The well pad and access road locations were adjusted and finalized, and the BIA gathered information needed to develop site-specific mitigation measures and BMPs to be incorporated into the final APDs. Those present at the on-site assessment agreed that the selected locations, along with the minimization measures Petro Hunt plans to implement, are positioned to minimize impacts to sensitive wildlife and botanical resources. In addition, comments received from the USFWS have been considered in the development of this project.

### 3.8.1 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*) is sighted in North Dakota along the Missouri River during spring and fall migration periods and periodically in other places in the state such as the Devils Lake and Red River areas. During the January 6, 2011 mid-winter bald eagle survey conducted by the North Dakota Game and Fish Department, 44 bald eagles were observed along the Missouri River. 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 miles of proposed project disturbance areas during the field surveys conducted on September 21 and 30, 2011.

The golden eagle (*Aquila chrysaetos*) can be spotted in North Dakota throughout the badlands and along the upper reaches of the Missouri River in the western part of the state. Golden eagle pairs maintain territories that can be as large as 60 square miles and nest in high places including cliffs, trees, and human-made structures. They perch on ledges and rocky outcrops and use soaring to search for prey. Golden eagle preferred habitat includes open prairie, plains, and forested areas. No golden eagles or eagle nests were observed within 0.5 miles of proposed project disturbance areas during the field surveys conducted on September 21 and 30, 2011.

The United States Geological Survey (USGS) Northern Prairie Wildlife Research Center maintains information on bald eagle and golden eagle habitat within the state of North Dakota. According to the USGS data, the 0.5 mile buffered survey area for the proposed well pad and access road does contain recorded habitat for both the bald eagle and the golden eagle. In addition, Dr. Anne Marguerite Coyle of Dickinson State University has completed focused research on golden eagles and maintains a database of golden eagle nest sightings. According to Dr. Coyle's information, the closest recorded golden eagle nest is located approximately 5.3 miles southeast of the closest proposed site (access road of Fort Berthold 152-94-22C-15-4H well pad). Please refer to ***Figure 3.4, Bald and Golden Eagle Habitat and Nesting Sites.***

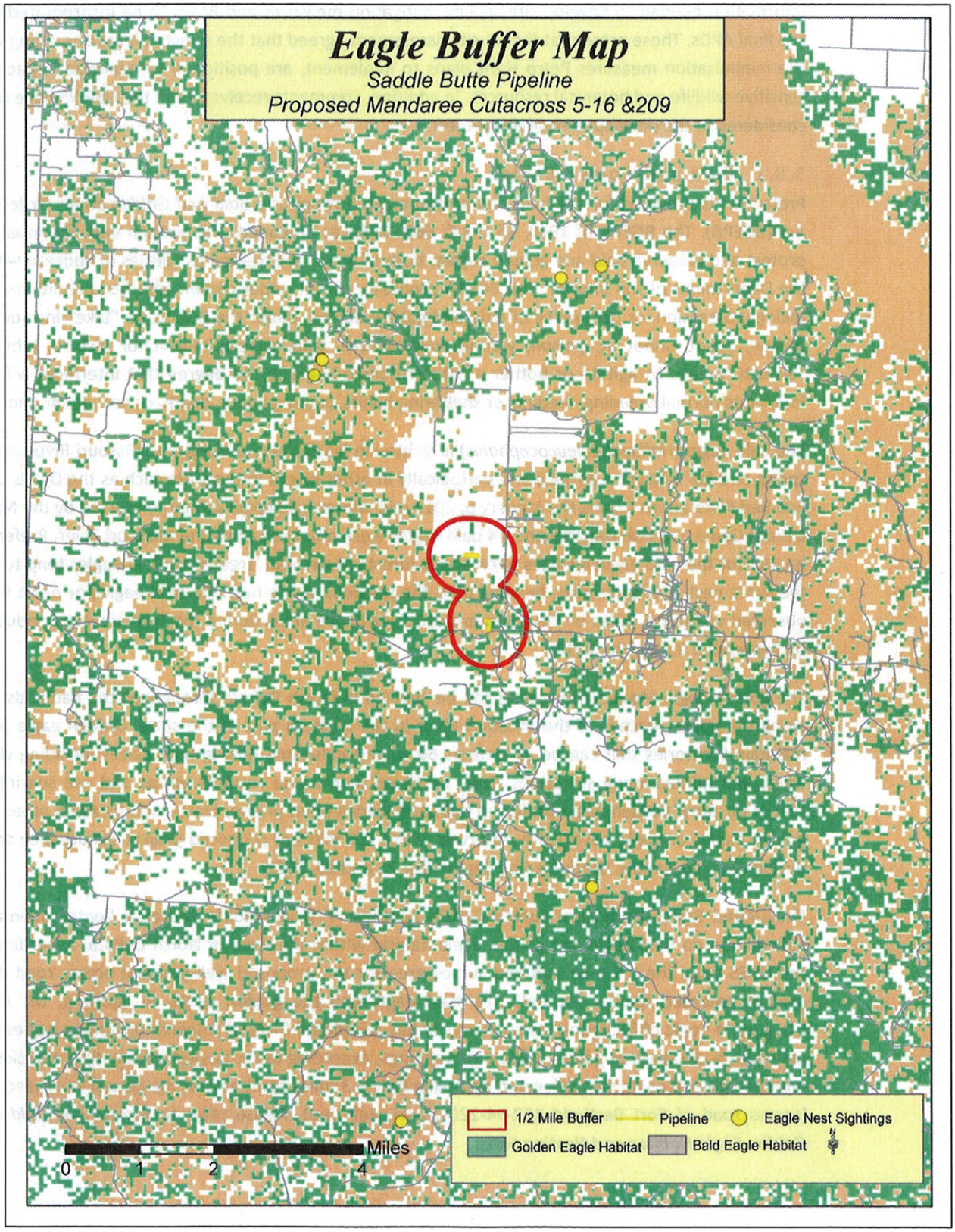


*Figure 3.4, Bald and Golden Eagle Habitat and Nesting Sites*

#### *3.8.1.1 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 golden or bald eagles were observed during the field investigations and no evidence of eagle nests were found within 0.5 miles of the project areas. Additionally, if electrical lines are installed, the lines would be buried to prevent the potential for bird strikes. Therefore, no impacts to bald or golden eagles are anticipated to result from the proposed project. If a bald or golden eagle or eagle nests are sighted within 0.5 miles of the project construction areas, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.

### 3.8.2 Migratory Birds and Other Wildlife

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

The proposed project study areas lie in the Central Flyway of North America. As such, this area is used as resting grounds for many birds on their spring and fall migrations, as well as nesting and breeding grounds for many waterfowl species. Other non-game bird species are known to fly through and inhabit this region. In addition, the project areas contain suitable habitat for mule deer (*Odocoileus hemionus*), whitetail deer (*Odocoileus virginianus*), plains sharptail grouse (*Tympanuchus phasianellus*), ring-necked pheasant (*Phasianus colchicas*), red tail hawk (*Buteo jamaicensis*), song birds, coyote (*Canis latrans*), red fox (*Vulpes vulpes*), Eastern cottontail rabbit (*Sylvilagus floridanus*), white-tailed jackrabbit (*Lepus townsendii*) and North American porcupine (*Erethizon dorsatum*).

During the pedestrian field surveys, cabbage butterflies and an unidentified hawk were observed within or near the study areas.

#### *3.8.2.1 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 wildlife and avian species, ground clearing, drilling and long-term production activities associated with the proposed project may impact individuals by displacing animals from suitable habitat for the wildlife species discussed above. Construction may occur during the migratory bird nesting/breeding season of February 1 to July 15. If construction is planned to occur during that period, pre-construction surveys for migratory birds or their nests would be conducted within five days prior to the initiation of construction activities. An alternative to pre-construction surveys, if chosen by Petro Hunt, would be to mow/grub the area prior to the nesting/breeding season to deter use of the area by migratory birds.

While many species of wildlife may continue to use the project area for breeding and feeding and continue to thrive, the activities associated with oil and gas development may displace animals from otherwise suitable habitats. As a result, wildlife may be forced to utilize marginal habitats or relocate

to unaffected habitats where population density and competition increase. Consequences of such displacement and competition may be lower survival, lower reproductive success, lower recruitment and lower carrying capacity, leading ultimately to population-level impacts. Therefore, the proposed project may affect individuals and populations within these wildlife species, but is not likely to result in a trend towards listing of any of the species identified.

The proposed access road of Fort Berthold 152-94-22C-15-4H well pad, the closest to Lake Sakakawea, is located on an upland area that is at a higher elevation (approximately 300 feet) than the shoreline. The topographic features of the area 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 areas. In addition, design considerations would be implemented to further protect against potential habitat degradation. The storage tanks and heater/treater would be surrounded by an impermeable berm that would act as secondary containment to guard against possible spills. The berm would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. BMPs to minimize wind and water erosion of soil resources would also be put into practice. An 18-inch high berm would be constructed around all proposed well pad sites.

All reasonable, prudent and effective measures to avoid the taking of migratory bird species would be implemented during the construction and operation phases. These measures would include: the use of suitable mufflers on all internal combustion engines; certain compressor components to mitigate noise; only utilizing approved roadways; placing wire mesh or grate covers over barrels or buckets placed under valves and spigots to collect dripped oil; and burial of electrical lines.

## 3.9 Vegetation

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

The proposed Fort Berthold 152-94-15B-22-3H well pad consists of actively grazed rangeland. The proposed well pad site was dominated by native range species. The proposed access road consisted of cropland and native rangeland. No wetlands were observed in the study area; therefore, no wetland plant species were observed. Additionally, no noxious weeds were observed and no threatened or endangered plant species are listed for McKenzie County. Please refer to ***Figure 3.5, Fort Berthold 152-94-15B-22-3H Proposed Site Vegetation.***

***Figure 3.5, Fort Berthold 152-94-15B-22-3H Proposed Site Vegetation***

The proposed Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H well pad consisted of native rangeland species. The proposed access road consisted of cropland and native rangeland. No wetlands were observed in the study area; therefore, no wetland plant species were observed. No noxious weeds were observed and no threatened or endangered plant species are listed for McKenzie County. Please refer to ***Figure 3.6, Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H Proposed Site Vegetation.***

The proposed Fort Berthold 152-94-22C-15-4H well pad and access road areas consisted of native rangeland species. No wetlands were observed in the study area; therefore, no wetland plant species were observed. Additionally, no noxious weeds were observed and no threatened or endangered plant species are listed for McKenzie County. Please refer to ***Figure 3.7, Fort Berthold 152-94-22C-15-4H Proposed Site Vegetation.***

*Figure 3.6, Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H Proposed Site Vegetation*

*Figure 3.7, Fort Berthold 152-94-22C-15-4H Proposed Site Vegetation*

The project area was surveyed for the presence of noxious weeds. Of the 11 species declared noxious under the North Dakota Century Code (Chapter 63-01.0), 5 are known to occur in McKenzie County. No noxious weeds were observed at the proposed project sites. Please refer to ***Table 3.6, Noxious Weed Species.*** In addition, counties and cities have the option to add species to the list to be enforced within their jurisdictions. McKenzie County has added black henbane, common burdock, houndstongue, halogeton and baby's breath to the noxious weed list (revised April 2011).

***Table 3.6, Noxious Weed Species***

| COMMON NAME | SCIENTIFIC NAME | 2010 MCKENZIE COUNTY REPORTED ACRES |
|---|---|---|
| Absinth wormwood | *Artemesia absinthium L.* | — |
| Baby's breath | *Gypsophila paniculata* | — |
| Black henbane | *Hyoscyamus niger* | — |
| Canada thistle | *Cirsium arvense (L.) Scop* | — |
| Common burdock | *Arctium minus* | — |
| Dalmation toadflax | *Linaria genistifolia ssp. Dalmatica* | — |
| Diffuse Knapweed | *Centaurea diffusa Lam* | — |
| Halogeton | *Halogeton glomeratus* | — |
| Houndstongue | *Cynoglossum officinale* | — |
| Leafy spurge | *Euphorbia esula L.* | — |
| Musk thistle | *Carduus nutans L.* | — |
| Purple loosestrife | *Lythrum salicaria* | — |
| Russian knapweed | *Acroptilon repens (L) DC.* | — |
| Saltcedar (tamarisk) | *Tamarix ramosissima* | — |
| Spotted knapweed | *Centaurea maculosa Lam.* | — |
| Yellow toadflax | *Linaria vulgaris* | — |

### 3.9.1 Vegetation Impacts/Mitigation

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

Alternative B (Proposed Action) – Ground clearing activities associated with construction of the proposed wells and access roads would result in vegetation disturbance; however, the areas of proposed surface disturbances are minimal in the context of the setting, and these impacts would be further minimized in accord with the BLM Gold Book standards for well reclamation. Disturbance of vegetation in areas of noxious weed infestations may increase the potential for redistribution of invasive species within the project area. The spread of noxious weeds can have an adverse effect on multiple aspects of vegetative resources ranging from the suitability of sensitive plant habitat and maintenance of native biodiversity providing habitat for wildlife species as well as forage production for livestock grazing. If advised by the BIA, identified noxious weed infestations may be treated with a BIA/BLM approved herbicide prior to construction to prevent the spread of noxious weeds.

Following construction, interim reclamation measures to be implemented include reduction of cut and fill slopes, redistribution of stockpiled topsoil and re-seeding of disturbed areas with a native grass seed mixture consistent with surrounding vegetation. If commercial production equipment is installed, the well pads would be reduced in size to accommodate the production facilities, while leaving adequate room to conduct normal well maintenance and potential recompletion operations,

with the remainder of the well pad reclaimed. Reclamation activities would include leveling, re-contouring, treating, backfill and re-seeding with a native grass seed mixture from a BIA/BLM-approved source. Erosion control measures would be installed as appropriate. Stockpiled topsoil would be redistributed and re-seeded as recommended by the BIA.

If no commercial production is developed from any of the proposed wells, or upon final abandonment of commercial operations, all disturbed areas would be promptly reclaimed. The access road and well pad areas would be re-contoured to match topography of the original landscape as closely as possible and re-seeded with vegetation consistent with surrounding native species to ensure a healthy and diverse mix free of noxious weeds. Seed would be obtained from a BIA/BLM-approved source. Re-vegetation of the site would be consistent with the BLM Gold Book standards. Erosion control measures would be installed as appropriate in a manner that is consistent with the BLM Gold Book standards. Maintenance of the re-vegetated site would continue until such time that the stand was consistent with the surrounding undisturbed vegetation and the site free of noxious weeds. The surface management agency would provide final inspection of the site to deem the reclamation effort complete.

## 3.10 Cultural Resources

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 these peoples, regardless of eligibility for listing on the NRHP.

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

KL&J performed a Class I Literature review for the proposed Fort Berthold 152-94-15B-22-3H and Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H sites on July 13, 2011 and for the proposed Fort Berthold 152-94-22C-15-4H site on July 29, 2011.

KL&J, accompanied by a THPO tribal monitor, performed a Class III Cultural Resources Inventory on approximately 17 acres for the proposed Fort Berthold 152-94-15B-22-3H well pad and access road on September 30, 2011. No new or previously recorded cultural materials were identified. A finding of *No Historic Properties Affected* was recommended to the BIA.

The initial Class III Cultural Resources Inventory for the proposed Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H site was conducted by KL&J, accompanied by a THPO tribal monitor, was conducted on July 27, 2011 and covered approximately 20 acres centered on the proposed well pad. An additional 62.5 acre Class III Inventory was performed by KL&J and a THPO tribal monitor on September 21, 2011 on the proposed access road. One new cultural site was recorded. The preferred access road was sited to avoid the newly recorded cultural site; as such, a finding of *No Historic Properties Affected* was recommended to the BIA.

A Class III Cultural Resources Inventory was conducted on approximately 25.6 acres at the proposed Fort Berthold 152-94-22C-15-4H site by KL&J and a THPO tribal monitor. The survey was completed for the well pad on September 30, 2011 and for the access road on August 2, 2011. No new or previously recorded cultural materials were encountered during the inventory. A finding of *No Historic Properties Affected* was recommended to the BIA.

### 3.10.1 Cultural Resources Impacts/Mitigation

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

Alternative B (Proposed Action) – All sites have been positioned to avoid impacts to cultural resources. As such, cultural resources impacts are not anticipated. A finding of *No Historic Properties Affected* was recommended to the BIA. The BIA also reached a *No Historic Properties Affected* recommendation for the proposed pads and the determination was communicated to the THPO on November 16, 2011 for the 152-94-22C-15-4H and 152-94-15B-22-3H well pads and on October 11, 2011 for the 152-94-15B-22-5&6H/152-94-15A-22-7H pad. The THPO did not respond to any of the affects determinations within the 30-day allotted comment period.

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

## 3.11 Socioeconomic Conditions

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

The Fort Berthold Reservation is home to six major communities, consisting of New Town, White Shield, Mandaree, Four Bears, Twin Buttes and Parshall. These communities provide small business

amenities such as restaurants, grocery stores, and gas stations; however, they lack the larger shopping centers that are typically found in larger cities of the region such as Minot and Bismarck. According to 2000 US Census data, educational/health/social services is the largest industry on the Reservation, followed by the entertainment/recreation/accommodation/food industry[10]. 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 and Three Affiliated Tribes Lumber Construction Manufacturing Corporation.

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

### 3.11.1 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. Petro Hunt 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.

## 3.12 Environmental Justice

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

Generally, the Three Affiliated Tribes qualify for environmental justice consideration as both a minority and low-income population. The population of North Dakota is predominantly Caucasian.

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

Tribal members compromise only 5.4 percent of North Dakota's population and 22.2 percent of the population of McKenzie County[11].

As of 2000, the Fort Berthold Reservation and McKenzie County had lower than statewide averages of per capita income and median household income. In addition, McKenzie County had slightly lower rates of unemployment than the state average, while Fort Berthold's rate of unemployment was substantially greater[12]. Please refer to ***Table 3.7, Employment and Income.***

***Table 3.7, Employment and Income***

| LOCATION | PER CAPITA INCOME | MEDIAN HOUSEHOLD INCOME | UNEMPLOYMENT RATE | INDIVIDUALS LIVING BELOW POVERTY LEVEL |
|---|---|---|---|---|
| McKenzie County | $14,732 | $29,342 | 4.1% | 17.2% |
| Fort Berthold Reservation | $10,291 | $26,274 | 11.1% | 28.1% |
| Statewide | $17,769 | $34,604 | 4.6% | 11.9% |

Source: U.S. Census Bureau, Census 2000

Population decline in rural areas of North Dakota has been a growing trend as individuals move toward metropolitan areas of the state, such as Bismarck and Fargo. However, both McKenzie County and the Fort Berthold Reservation have witnessed a steady increase in population over the last 10 years. 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 3.8, Demographic Trends.***

***Table 3.8, Demographic Trends***

| LOCATION | POPULATION IN 2010 | % OF STATE POPULATION | % CHANGE 2000–2010 | PREDOMINANT RACE | PREDOMINANT MINORITY |
|---|---|---|---|---|---|
| McKenzie County | 6,360 | 0.95% | 10.9% | White | American Indian (22.2%) |
| Fort Berthold Reservation | 6,341 | 0.94% | 7.2% | American Indian[13] | White (23.8%) |
| Statewide | 672,591 | — | 4.7% | White | American Indian (5.4%) |

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

[11] Based on 2010 US Census Bureau Data

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

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

### 3.12.1 Environmental Justice Impacts/Mitigation

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

Alternative B (Proposed Action) – Alternative B would not require relocation of homes or businesses, cause community disruptions or cause disproportionately adverse impacts to members of the Three Affiliated Tribes. 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. In addition, the Three Affiliated Tribes and allotted owners of mineral interests may receive income from oil and gas development on the Fort Berthold Reservation in the form of royalties, if drilling and production are successful, as well as from Tribal Employee Rights Office (TERO) taxes on construction of drilling facilities.

## 3.13 Infrastructure and Utilities

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

Known utilities and infrastructure within the vicinity of the proposed project includes paved and gravel roadways. North Dakota Highway 22 is located west of the proposed well pads, while North Dakota Highway 23 is located north of the proposed Fort Berthold 152-94-22C-15-4H site.

### 3.13.1 Infrastructure and Utility Impacts/Mitigation

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

Alternative B (Proposed Action) –Vehicular traffic associated with construction, operation, and maintenance of the proposed action would increase the overall traffic on the local roadway network. Alternative B would also require construction of new access roads to each proposed well pad. Please refer to ***Table 3.9, Summary of Proposed Access Roads*** for information regarding the proposed access roads.

***Table 3.9, Summary of Proposed Access Roads***

| WELL SITE | ACCESS ROAD LENGTH | WHAT ACCESS ROAD CONNECTS INTO |
|---|---|---|
| Fort Berthold 152-94-15B-22-3H | 113 feet | 100th Ave NW |
| Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H | 1.8 miles | 100th Ave NW |
| Fort Berthold 152-94-22C-15-4H | 0.5 miles | Adjacent access road then 98th Ave NW |

Safety hazards posed from increased traffic during the drilling phase are anticipated to be short-term and minimal for the proposed site. It is anticipated that approximately 30 to 40 trips, over the course of several days, would be required to transport the drilling rig and associated equipment to the proposed well site. If commercial operations are established at any of the proposed well sites following

drilling activities, the pump would be checked daily and oil and water hauling activities would commence. Oil would be hauled using a semi tanker trailer, typically capable of hauling 140 barrels of oil per load. Traffic to and from the well site would depend upon the productivity of the well. A 1,000 barrel per day well would require approximately seven tanker visits per day, while a 300 barrel per day well would require approximately two visits per day [14]. Produced water would also be hauled from the site using a tanker, which would typically haul 110 barrels of water per load. The number of visits would be dependent upon daily water production [15]. Established load restrictions for state and BIA roadways would be followed and haul permits would be acquired as appropriate.

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

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

## 3.14 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[16].

### 3.14.1 Public Health and Safety Impacts/Mitigation

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

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[14] 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.

[15] 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.

[16] $H_2S$ 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 $H_2S$.

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

**H2S Gases**

It is unlikely that the proposed action would result in release of $H_2S$ in dangerous concentrations; however, Petro Hunt would submit $H_2S$ Contingency Plans to the BLM as part of the site APDs. These plans establish safety measures to be implemented throughout the drilling process to prevent accidental release of $H_2S$ into the atmosphere. The Contingency Plans are designed to protect persons living and/or working within 3,000 feet (0.57 miles) of the 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 one building or residence located within 3,000 feet of the proposed well pad sites.

**Hazardous Materials**

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

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

## 3.15 Cumulative Considerations

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

### 3.15.1 Past, Present, and Reasonable Foreseeable Actions

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

According to the NDIC, as of March 1, 2012, there were approximately 1,447 active and/or confidential oil and gas wells within the 20-mile radius of the proposed project sites. Please refer to ***Figure 3.8, Existing and Proposed Oil and Gas Wells*** and ***Table 3.10, Summary of Active and Proposed Wells.***

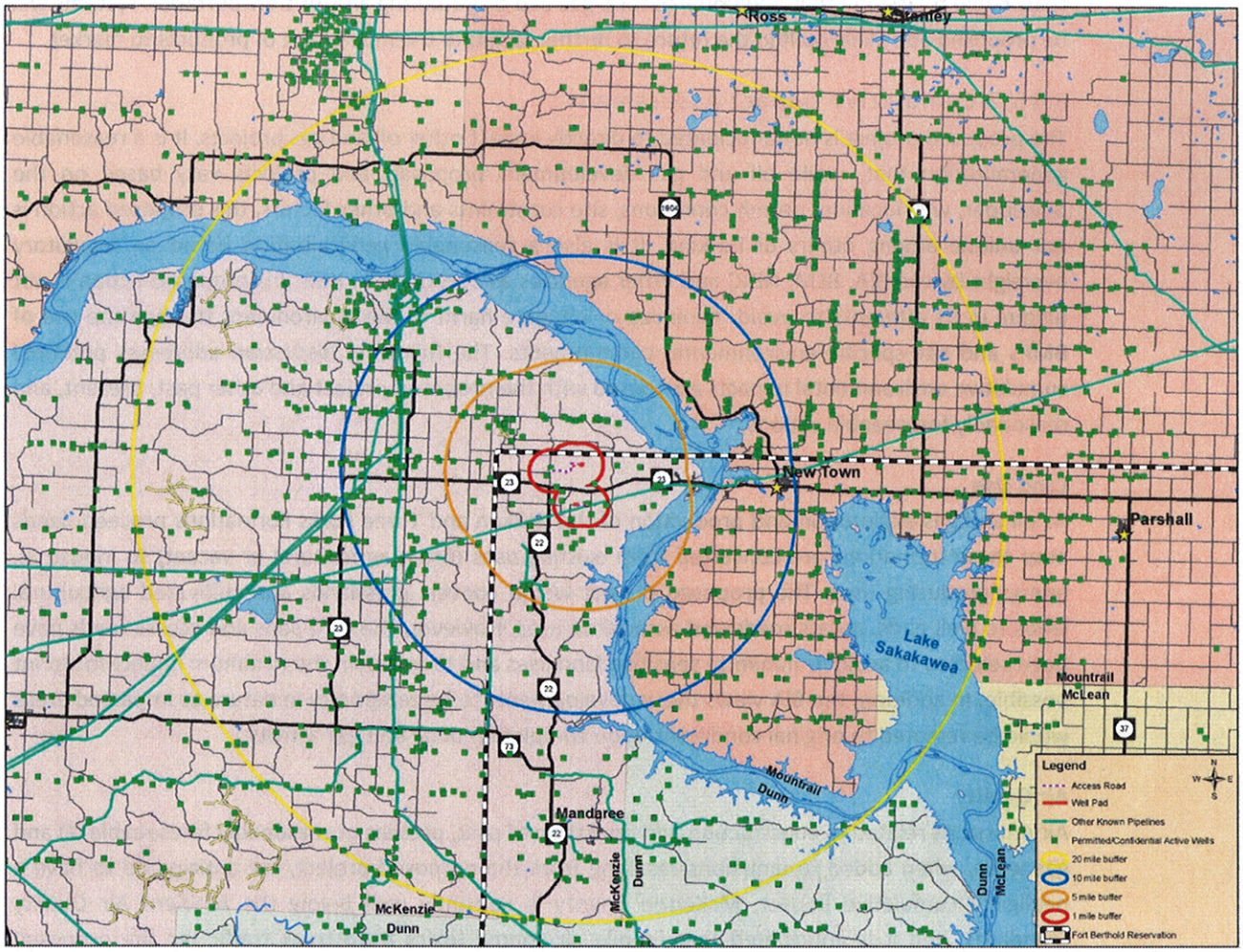


*Figure 3.8, Existing and Proposed Oil and Gas Wells*

*Table 3.10, Summary of Active and Proposed Wells*

| DISTANCE FROM SITE | NUMBER OF ACTIVE OR PROPOSED WELLS |
|---|---|
| 1 mile radius | 10 |
| 5 mile radius | 100 |
| 10 mile radius | 393 |
| 20 mile radius | 1,447 |

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. Currently, natural gas gathering systems have been approved and are being constructed on the Fort Berthold Reservation. It is also

reasonable to assume that additional natural gas and oil gathering and/or transportation systems will be proposed and likely built in the future to further facilitate the movement of products to market.

### 3.15.2 Cumulative Impact Assessment

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

**Land Use**

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

**Air Quality**

Air emissions related to construction and operation of past, present or reasonably foreseeable oil and gas wells, when added to emissions resulting from the proposed project, are anticipated to have a negligible cumulative impact. 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.

**Wildlife and Vegetation**

The proposed project, when added to previously constructed and reasonably foreseeable oil and gas wells, would contribute to habitat loss and fragmentation associated with construction of well pads, access roads, and associated development. The North Dakota Parks and Recreation Department notes in its undated publication, North Dakota Prairie: Our Natural Heritage, that approximately 80 percent of the state's native prairie has been lost to agriculture, with most of the remaining areas found in the arid west; ongoing oil and gas activity has the potential to threaten remaining native prairie resources.

While many species of wildlife may continue to use the project area for breeding and feeding and continue to thrive, the activities associated with oil and gas development may displace animals from otherwise suitable habitats. As a result, wildlife may be forced to utilize marginal habitats or relocate to unaffected habitats where population density and competition increase. Consequences of such displacement and competition may include lower survival, lower reproductive success, lower recruitment, and lower carrying capacity leading ultimately to population-level impacts. In particular, species that rely on native prairie for breeding, feeding, and sheltering, such as the Dakota skipper

and the Sprague's pipit, may experience population impacts due to the cumulative loss of habitat through conversion and fragmentation. The addition of oil and gas wells and roadways to existing human development may also create an indirect cumulative impact on the Sprague's pipit due to its avoidance of non-prairie features.

The proposed action and other similar actions are carefully planned to avoid or minimize impacts to wildlife and associated habitat. 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, 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 well pads have been sited to avoid sensitive areas such as surface water, wetlands, and riparian areas. Reclamation activities are anticipated to minimize and mitigate disturbed habitat.

**Infrastructure and Utilities**

The proposed action, along with other oil and gas wells proposed and drilled in the Bakken and Three Forks Formations, requires infrastructure and utilities to provide needed resource inputs and accommodate outputs such as fresh water, power, site access, transportation for products to market, disposal for produced water and other waste materials. As with the proposed action, many other well sites currently being proposed and/or built are positioned to make the best use of existing roads and to minimize the construction of new roads; however, some length of new access roads are commonly associated with new wells. The well pads have been positioned in close proximity to existing roadways to minimize the extent of access road impacts in the immediate area. The proposed project and other projects may contribute to stress on local roadways used for hauling materials, which may result in a cumulative impact to local roadways. However, abiding by permitting requirements and roadway restrictions is 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.

## 3.16 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 soil lost through wind and water erosion, cultural resources inadvertently destroyed, wildlife killed during earth-moving operations or in collisions with vehicles and energy expended during construction and operation.

## 3.17 Short-term Use of the Environment versus Long-term Productivity

Short-term activities would not significantly detract from long-term productivity of the project area. The area dedicated to the access road and well pad would be unavailable for livestock grazing,

wildlife habitat or other uses. However, allottees with surface rights would be compensated for loss of productive acreage and project footprints would shrink considerably once the wells were drilled and non-working areas are reclaimed and reseeded. Successful and ongoing reclamation of the landscape would reestablish the land's use for wildlife and livestock grazing, stabilize the soil and reduce the potential for erosion and sedimentation. The primary long-term resource loss would be the extraction of oil and gas resources from the Bakken and Three Forks Formations, which is the purpose of this project.

## 3.18 Permits

Petro Hunt will be required to acquire the following permits prior to construction:

- *Application for Permit to Drill* – Bureau of Land Management
- *Application for Permit to Drill* – North Dakota Industrial Commission
- *Synthetic Minor Source Permit* – Environmental Protection Agency

## 3.19 Environmental Commitments/Mitigation

Pending approval of this NEPA document, Petro Hunt would commit to the following items:

- Topsoil would be segregated and stored on-site to be used in the reclamation process. All disturbed areas would be re-contoured to original elevations as close as possible as part of the reclamation process.
- Woody vegetation cleared from the site would be chipped on-site and incorporated into topsoil stockpiles.
- BMPs (may include, but are not limited to, hydro-seeding, erosion mats and biologs) would be implemented to minimize wind and water erosion of soil resources. Soil stockpiles would be positioned to help divert runoff around the well pads.
- Well sites and access roads would avoid surface waters. The proposed project would not alter stream channels or change drainage patterns.
- All spills or leaks of chemicals and other pollutants would be reported to the BLM and EPA. The procedures of the surface management agency shall be followed to contain leaks or spills.
- All proposed wells would be cemented and cased to isolate aquifers from potentially productive hydrocarbon and disposal/injection zones.
- Wetlands and riparian areas would be avoided.
- If advised by the BIA, identified noxious weed infestations may be treated with a BIA/BLM approved herbicide prior to construction to prevent the spread of noxious weeds.
- 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.

- Well sites and access roads would avoid impacts to cultural resources. If cultural resources are discovered during construction or operation, work shall immediately be stopped, the affected site secured, and BIA and THPO notified. In the event of a discovery, work shall not resume until written authorization to proceed has been received from the BIA.

- Access roads would be located at least 75 feet away from identified cultural resources. The boundaries of these 75-foot "exclusion zones" would be marked as an extra measure to ensure that inadvertent impacts to cultural resources are avoided.

- All project workers are prohibited from collecting artifacts or disturbing cultural resources in any area under any circumstances.

- Petro Hunt would ensure all contractors working for the company will adhere to all local, county, tribal, and state regulations and ordinances regarding rig moves, oversize/overweight loads, and frost law restrictions.

- Utility modifications would be identified during design and coordinated with the appropriate utility company.

- Disposal areas would be properly fenced to prevent human or animal access.

- H2S Contingency Plans for each well site would be submitted to the BLM as part of the APD.

- Established load restrictions for state and BIA roadways would be followed and haul permits would be acquired as appropriate.

- Suitable mufflers would be put on all internal combustion engines and certain compressor components to mitigate noise levels.

- Wells and associated facilities would be painted in shale earth tones, based on standard colors recommended by the BLM, to allow them to better blend in with the natural background color of the surrounding landscape.

- BMPs would be used during construction to ensure contaminants do not move off site.

- A closed loop system would be used during drilling on all proposed sites. Drill cuttings would be solidified and placed in steel tanks on liners. All liquids and drill cuttings from drilling would be transported off-site.

- If a whooping crane is sighted within one-mile of a site or associated facilities while it is 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.

- Construction activities may occur during the migratory bird breeding/nesting season (February 1 to July 15). In the event that a construction takes place within the nesting and breeding season, pre-construction surveys for migratory birds or their nests would be conducted within five days prior to the initiation of construction activities. An alternative to pre-construction surveys, if chosen by Petro Hunt, would be to mow/grub the area prior to the nesting/breeding season to inhibit use of the area by migratory birds.

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

- Wire mesh or grate covers would be placed over barrels or buckets placed under valves and spigots to collect dripped oil.
- All storage tanks and heater/treater would be surrounded by an impermeable berm that would act as secondary containment to guard against possible spills. The berm would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production.
- A two-foot high berm would be constructed around the entire well pad. Any fluid that accumulates along the berm would be pumped out and disposed of properly. Additionally, pad design would also aid in the containment and control of runoff on the pad.
- Re-seeding of native species shall occur as needed on stockpile areas and slope areas during reclamation.
- Facilities on the well pad shall be located as close together as safely possible.
- Spoil piles should be placed on the high/cut side of pads as feasible, to aid in reclamation.
- The site shall include interim reclamation as soon as possible after the production phase.
- All utilities and pipelines would be installed below ground.
- The operator would provide dust control for their haul roads and access roads.

# 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 (CEQ) regulations for implementing NEPA, the efforts of an interdisciplinary team comprising technicians and experts in various fields were required to accomplish this study.

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

## 4.2 Preparers

KL&J prepared this EA under a contractual agreement between Petro Hunt, LLC. and KL&J. 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 | |
| **Petro Hunt** | Mike Lindsey | Project Coordinator, Landman | Project development, alternatives |
| | Mike Huber | Project Coordinator, Landman | Project development, alternatives |
| **Kadrmas, Lee & Jackson, Inc.** | Grady Wolf | Environmental Scientist | Field resource surveys, client and agency coordination, senior review |
| | Jennifer Macy | Archaeologist | Cultural resources surveys |
| | Kelly Morgan | Archaeologist | Cultural resources surveys |
| | Alvin R. Lambert | Surveyor | Site Plats |
| | Jeff Price | GIS Analyst | Impact assessment, exhibit creation |
| | Kayla Torgerson | Environmental Planner | Principal author |

## 4.3 Agency Coordination

To initiate early communication and coordination, an early notification package to tribal, federal, state, and local agencies and other interested parties was distributed on October 12, 2011. This scoping package included a brief description of the proposed project, as well as a location map.

Pursuant to Section 102(2) (D) (IV) of NEPA, a solicitation of views was requested to ensure that social, economic, and environmental effects were considered in the development of this project.

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

## 4.4 Public Involvement

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

# CHAPTER 5 REFERENCES

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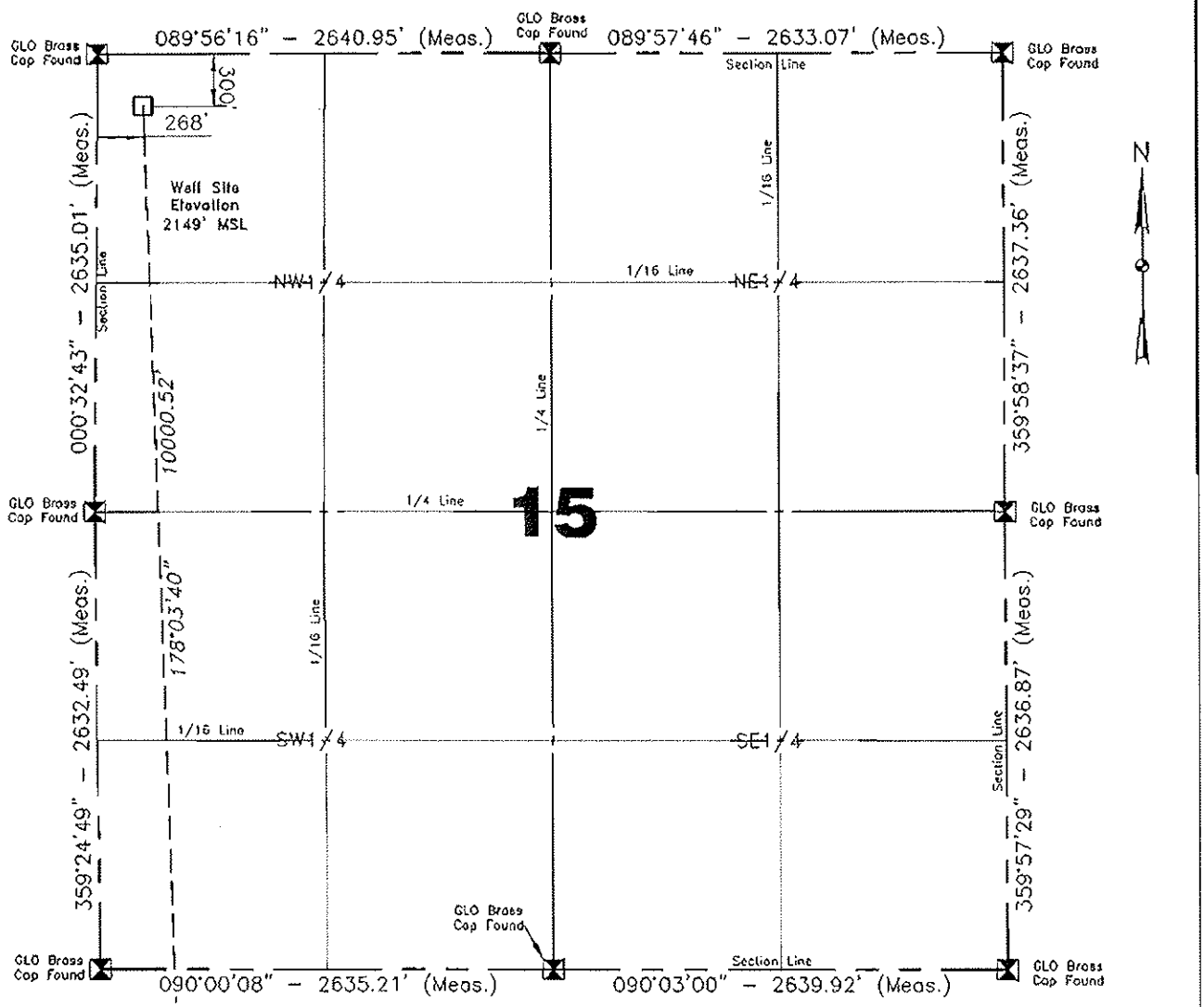
# Appendix A

# Plats

# WELL LOCATION PLAT

Petro-Hunt, L.L.C.
258 119 Avenue S.W. Killdeer, ND 58640
Fort Berthold 152-94-15B-22-3H
300 feet from the north line and 268 feet from the west line (surface location)
Section 15, T. 152 N., R. 94 W., 5th P.M.
250 feet from the south line and 600 feet from the west line (bottom location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site - Three Affiliated Tribes
Latitude 47°59'28.905" North; Longitude 102°42'22.560" West (surface location)
Latitude 47°57'50.282" North; Longitude 102°42'17.529" West (bottom location)
[Derived from OPUS Solution NAD-83(CORS96)]

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**Scale 1"=1000'**

NOTE: All land corners are assumed unless otherwise noted.
The well location shown hereon is not an as-built location.

I, Donald Leischner, Professional Land Surveyor, N.D. No. 7103, 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.

Alvin R. Lambert 09/30/2011
Surveyed By N.D.P.L.S. #1241 Date

REGISTERED PROFESSIONAL LAND SURVEYOR
DONALD LEISCHNER
LS-7103
DATE 12-12-11
NORTH DAKOTA
DATE

Vertical Control Datum Used
Sea-Level Datum of NAVD 88
Based on elevation derived from OPUS Solution on GPS*KLJ1 (iron rebar) Located a distance of 5965.00' on an azimuth of 165°51'07" from the SE corner of Section 15 T.152N., R.94W., 5th P.M. being at 2143.93' Elevation MSL.

Project No. 8711279
Book 0-109 Pg. 28-32 Staking


Professional Consulting Engineers and Surveyors
Registered in
North Dakota, South Dakota
Montana, Wyoming & Minnesota
Tele-Fax No. 701-572-2019
Bus. Phone No. 701-572-6352
222 Airport Road
Williston, North Dakota 58801-2976
Certificate of Authorization #C-061


Kadrmas Lee & Jackson
Engineers Surveyors Planners



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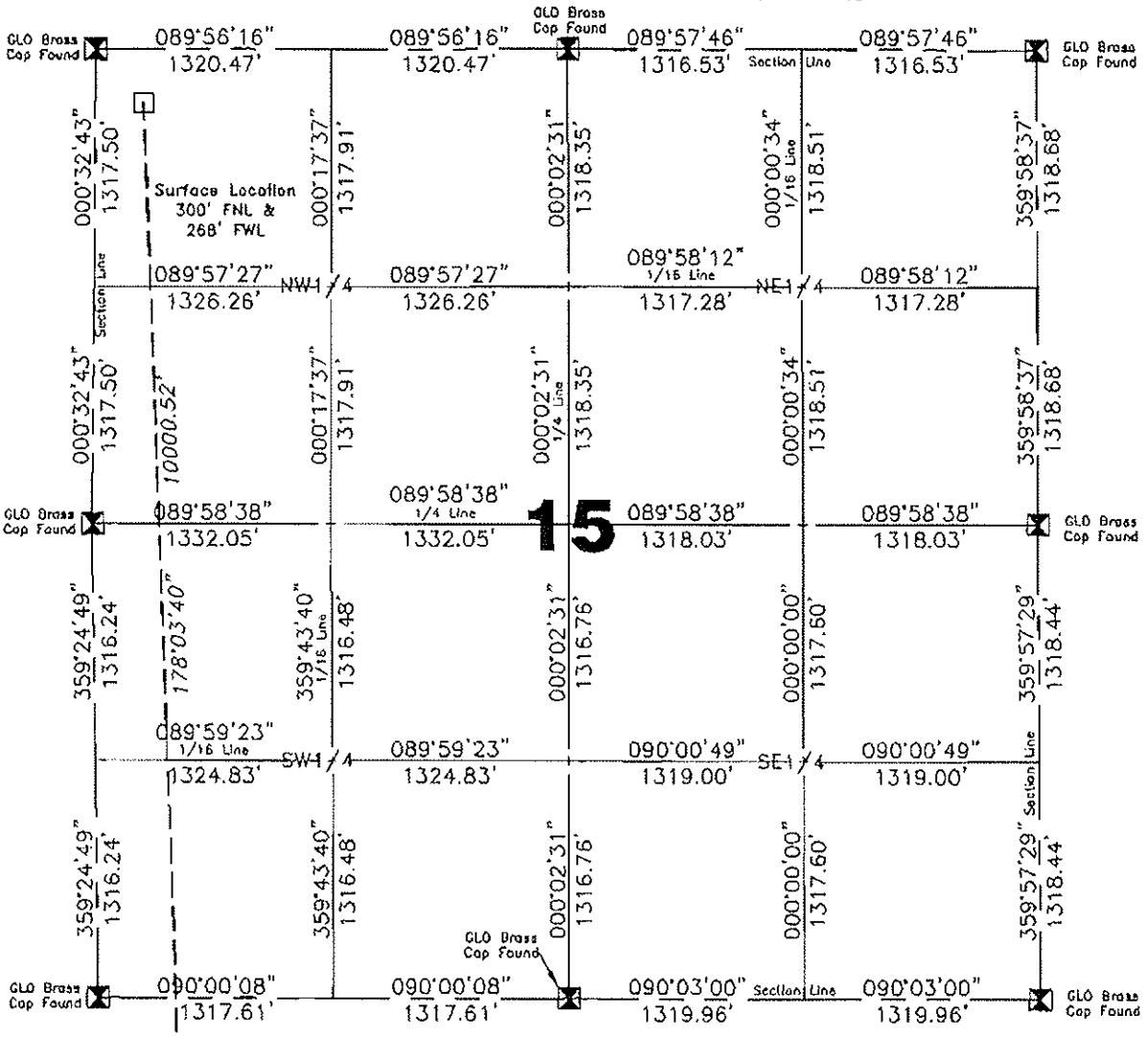
# HORIZONTAL SECTION PLAT

Petro-Hunt, L.L.C.
258 119 Avenue S.W. Killdeer, ND 58640

## Fort Berthold 152-94-15B-22-3H

300 feet from the north line and 268 feet from the west line (surface location)
Section 15, T. 152 N., R. 94 W., 5th P.M.
250 feet from the south line and 600 feet from the west line (bottom location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site - Three Affiliated Tribes

Latitude 47°59'28.905" North; Longitude 102°42'22.560" West (surface location)
Latitude 47°57'50.282" North; Longitude 102°42'17.529" West (bottom location)
[Derived from OPUS Solution NAD-83(CORS96)]




**Scale 1"=1000'**

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All corners shown on this plat were found in the field during Petro-Hunt, L.L.C., Fort Berthold 152-94-15B-22-3H oil well survey on September 30, 2011. Distances to all others are calculated. All azimuths are based on the south line of the SE1/4 of Section 15, being on an azimuth of 090°03'00".

REGISTERED PROFESSIONAL LAND SURVEYOR
DONALD LEISCHNER
LS-7103
DATE 12-12-11
NORTH DAKOTA

| Surveyed By | Field Book |
|---|---|
| A. Lambert | O-109 |
| Computed & Drawn By | Project No. |
| M. Meismer | 8711279 |

Kadrmas Lee & Jackson
Registered Surveyors Planners

Dec 02, 2011 - 11:48am - C:\DOCUME~1\DEREKF~1\LOCALS~1\Temp\AcPublish_5744\87112798AS01.dwg

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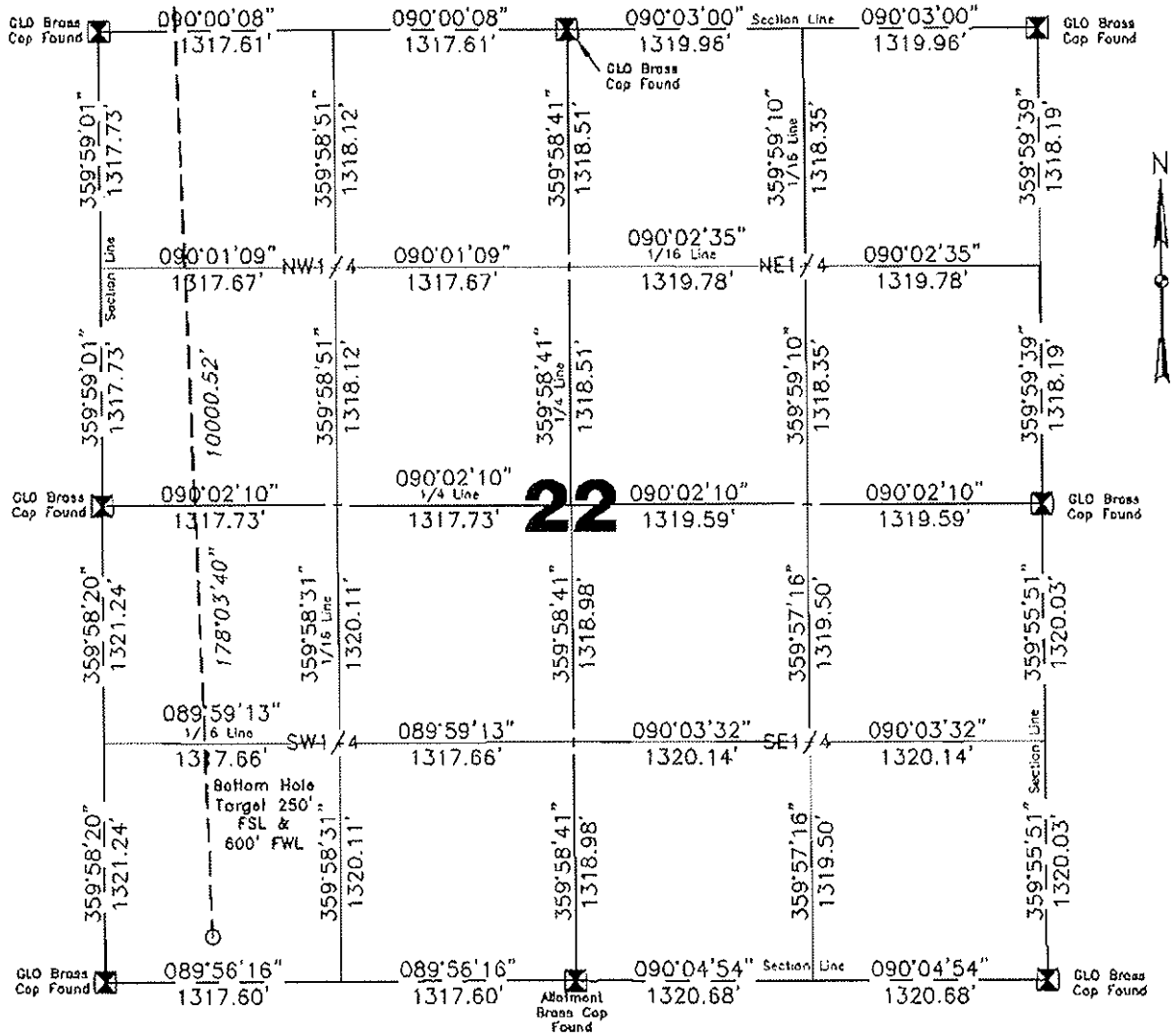
# HORIZONTAL SECTION PLAT

Petro-Hunt, L.L.C.
258 119 Avenue S.W. Killdeer, ND 58640

## Fort Berthold 152-94-15B-22-3H

300 feet from the north line and 268 feet from the west line (surface location)
Section 15, T. 152 N., R. 94 W., 5th P.M.
250 feet from the south line and 600 feet from the west line (bottom location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site – Three Affiliated Tribes

Latitude 47°59'28.905" North; Longitude 102°42'22.560" West (surface location)
Latitude 47°57'50.282" North; Longitude 102°42'17.529" West (bottom location)
[Derived from OPUS Solution NAD-83(CORS96)]




**Scale 1"=1000'**

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All corners shown on this plat were found in the field during Petro-Hunt, L.L.C., Fort Berthold 152-94-15B-22-3H oil well survey on September 30, 2011. Distances to all others are calculated. All azimuths are based on the south line of the SE1/4 of Section 15, being on an azimuth of 090°03'00".

REGISTERED PROFESSIONAL LAND SURVEYOR
DONALD LEISCHNER
LS-7103
DATE 12-12-11
NORTH DAKOTA
DATE

| Surveyed By | Field Book |
|---|---|
| A. Lambert | 0-109 |
| Computed & Drawn By | Project No. |
| M. Meismer | 8711279 |

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Dec 02, 2011 - 11:49am - C:\DOCUME~1\DEREKF~1\LOCALS~1\Temp\AcPublish_5744\8711279BAS01.dwg

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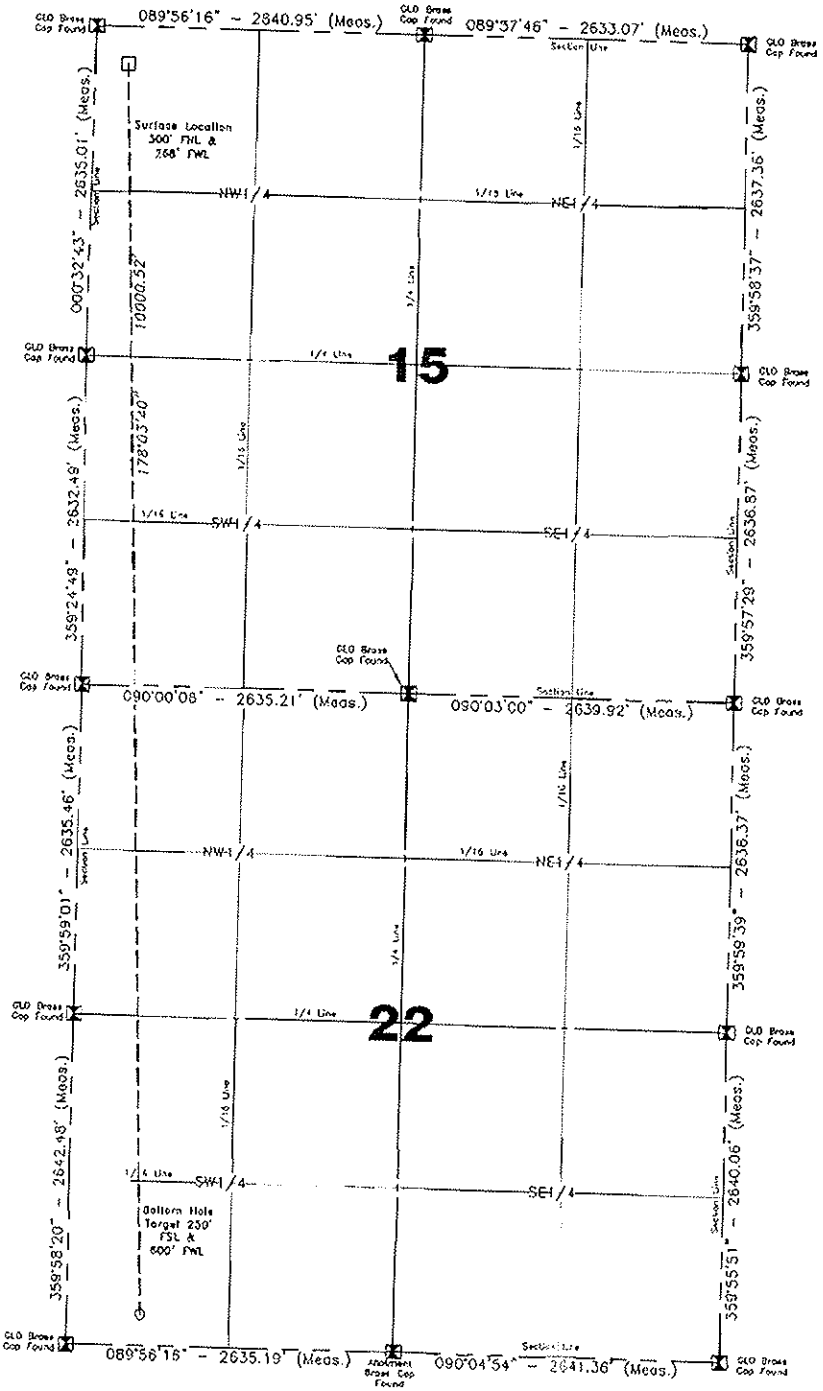
# BOTTOM HOLE LOCATION PLAT

Petro-Hunt, L.L.C.
258 119 Avenue S.W. Killdeer, ND 58640

## Fort Berthold 152-94-15B-22-3H

300 feet from the north line and 268 feet from the west line (surface location)
Section 15, T. 152 N., R. 94 W., 5th P.M.
250 feet from the south line and 600 feet from the west line (bottom location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site - Three Affiliated Tribes

Latitude 47°59'28.905" North; Longitude 102°42'22.560" West (surface location)
Latitude 47°57'50.282" North; Longitude 102°42'17.529" West (bottom location)
[Derived from OPUS Solution NAD-83(CORS96)]




N

Scale 1"=1500'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| Computed & Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Meismer | A. Lambert | D. Leischner | 1"=1500' | 10/13/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-109 | B.H. Layout | - | 8711279 | 4 |

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# Petro-Hunt, L.L.C.
# Fort Berthold 152-94-15B-22-3H
# Section 15, T 152 N, R 94 W, 5th P.M.
# McKenzie County, North Dakota

Well Site Elevation 2148.7' MSL
Well Pad Elevation 2147.0' MSL

| | |
|---|---|
| Excavation | 19,095 C.Y. |
| Embankment | 11,840 C.Y. |
| Plus Shrinkage (+30%) | 3,350 C.Y. |
| | 15,390 C.Y. |
| Stockpile Top Soil (6") | 3,375 C.Y. |
| Road Embankment & Stockpile from Pad | 405 C.Y. |

| | |
|---|---|
| Disturbed Area From Pad | 4.19 Acres |
| Total Fenced Area | 6.26 Acres |

(Disturbed Area From Road Not Included See Right-of-Way Plat)

NOTE :
All cut end slopes are designed at 2:1 slopes &
all fill end slopes are designed at 2:1 slopes

Well Site Location
300' FNL
268' FWL

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| | | | | |
|---|---|---|---|---|
| Drawn By: M. Meismer | Surveyed By: Alvin Lambert | Approved By: A. Lambert | Scale: None | Date: 10/14/2011 |
| Field Book: O-109 | Material: Quantities | Revised: 11/29/2011 | Project No.: 8711279 | Drawing No.: 5 |

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Engineers Surveyors Planners

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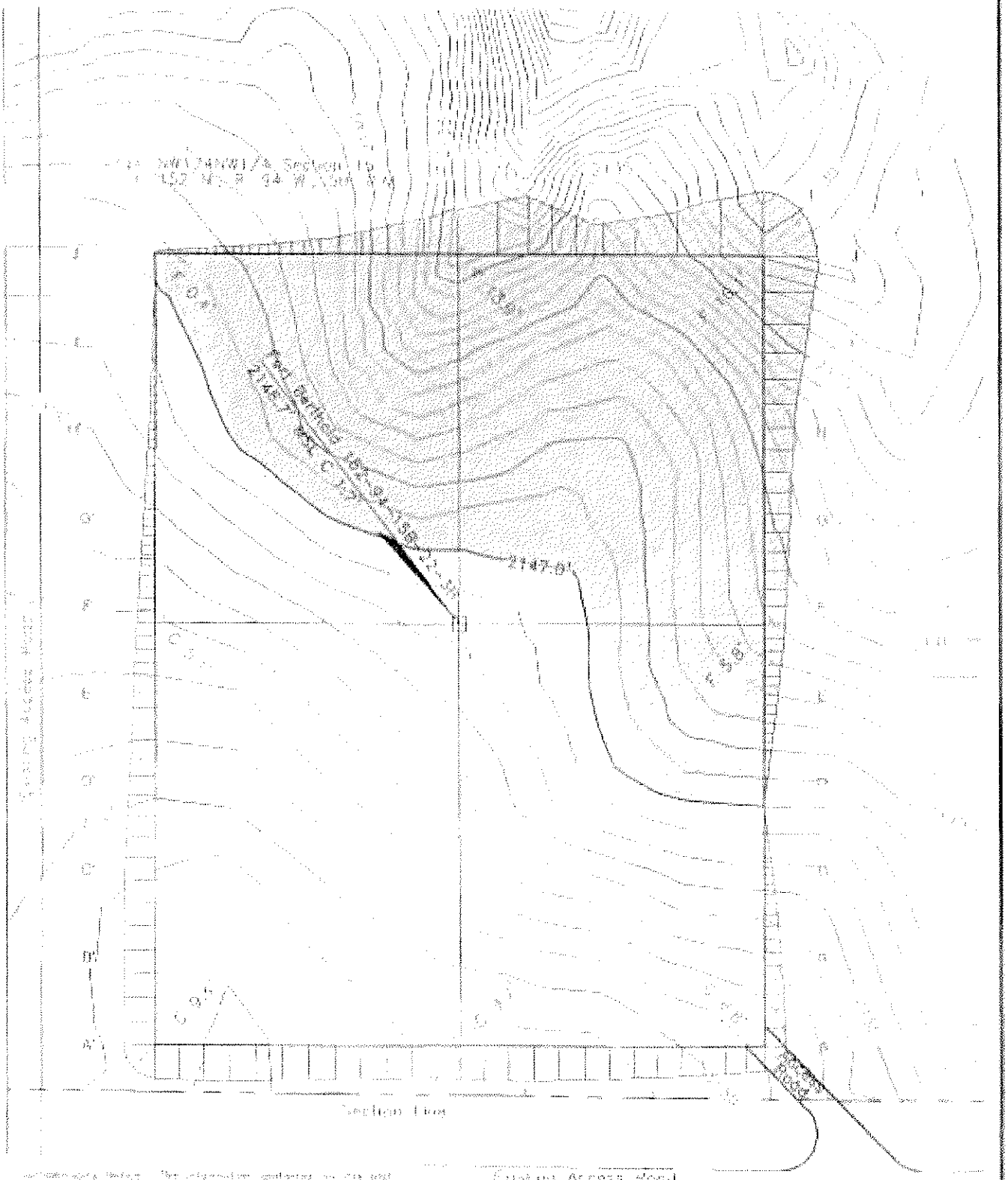
Dec 12, 2011 - 2:45pm - C:\DOCUME~1\DEREKF~1\LOCALS~1\Temp\AcPublish_1616\8711279BAS02.dwg

# Fort Berthold 152-94-15B-22-3H

Original Ground




| | | | | |
|---|---|---|---|---|
| Drawn By: M. Messner | Surveyed By: A. Lemoine | Approved By: A. Lambert | Scale: 1" = 80' | Date: 10/16/2011 |
| Field Book: 11-119 | Revision: Original Survey | Revised: 11/29/2011 | Project No: 5713.29 | Drawing No: 0 |

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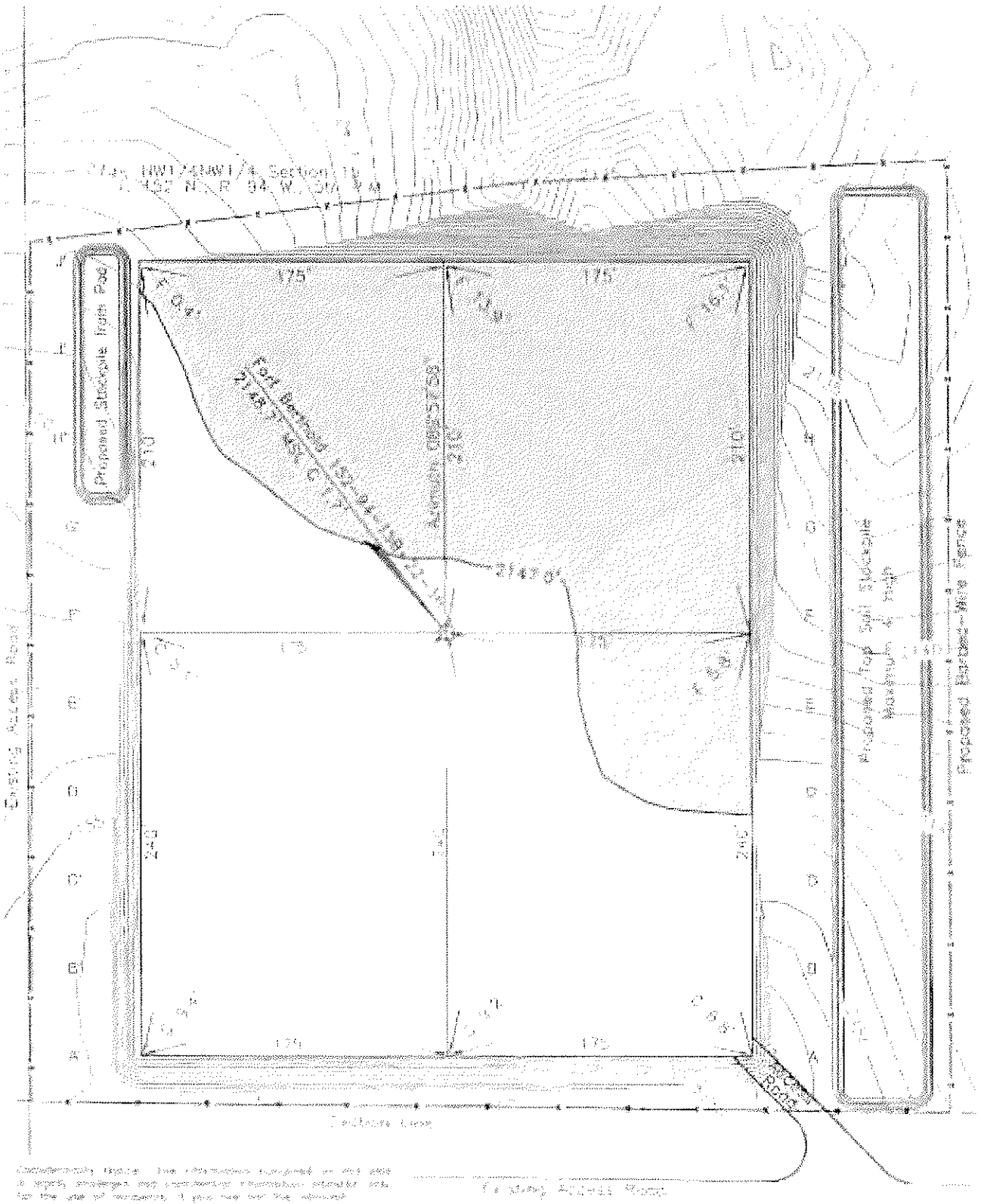
# Fort Berthold 152-94-15B-22-3H

## Pad Layout




| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Meismer | A. Lambert | A. Lambert | 1" = 60' | 10/14/2011 |
| Field Book | Sheet of | Revised | Project No. | Drawing No. |
| 0-100 | Pad Layout | 11/29/2011 | 511279 | 1 |

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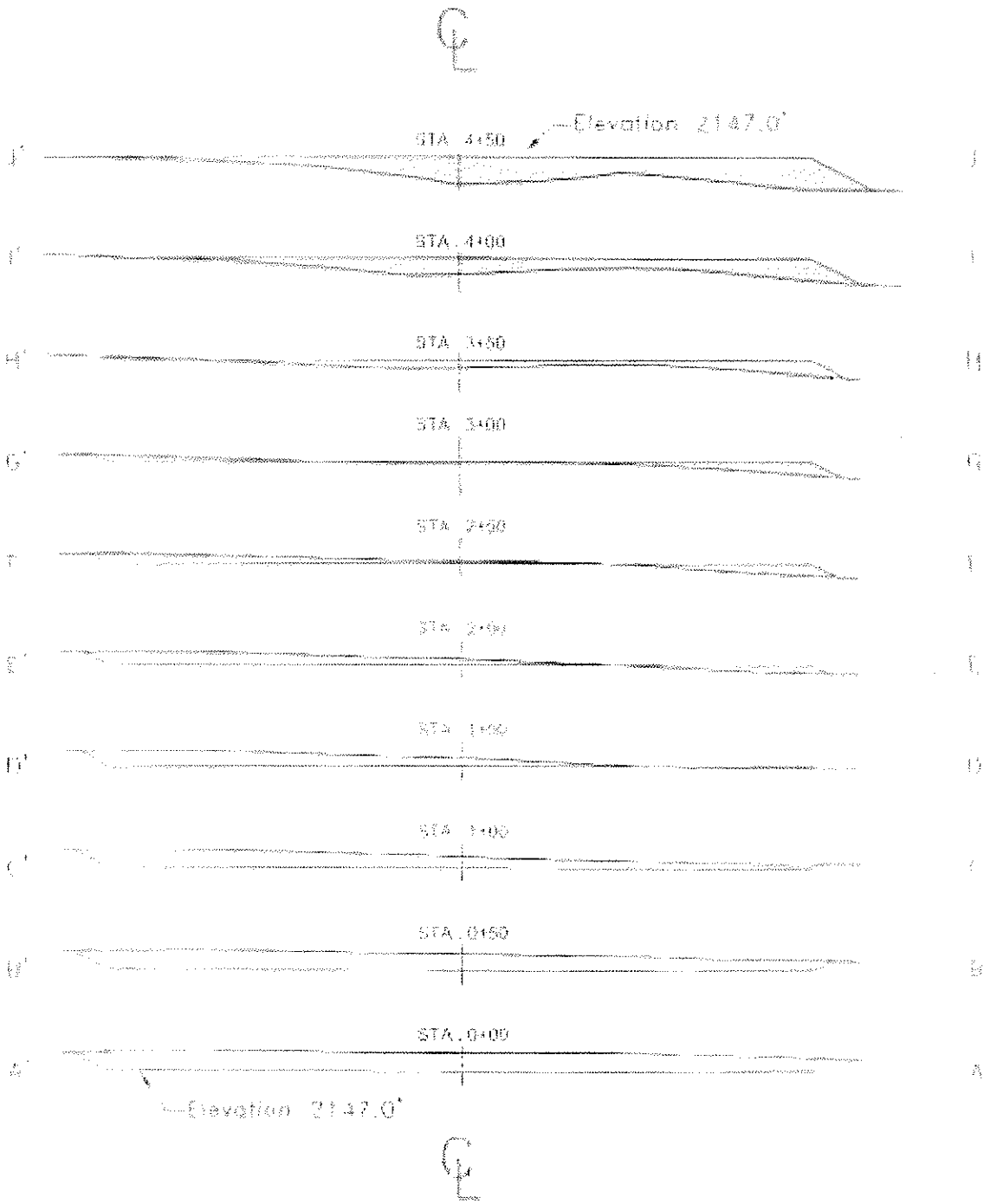
Engineering & Surveying
Bismarck

# Fort Berthold 152-94-15B-22-3H

Cross Sections




| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Moistner | A. Lombert | A. Lombert | 1" = 80' | 10/14/2011 |
| Field Book | Drawing | Revised | Project No. | Drawing No. |
| O - 109 | Cross Sections | 11/29/2011 | 8711212 | 5 |

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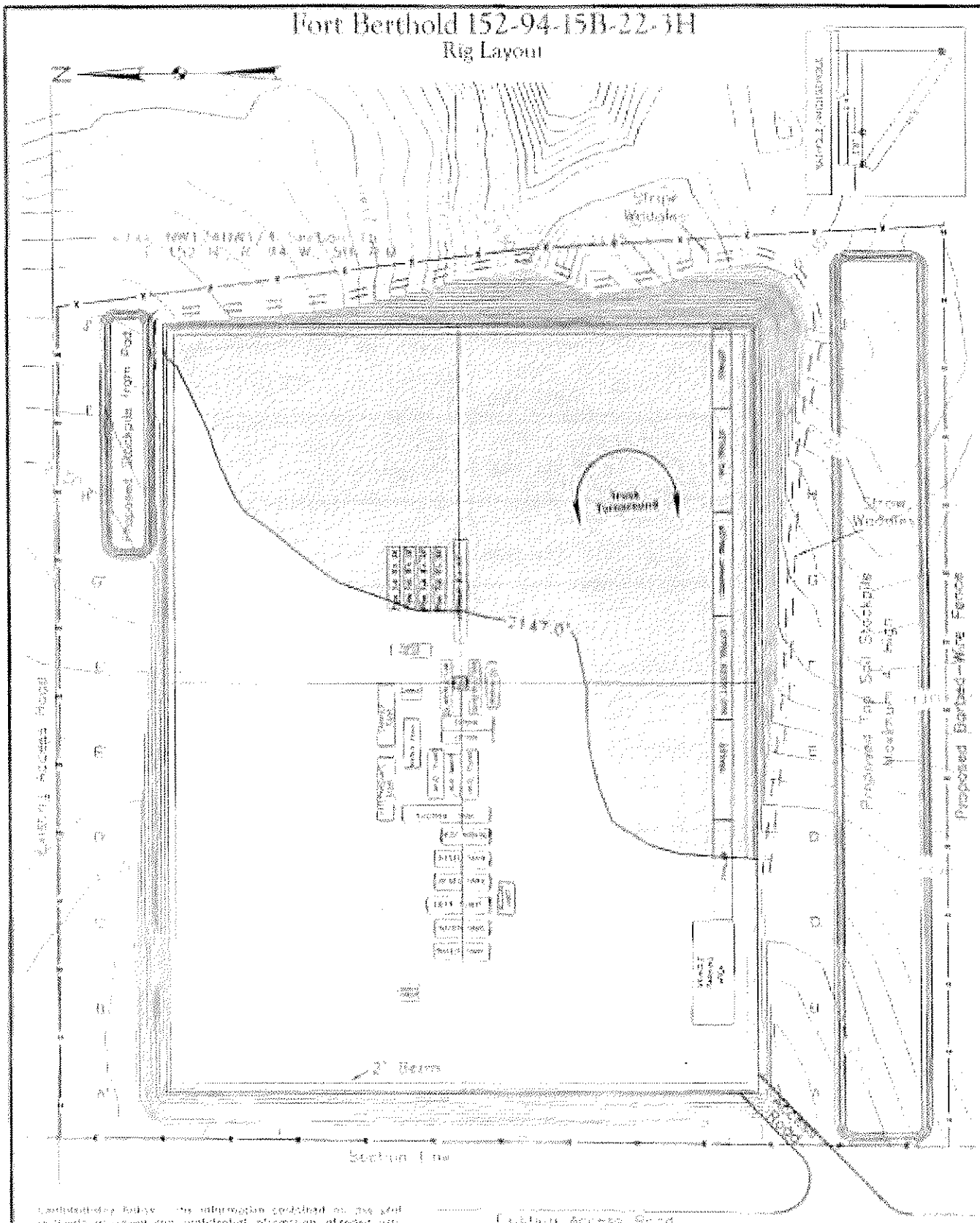
# Fort Berthold 152-94-15B-22-3H

Rig Layout

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Meissner | A. Lambert | A. Lambert | 1" = 80' | 10/14/2011 |
| Field Book | Material | Revised | Project No. | Drawing No. |
| 0-109 | Rig Layout | 11/29/2011 | 8711279 | 9 |

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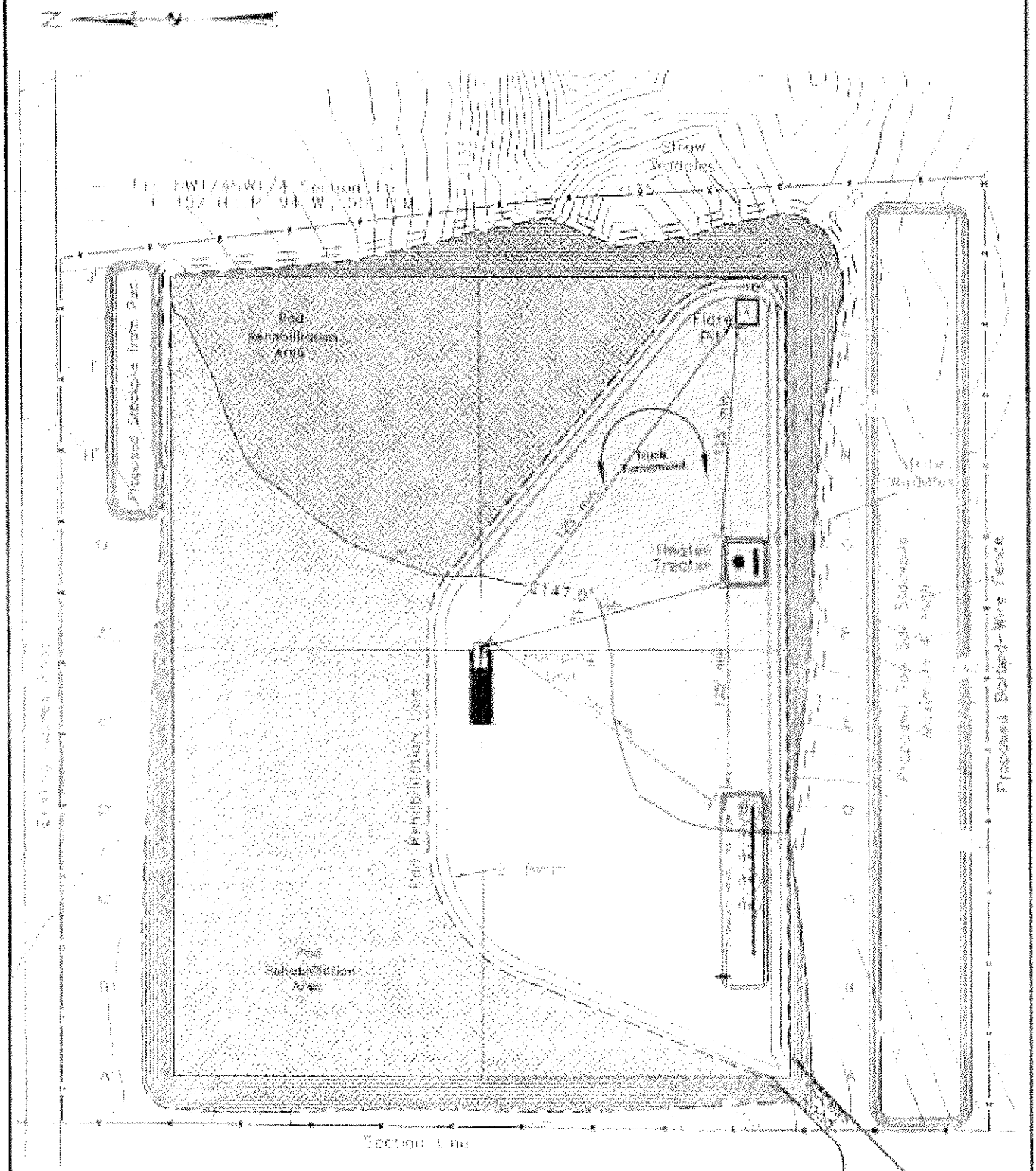
Engineers, Surveyors, Planners

# Fort Berthold 152-94-15B-22-3H

Production Layout

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| Drawn By | Surveyor By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Melamer | A. Lambert | A. Lambert | 1" = 80' | 10/14/2011 |
| Field Date | Material | Revised | Project No. | Drawing No. |
| 0-10-11 | Prod Layout | 1/29/2011 | 8711279 | 10 |

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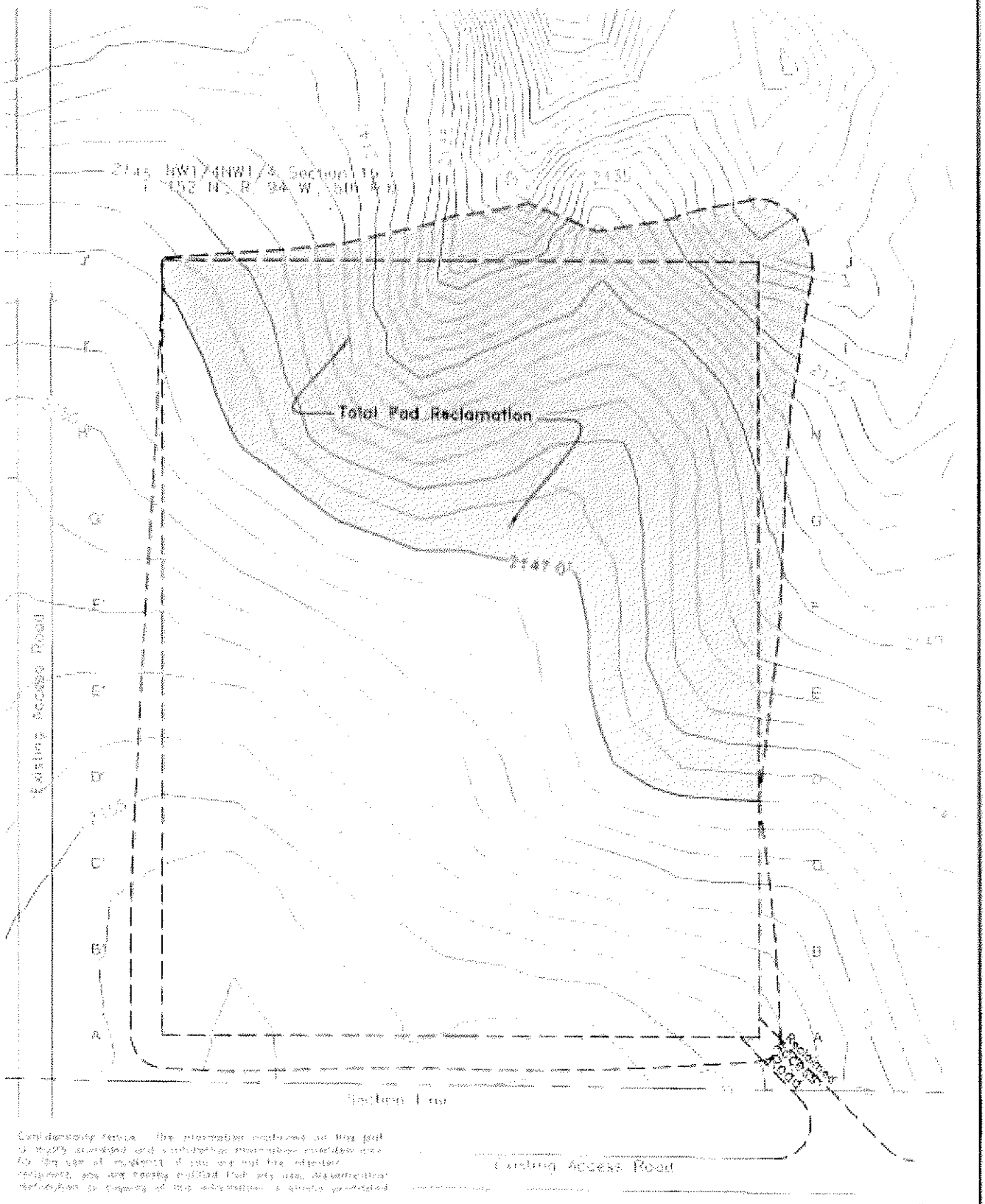
Engineers Surveyors Planners

# Fort Berthold 152-94-15B-22-3H

Reclamation Layout



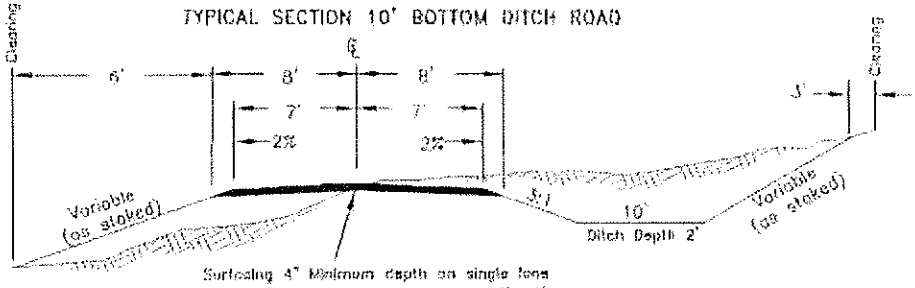

| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| U. Meismer | A. Lambert | A. Lambert | 1" = 80' | 10/14/2011 |
| Field Book | Material | Revised | Project No. | Drawing No. |
| 0-109 | Reclam. Layout | 11/29/2011 | A211279 | 11 |

Kadrmas Lee & Jackson

# Fort Berthold 152-94-15B-22-3H

## Roadway Typical Sections

TYPICAL SECTION 10' BOTTOM DITCH ROAD




TYPICAL "B"

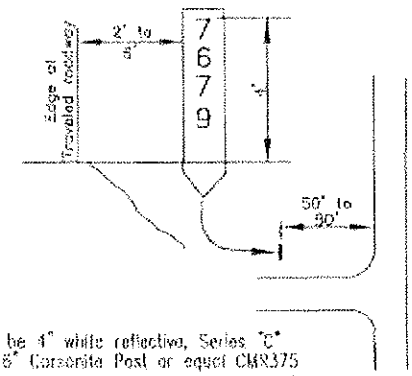
No Scale

| FILL SLOPES | FILL WIDENING | CUT SLOPES |
|---|---|---|
| 3:1 Under 4' Height<br>2:1 Over 4' Height<br>(-) Slopes steeper than 2:1 will be subject to FS approval | 2' to 5' high/add 1'<br>Over 5' high/add 2' | 3:1 Under 10' height<br>2:1 10' to 20' height<br>(-) Variable over 20' height W/FS approval |

CURVE WIDENING

150 / R

TYPICAL SECTION VERTICAL ROUTE MARKER



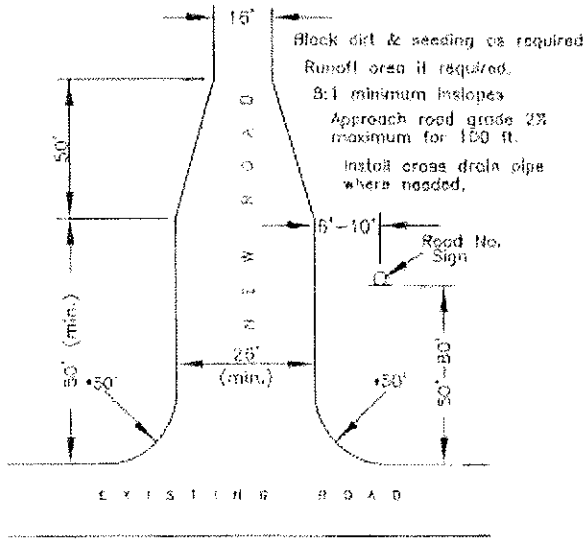

Letters shall be 4" white reflective, Series "C" on Brown 6' 6" Carsonite Post or equal CMR375

*Figure 11-28 Typical Signage for Vertical Route Markers*

TYPICAL "F"

No Scale

TYPICAL APPROACH ROAD CONNECTION




Block dirt & seeding as required

Runoff area if required.

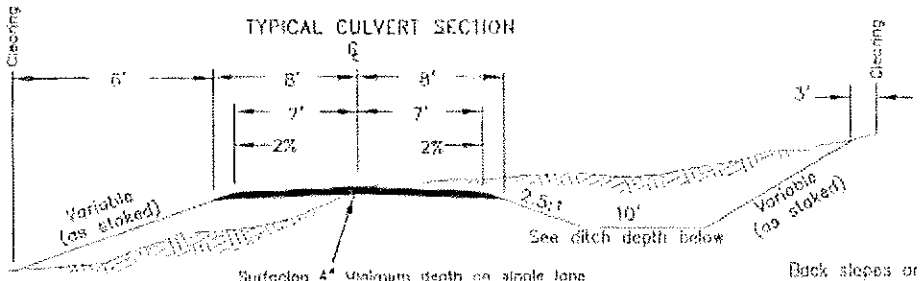
3:1 minimum inslopes

Approach road grade 2% maximum for 100 ft.

Install cross drain pipe where needed.

*As noted on road sheets

TYPICAL CULVERT SECTION




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

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' |

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

TYPICAL "A"

No Scale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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Meesner | A. Lambert | A. Lambert | None | 10/14/2011 |
| Field Book | Material | Revised | Project No. | Drawing No. |
| 0-109 | Road Typical | | 8711279 | 12 |

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Petro-Hunt, L.L.C.
Fort Berthold 152-94-15B-22-3H
300' FNL & 268' FWL
NW1/4NW1/4 Section 15
T.152N., R.94W., 5th P.M.
McKenzie County, ND

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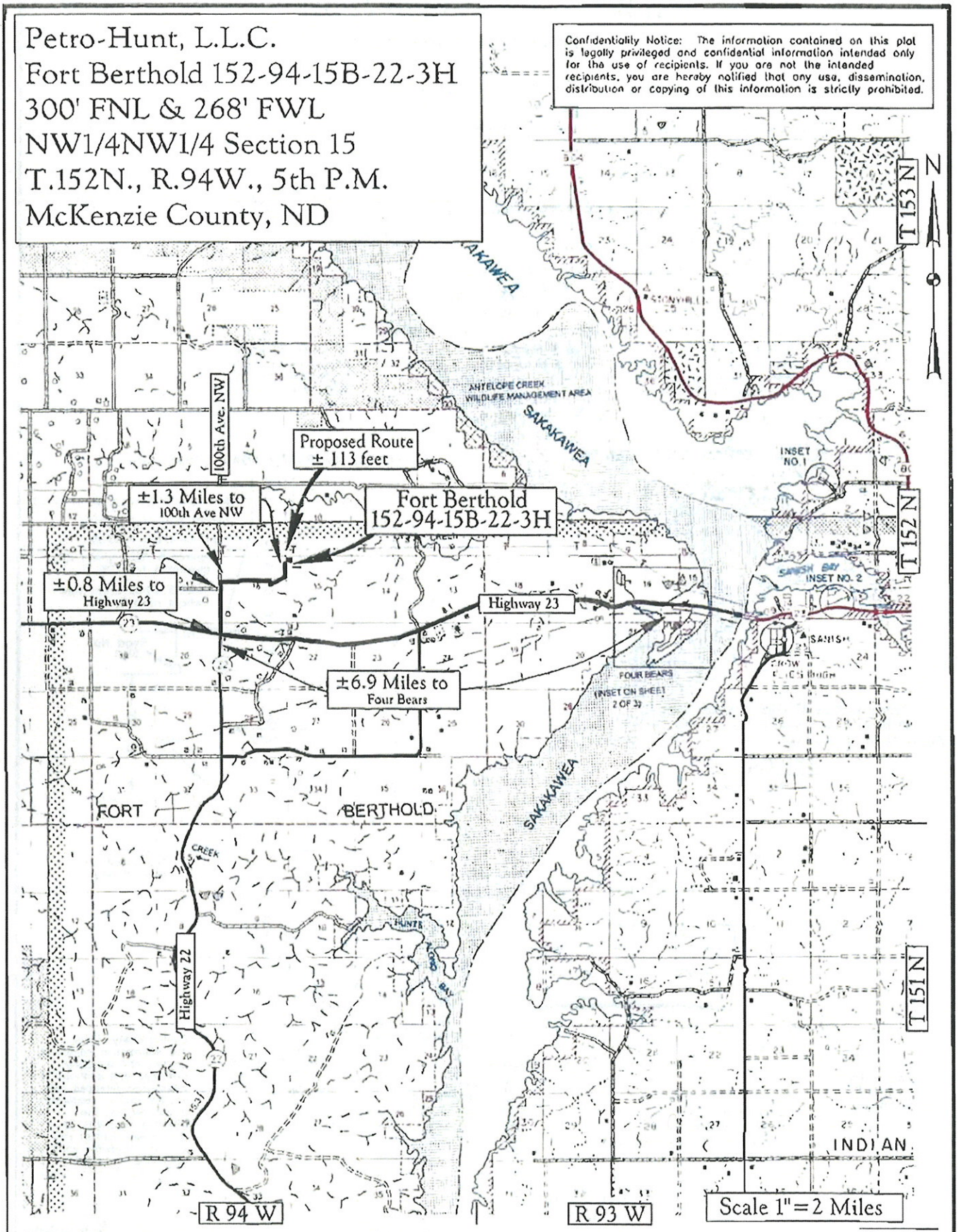


Map "A"
County Access Route

Legend
Existing Roads
Proposed Roads

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Nov 11, 2011 - 4:22pm - C:\DOCUME~1\DEREKF~1\LOCALS~1\Temp\AcPublish_2064\8711279LOC01.dwg

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Petro-Hunt, L.L.C.
Fort Berthold 152-94-15B-22-3H
300' FNL & 268' FWL
NW1/4NW1/4 Section 15
T.152N., R.94W., 5th P.M.
McKenzie County, ND

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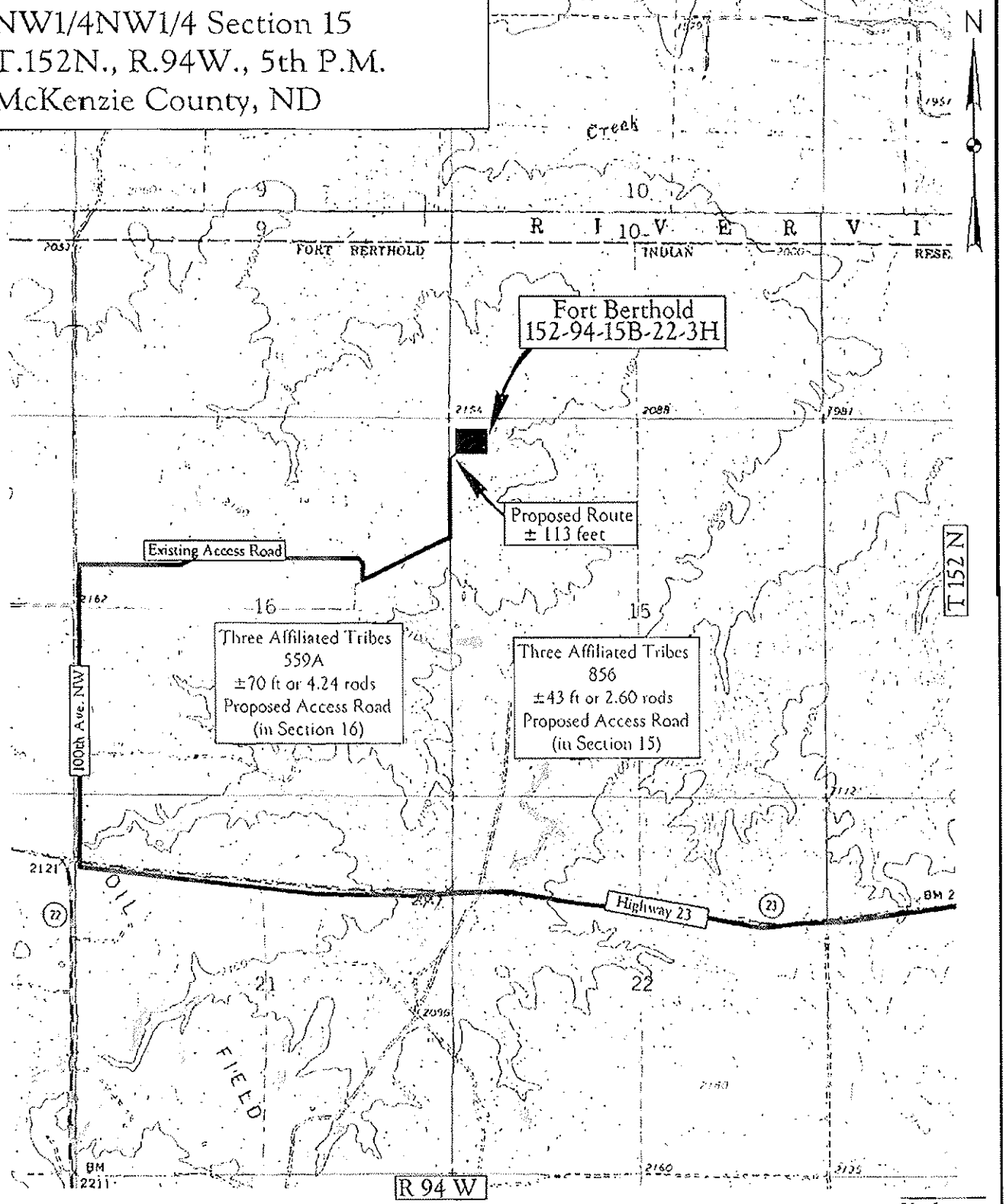


Map "B"
Quad Access Route

Legend
Existing Roads
Proposed Roads

Scale 1"=2000'

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Nov 11, 2011 - 4:22pm - C:\DOCUME~1\DEREKF~1\LOCALS~1\Temp\AcPublish_2064\871279LOC01.dwg

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Petro-Hunt, L.L.C.
Fort Berthold 152-94-15B-22-3H
300' FNL & 268' FWL
NW1/4NW1/4 Section 15
T.152N., R.94W., 5th P.M.
McKenzie County, ND

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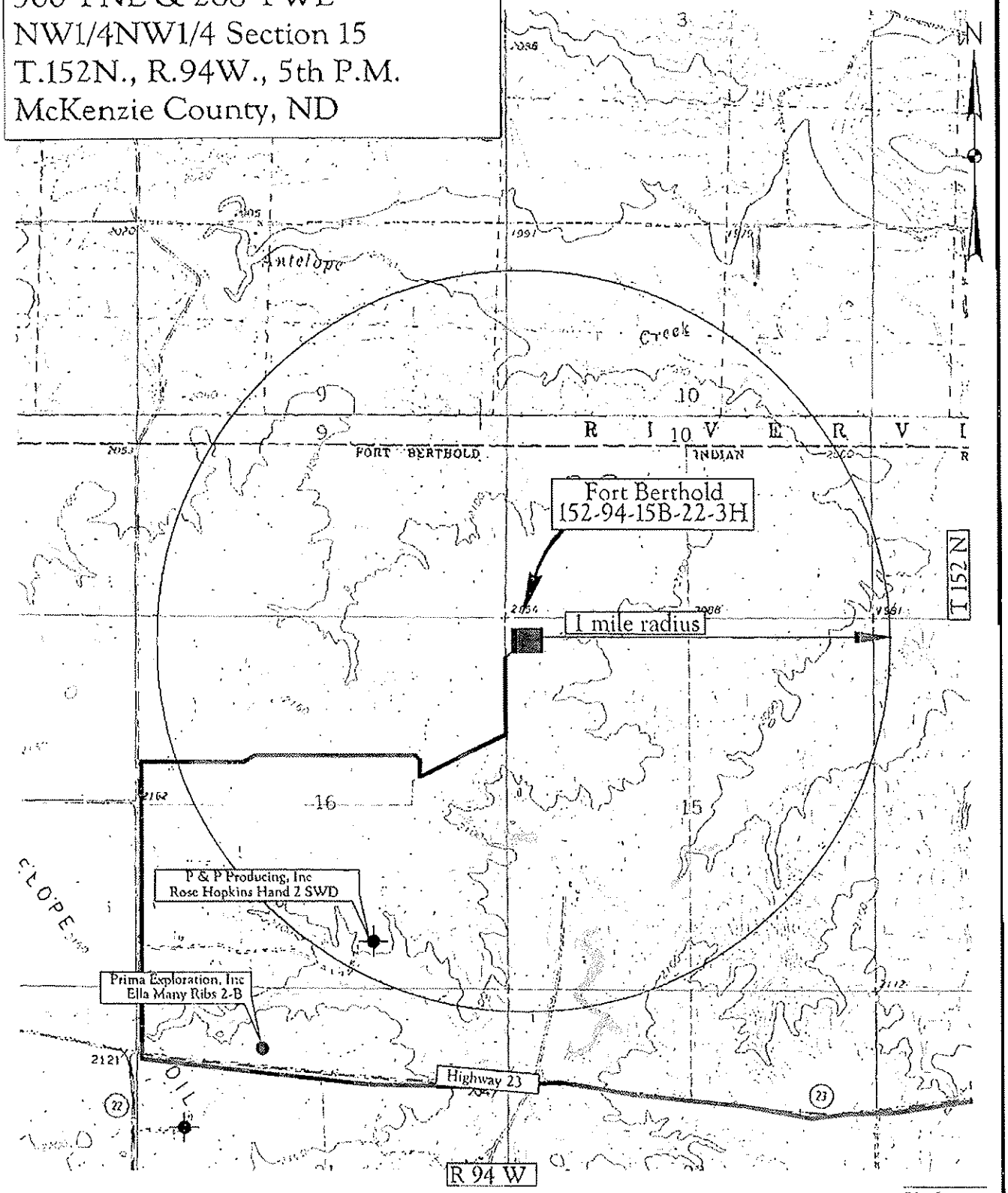


Map "C"
One Mile Radius Map

Legend
Existing Roads
Proposed Roads

Scale 1"=2000'

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Nov 11, 2011 - 4:22pm - C:\DOCUME~1\DEREKF~1\LOCALS~1\Temp\AcPublish_2064\B711279LOC01.dwg

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# Legend

**wells**

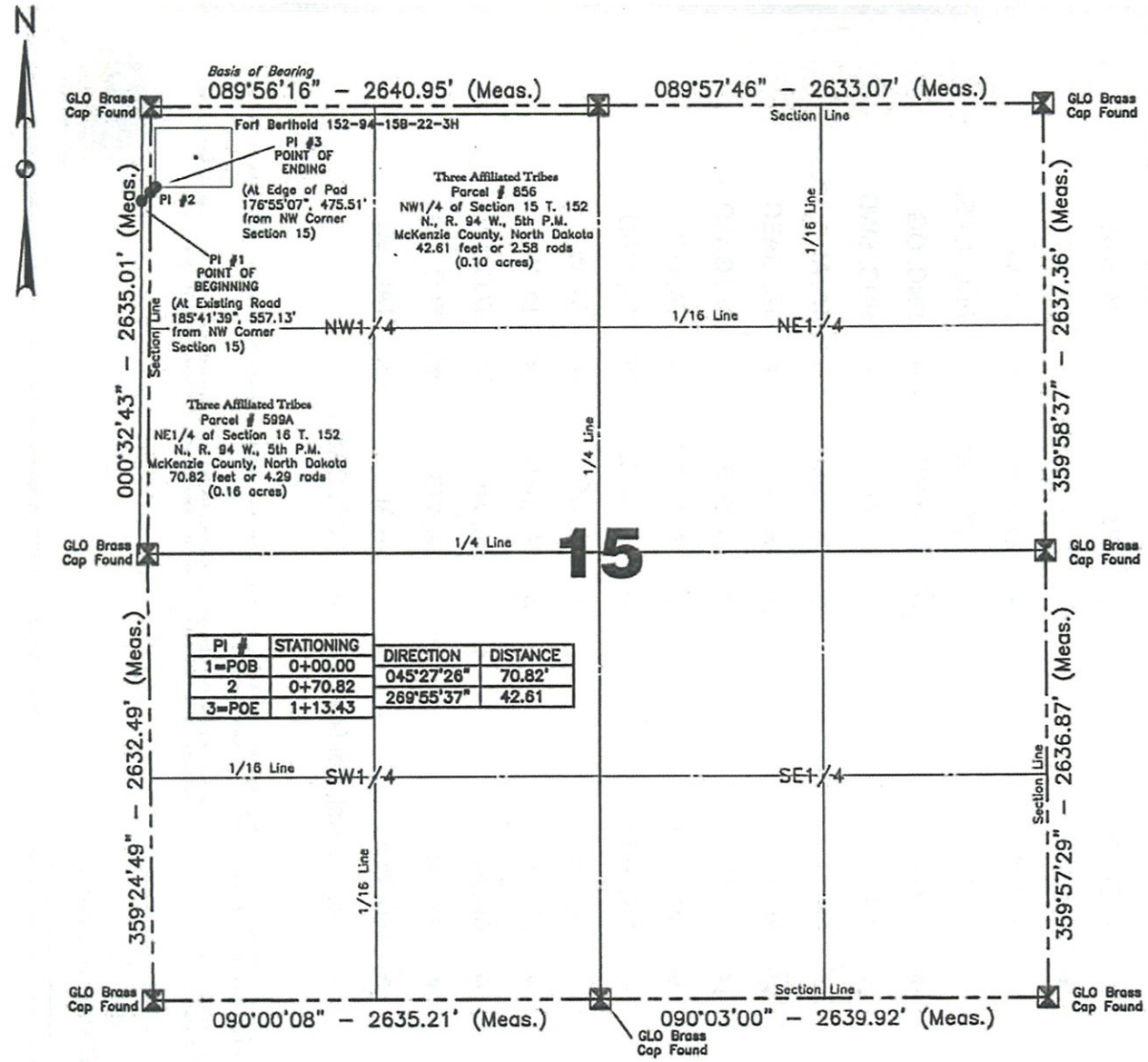
**STATUS, WELL_TYPE**

- 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




| PI # | STATIONING |
|---|---|
| 1=POB | 0+00.00 |
| 2 | 0+70.82 |
| 3=POE | 1+13.43 |

| DIRECTION | DISTANCE |
|---|---|
| 045°27'26" | 70.82' |
| 269°55'37" | 42.61 |

## Right-of-Way Description

A tract of land located in the northeast quarter (NE1/4) of Section 16 & the northwest quarter (NW1/4) of Section 15 Township 152 North, Range 94 West of the 5th Principal Meridian, McKenzie County, State of North Dakota, being more specifically described as a strip of land one hundred (100) feet in width, lying fifty (50) feet on each side of the following described road centerline.

Commencing at the west quarter corner of said Section 15; thence on an azimuth of 000°32'43" a distance of 2635.01 feet to the northwest corner of said Section 15; thence on an azimuth of 185°41'39" a distance of 557.13 feet to the POINT OF BEGINNING; thence on an azimuth of 045°27'26"a distance of 70.82 feet to a point on the west line of said Section 15; thence on an azimuth of 045°27'26" a distance of 42.61 feet to the Point of Ending; said ending point being located on an azimuth of 176°55'07", a distance of 475.51 feet from the northwest corner of said section 15

Said tract being 113.43 feet (6.87 rods) in length containing 0.26 acres more or less.

I, Donald Leischner, Professional Land Surveyor, N.D. No. 7103, 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.

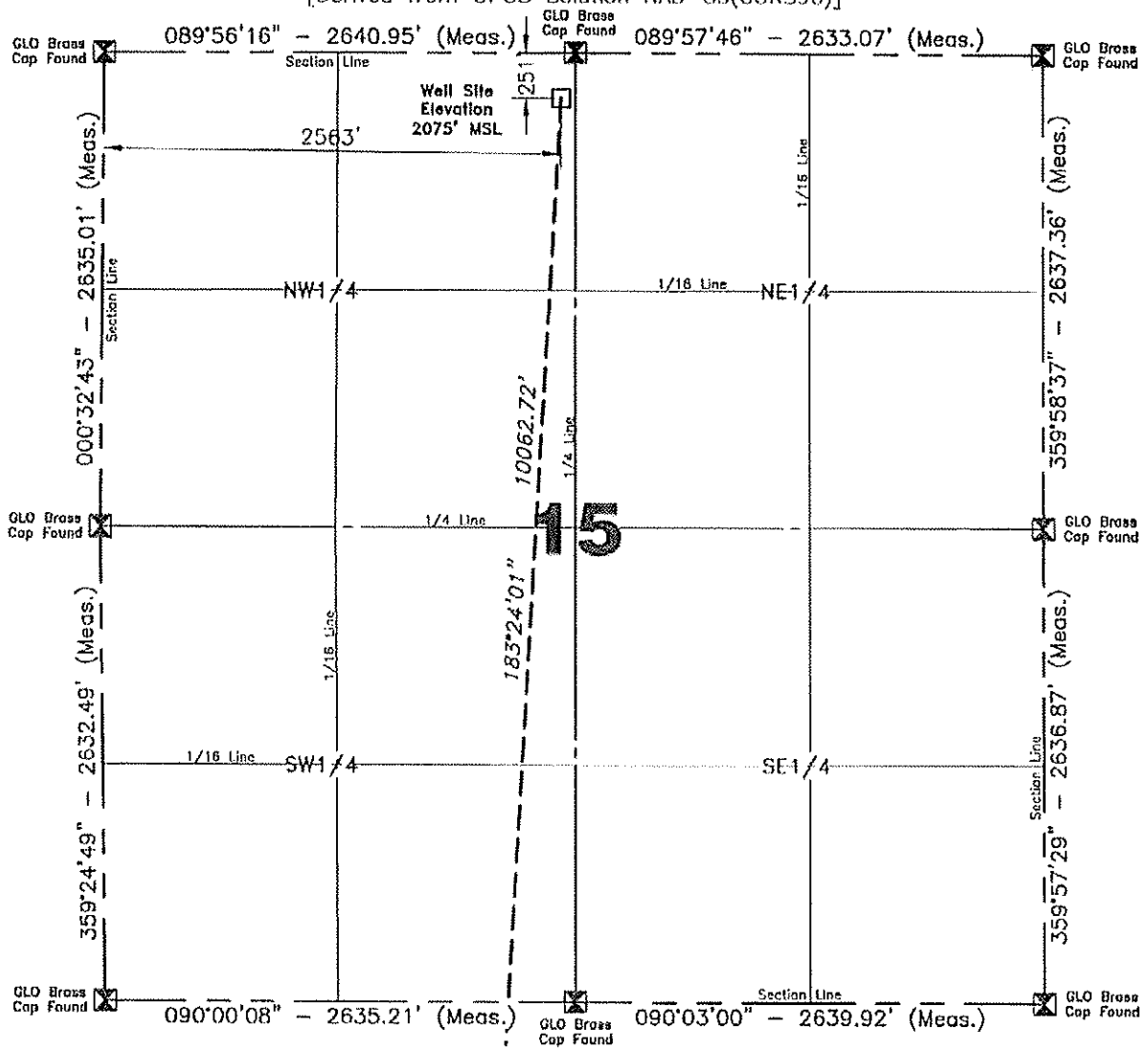
REGISTERED PROFESSIONAL LAND SURVEYOR
DONALD LEISCHNER
LS-7103
DATE 10-20-11
NORTH DAKOTA

| | | | |
|---|---|---|---|
| Rev'd. | O–109 | | |
| Petro–Hunt, L.L.C Killdeer, ND<br>*Fort Berthold 152–94–15B–22–3H* | | | SHEET NO. 1 of 1 |
| Kadrmas Lee & Jackson<br>Engineers Surveyors Planners | Road Right–of–Way<br>NW1/4 of Section 15<br>T.152N., R.94W., 5th P.M.<br>McKenzie County, ND | | |
| DRWN. BY M. Melamer | CHK'D BY D. Leischner | PROJECT NO. 8711279 | DATE 10/17/2011 |
| J:\oilfield\Petro Hunt\8711279\Cadd\8711279bas03.dwg | | | |
| © Kadrmas, Lee & Jackson 2011 | | | |

Oct 20, 2011 – 6:00pm – J:\oilfield\Petro Hunt\8711279\Cadd\8711279bas03.dwg

# WELL LOCATION PLAT

**Petro-Hunt L.L.C.**
258 119 Avenue S.W. Killdeer, ND 58640
Fort Berthold 152-94-15B-22-5H
**251 feet from the north line and 2563 feet from the west line (surface location)**
Section 15, T. 152 N., R. 94 W., 5th P.M.
250 feet from the south line and 1960 feet from the west line (bottom hole location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site – Three Affiliated Tribes
**Latitude 47°59'29.423" North; Longitude 102°41'48.821" West (surface location)**
Latitude 47°57'50.302" North; Longitude 102°41'57.547" West (bottom hole location)
[Derived from OPUS Solution NAD-83(CORS96)]




**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.

NOTE: All land corners are assumed unless otherwise noted. The well location shown hereon is not an as-built location.

I, Donald Leischner, Professional Land Surveyor, N.D. No. 7103, 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.

Alvin Lambert 8/02/2011
Surveyed By N.D.P.L.S. #1241 Date

REGISTERED PROFESSIONAL LAND SURVEYOR DONALD LEISCHNER LS-7103 DATE 10-31-11 NORTH DAKOTA

DATE

Vertical Control Datum Used
Sea-Level Datum of NAVD 88
Based on elevation derived from OPUS Solution on GPS*CP SEC 14 (iron rebar) Located a distance of 5101.67' on an azimuth of 090°19'57" from the southeast corner of Section 15 T.152N., R.94W., 5th P.M. being at 2082.96' Elevation MSL.

Project No. 8711257
Book 0-113 Pg. 50-53,20-22 Staking


Professional Consulting Engineers and Surveyors
Registered in
North Dakota, South Dakota
Montana, Wyoming & Minnesota
Tele-Fax No. 701-572-2019
Bus. Phone No. 701-572-6352
222 Airport Road
Williston, North Dakota 58801-2976
Certificate of Authorization #C-061

Kadrmas Lee & Jackson
Engineers Surveyors Planners

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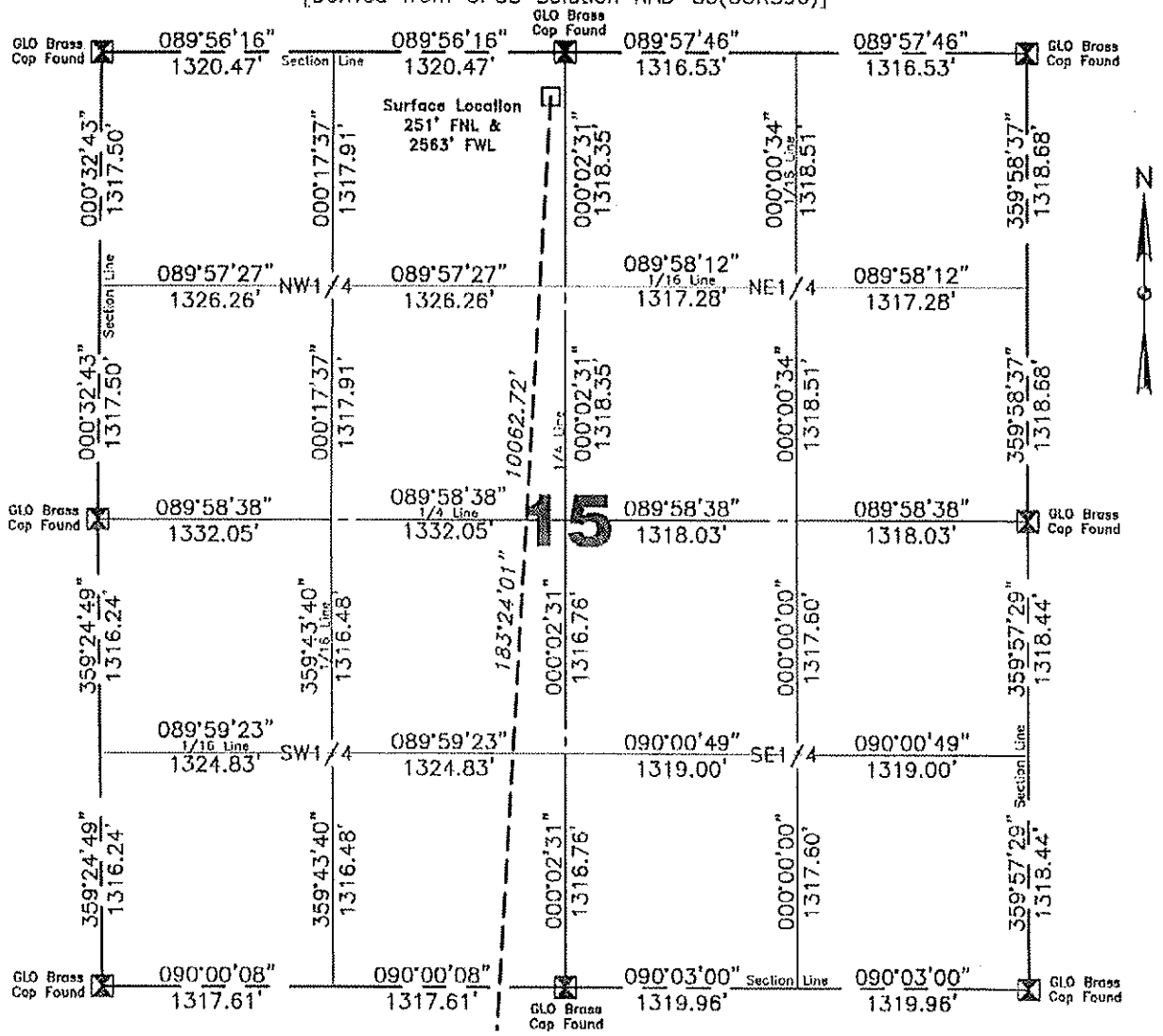
# HORIZONTAL SECTION PLAT

**Petro-Hunt L.L.C.**
258 119 Avenue S.W. Killdeer, ND 58640

## Fort Berthold 152-94-15B-22-5H

**251 feet from the north line and 2563 feet from the west line (surface location)**
Section 15, T. 152 N., R. 94 W., 5th P.M.
250 feet from the south line and 1960 feet from the west line (bottom hole location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site – Three Affiliated Tribes

**Latitude 47°59'29.423" North; Longitude 102°41'48.821" West (surface location)**
Latitude 47°57'50.302" North; Longitude 102°41'57.547" West (bottom hole location)
[Derived from OPUS Solution NAD-83(CORS96)]

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All corners shown on this plat were found in the field during Petro-Hunt, Fort Berthold 152-94-15B-22-5H oil well survey on August 2, 2011. Distances to all others are calculated. All azimuths are based on the south line of the SW1/4 Section 15, being on an azimuth of 090°00'08".

REGISTERED PROFESSIONAL LAND SURVEYOR
DONALD E. LEISCHNER
LS-7103
DATE 10-31-11
NORTH DAKOTA

DATE

| Surveyed By | Field Book |
|---|---|
| A. Lambert | O-113 |
| Computed & Drawn By | Project No. |
| M. Babcock | 8711257 |

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Oct 18, 2011 - 2:48pm - J:\oilfield\Petro Hunt\8711257\Cadd\8711257Bas01.dwg

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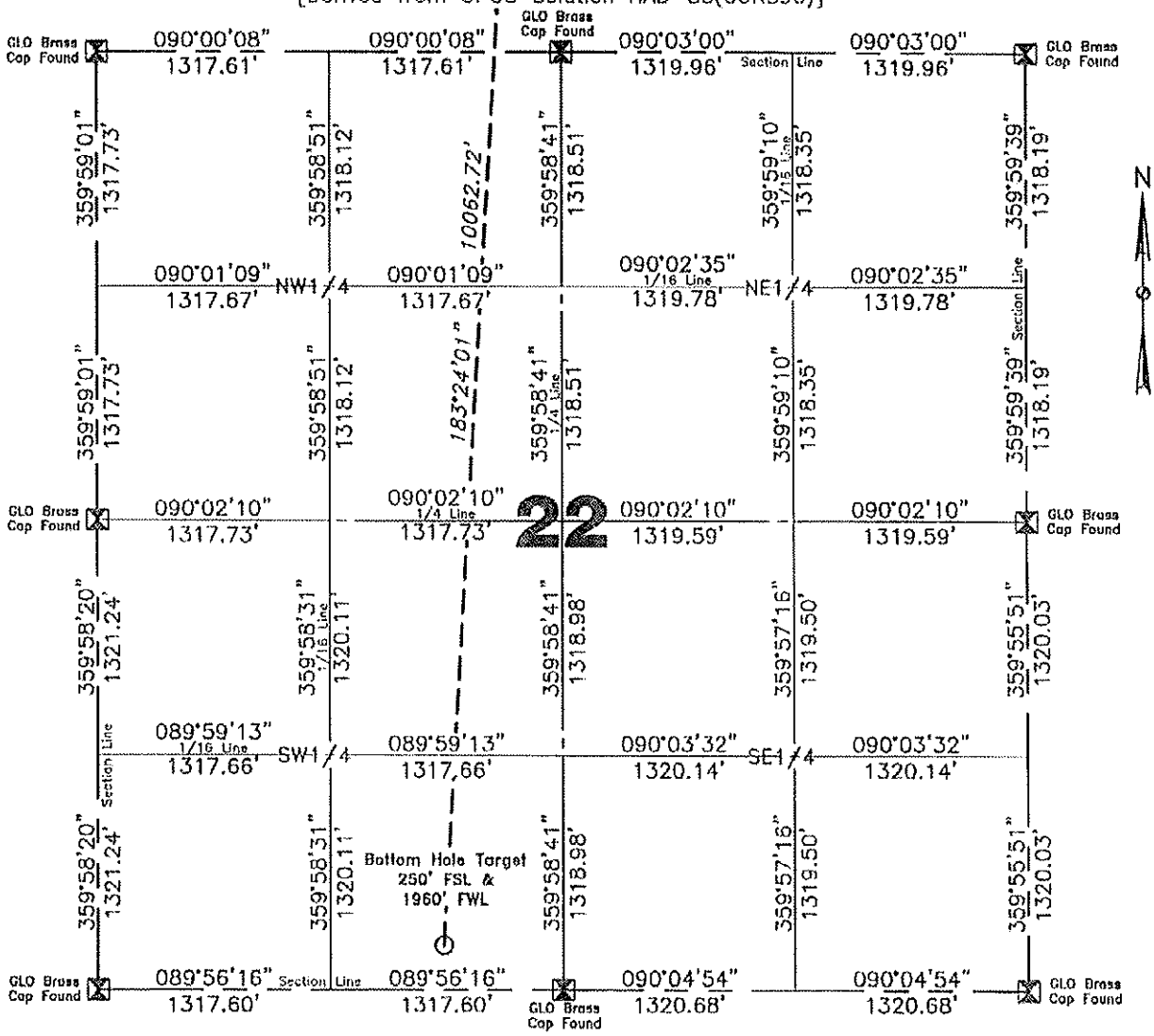
# HORIZONTAL SECTION PLAT

**Petro-Hunt L.L.C.**
258 119 Avenue S.W. Killdeer, ND 58640

## Fort Berthold 152-94-15B-22-5H

**251 feet from the north line and 2563 feet from the west line (surface location)**
Section 15, T. 152 N., R. 94 W., 5th P.M.
250 feet from the south line and 1960 feet from the west line (bottom hole location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site – Three Affiliated Tribes

**Latitude 47°59'29.423" North; Longitude 102°41'48.821" West (surface location)**
Latitude 47°57'50.302" North; Longitude 102°41'57.547" West (bottom hole location)
[Derived from OPUS Solution NAD-83(CORS96)]




**Scale 1"=1000'**

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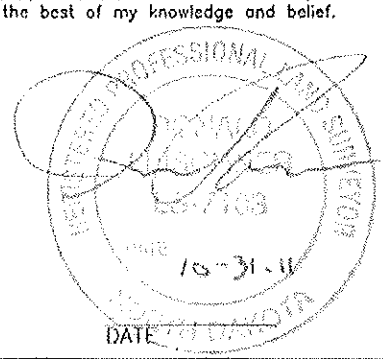
I, Donald Leischner, Professional Land Surveyor, N.D. No. 7103, do hereby certify that the survey plat shown hereon was made by me, or under my direction, from notes made in the field, and the same is true and correct to the best of my knowledge and belief.

All corners shown on this plat were found in the field during Petro-Hunt, Fort Berthold 152-94-15B-22-5H oil well survey on August 2, 2011. Distances to all others are calculated. All azimuths are based on the south line of the SW1/4 Section 15, being on an azimuth of 090°00'08".




| Surveyed By | Field Book |
|---|---|
| A. Lambert | O-113 |
| Computed & Drawn By | Project No. |
| M. Babcock | 8711257 |

Kadrmas Lee & Jackson
Engineers Surveyors Planners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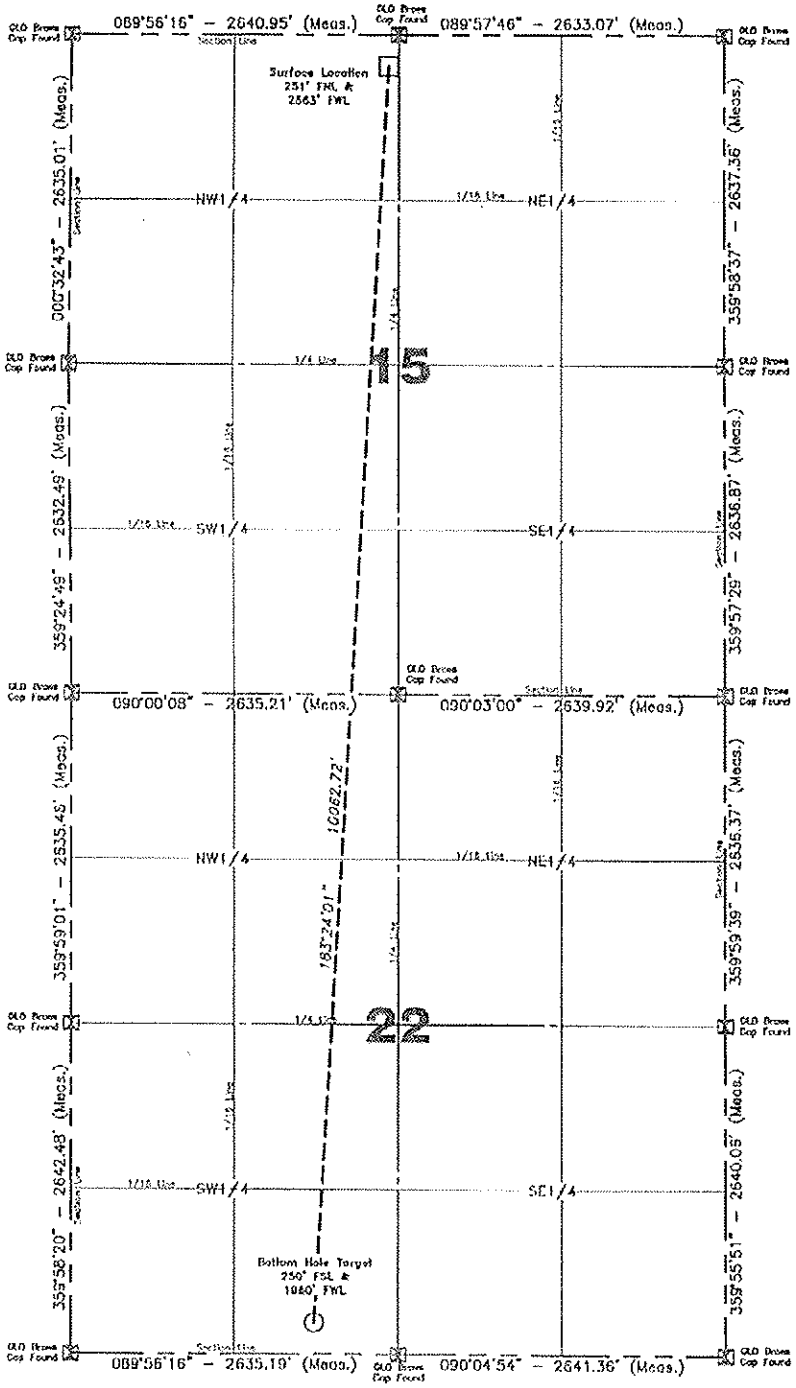
# BOTTOM HOLE LOCATION PLAT

**Petro-Hunt L.L.C.**
258 119 Avenue S.W. Killdeer, ND 58640
Fort Berthold 152-94-15B-22-5H
**251 feet from the north line and 2563 feet from the west line (surface location)**
Section 15, T. 152 N., R. 94 W., 5th P.M.
250 feet from the south line and 1960 feet from the west line (bottom hole location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site - Three Affiliated Tribes
**Latitude 47°59'29.423" North; Longitude 102°41'48.821" West (surface location)**
Latitude 47°57'50.302" North; Longitude 102°41'57.547" West (bottom hole location)
[Derived from OPUS Solution NAD-83(CORS96)]




N

Scale 1"=1500'

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| Computed & Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1"=1500' | 10/14/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-113 | B.H. Layout | - | 8711257 | 4 |

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Engineers Surveyors Planners

Oct 18, 2011 - 2:48pm - J:\oilfield\Petro Hunt\8711257\Cadd\8711257Bos01.dwg

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# Petro-Hunt, L.L.C.
# Fort Berthold 152-94-15B-22-5H
# Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H
# Section 15, T 152 N, R 94 W, 5th P.M.
# McKenzie County, North Dakota

| | | |
|---|---|---|
| Fort Berthold 152-94-15B-22-5H | Elevation | 2075.1' MSL |
| Fort Berthold 152-94-15B-22-6H | Elevation | 2074.2' MSL |
| Fort Berthold 152-94-15B-22-7H | Elevation | 2073.9' MSL |
| Well Pad Elevation | | 2071.9' MSL |

| | |
|---|---|
| Excavation | 39,115 C.Y. |
| Plus Pit | 0 C.Y. |
| | 39,115 C.Y. |
| Embankment | 25,690 C.Y. |
| Plus Shrinkage (+30%) | 7,705 C.Y. |
| | 33,395 C.Y. |
| Stockpile Top Soil (6") | 4,995 C.Y. |
| Production Rehabilitation | 0 C.Y. |
| Road Embankment & Stockpile from Pad | 725 C.Y. |
| Disturbed Area From Pad | 6.19 Acres |
| Total Fenced Area | 8.90 Acres |

(Disturbed Area from Road Not Included See Right-of Way Plat)

NOTE:
All cut end slopes are designed at 2:1 slopes & all fill end slopes are designed at 2:1 slopes

Fort Berthold 152-94-15B-22-5H

251' FNL
2563' FWL

Fort Berthold 152-94-15B-22-6H

251' FNL
2638' FWL

Fort Berthold 152-94-15B-22-7H

251' FNL
2563' FEL

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | - | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O- 113 | Quantities | 12/16/2011 | 8711257 8711258 & 8711259 | 5 |

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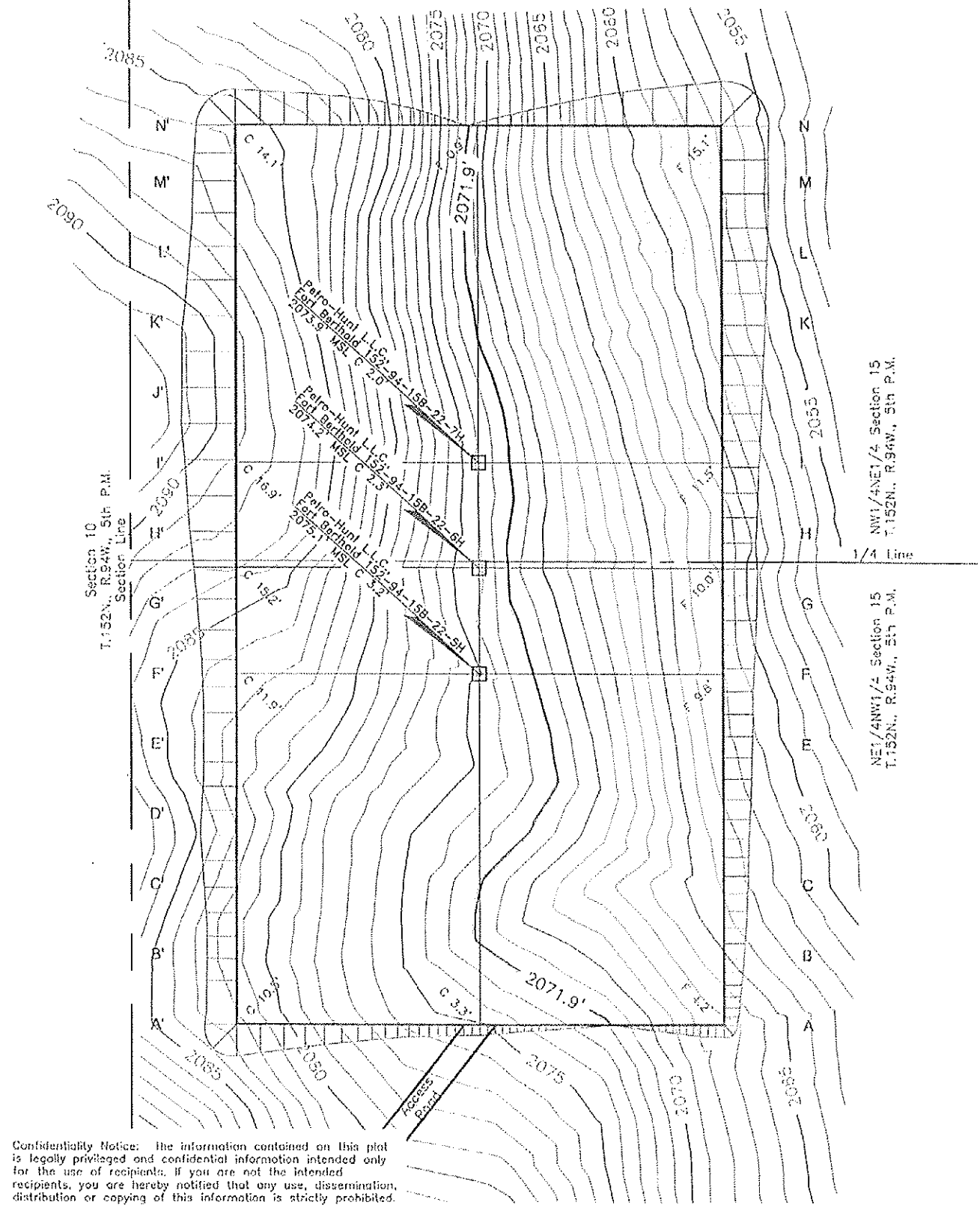
# Fort Berthold 152-94-15B-22-5H, Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H
## Original Ground

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1" = 100' | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-113 | Original Ground | 12/16/2011 | 8711257 8711258 & 8711259 | 6 |

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Engineers Surveyors Planners

Dec 16, 2011 - 11:39am - J:\oilfield\Petro Hunt\8711257\Cadd\8711257Dm02.dwg

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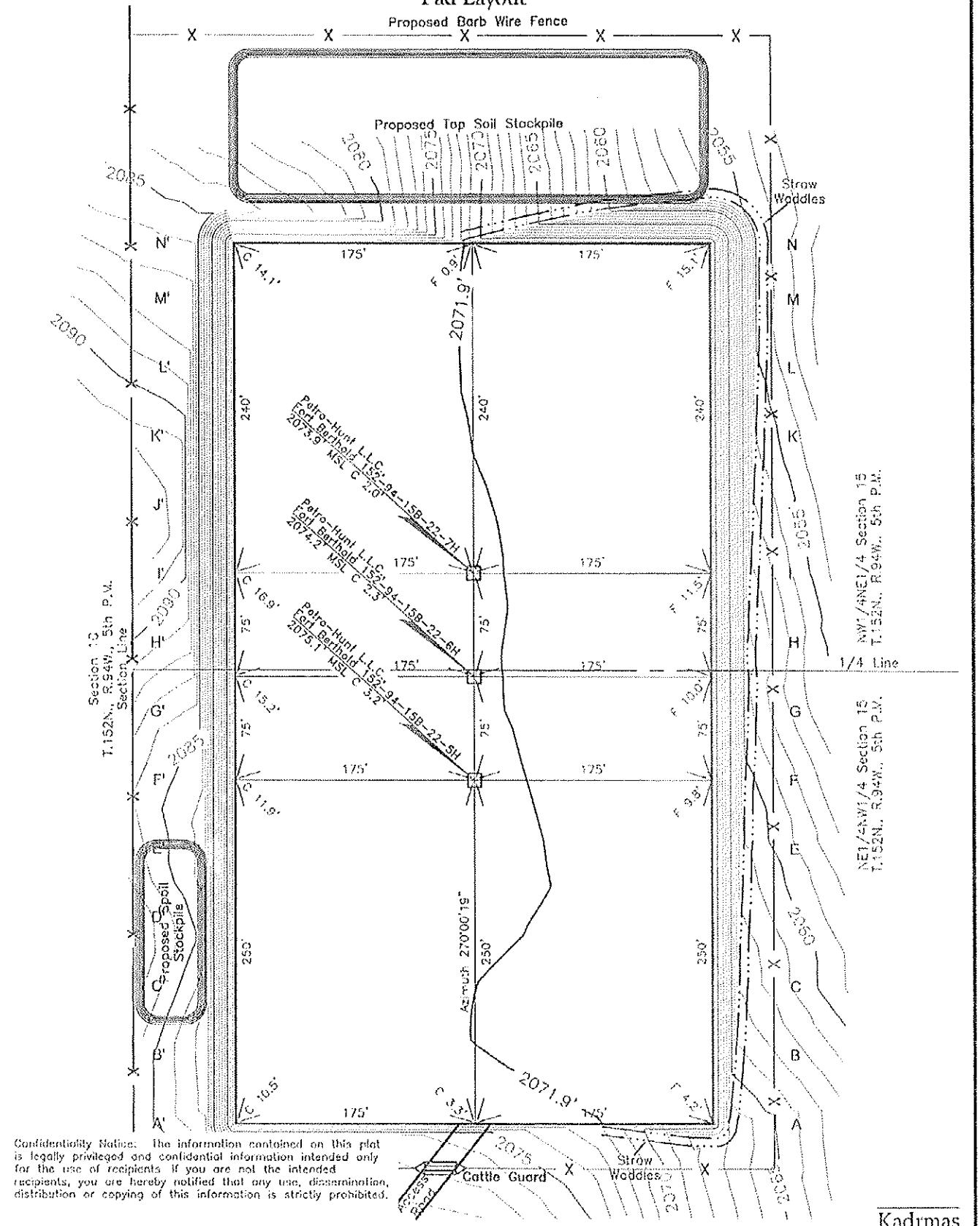
# Fort Berthold 152-94-15B-22-5H, Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H
## Pad Layout





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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1" = 100' | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-113 | Pad Layout | 12/16/2011 | 8711257 & 8711259 | 7 |

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Engineers Surveyors Planners




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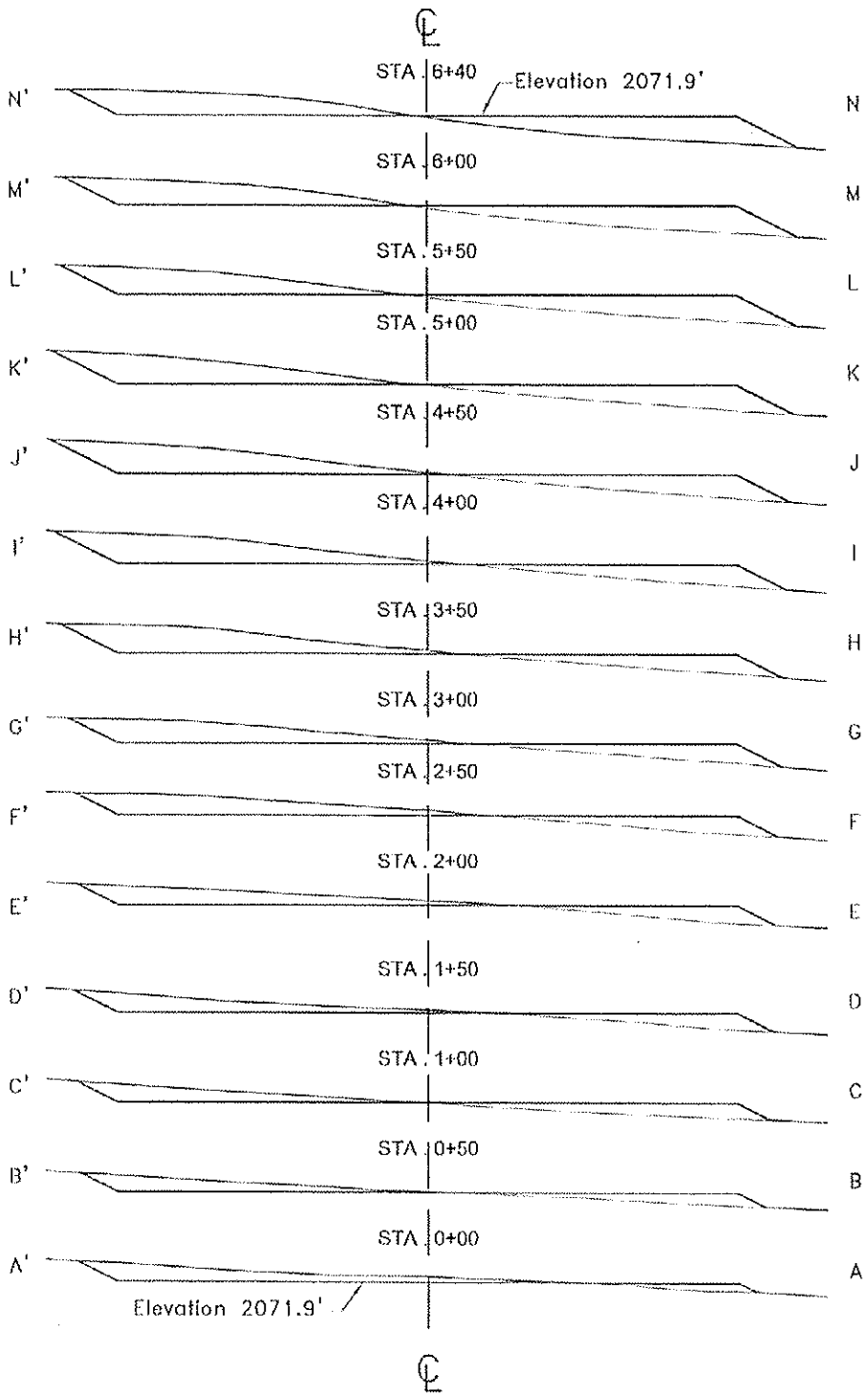
# Fort Berthold 152-94-15B-22-5H, Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H
## Cross Sections

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1" = 100' | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-113 | Cross Sections | 12/16/2011 | 8711257/8711258 & 8711259 | 8 |

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Engineers Surveyors Planners



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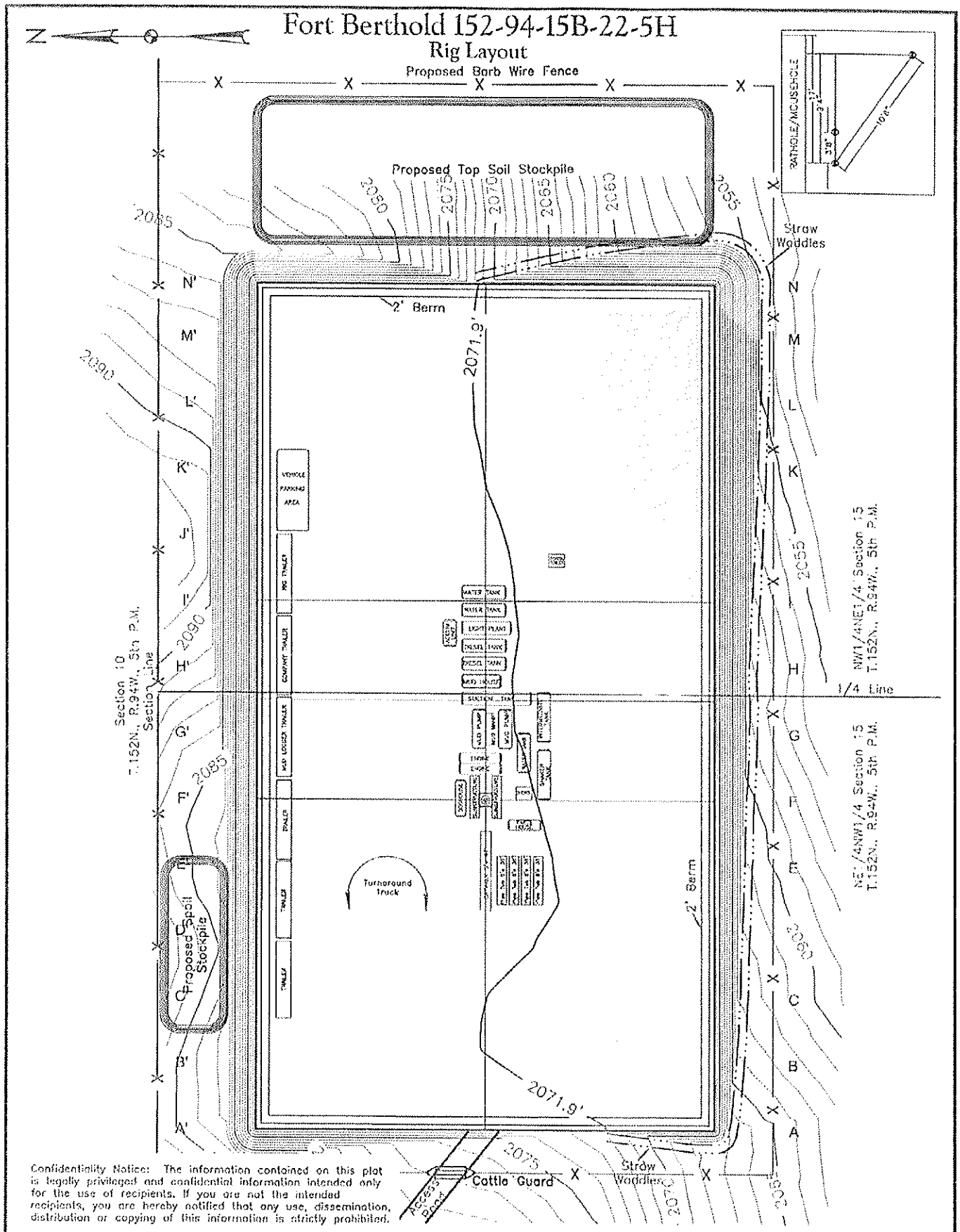
# Fort Berthold 152-94-15B-22-5H

## Rig Layout

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1"= 100' | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O- 113 | Rig Layout | 12/16/2011 | 8711257 | 9 |

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Engineers Surveyors Planners

Dec 16, 2011 - 12:10pm - J:\oilfield\Petro Hunt\8711257\Cadd\8711257Bas02.dwg

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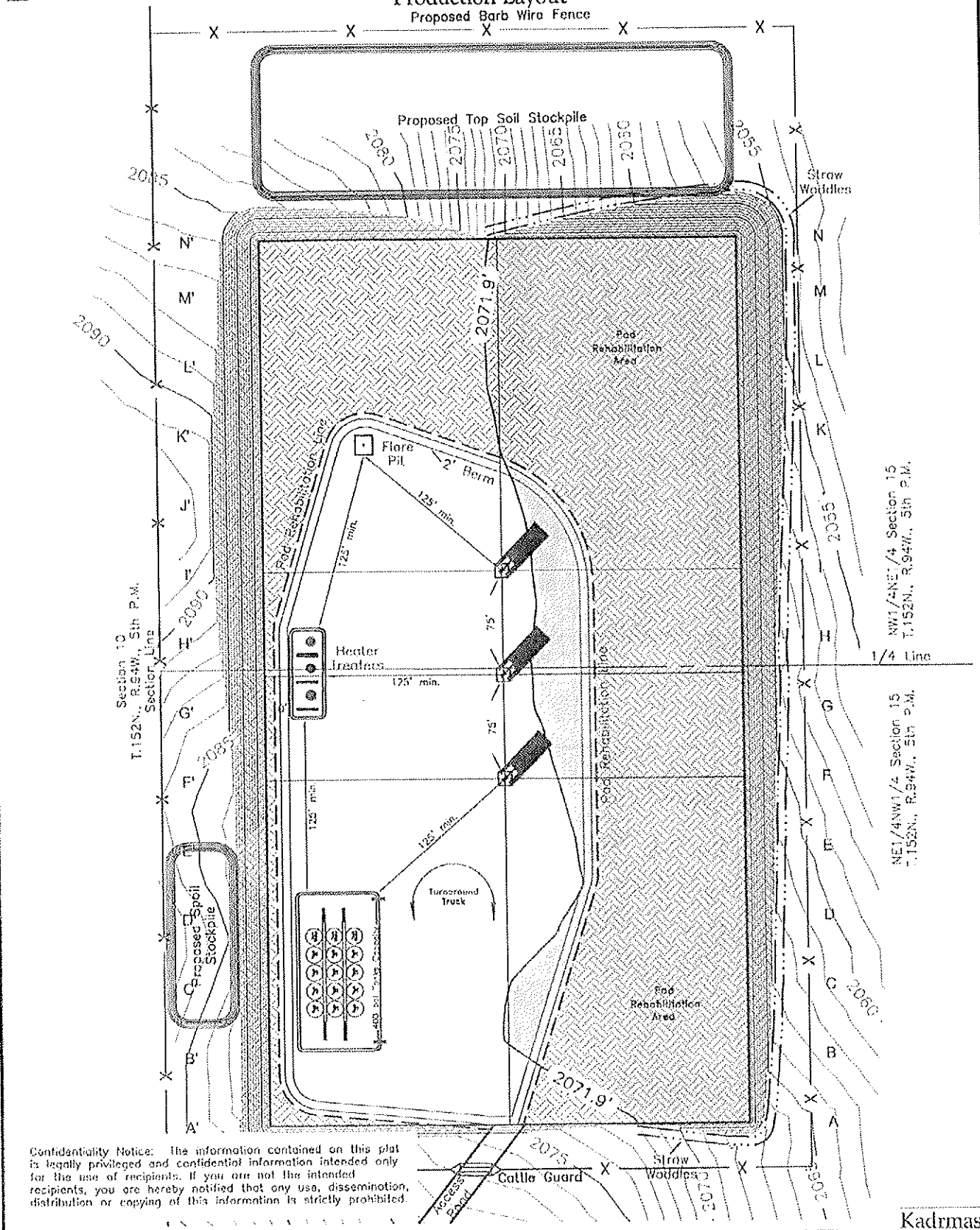
# Fort Berthold 152-94-15B-22-5H, Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H

## Production 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 |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1" = 100' | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-113 | Prod Layout | 12/16/2011 | 8711258 & 8711259 | 10 |

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Engineers Surveyors Planners

Dec 16, 2011 - 12:18pm - J:\oilfield\Petro Hunt\8711257\Cadd\8711257Box02.dwg

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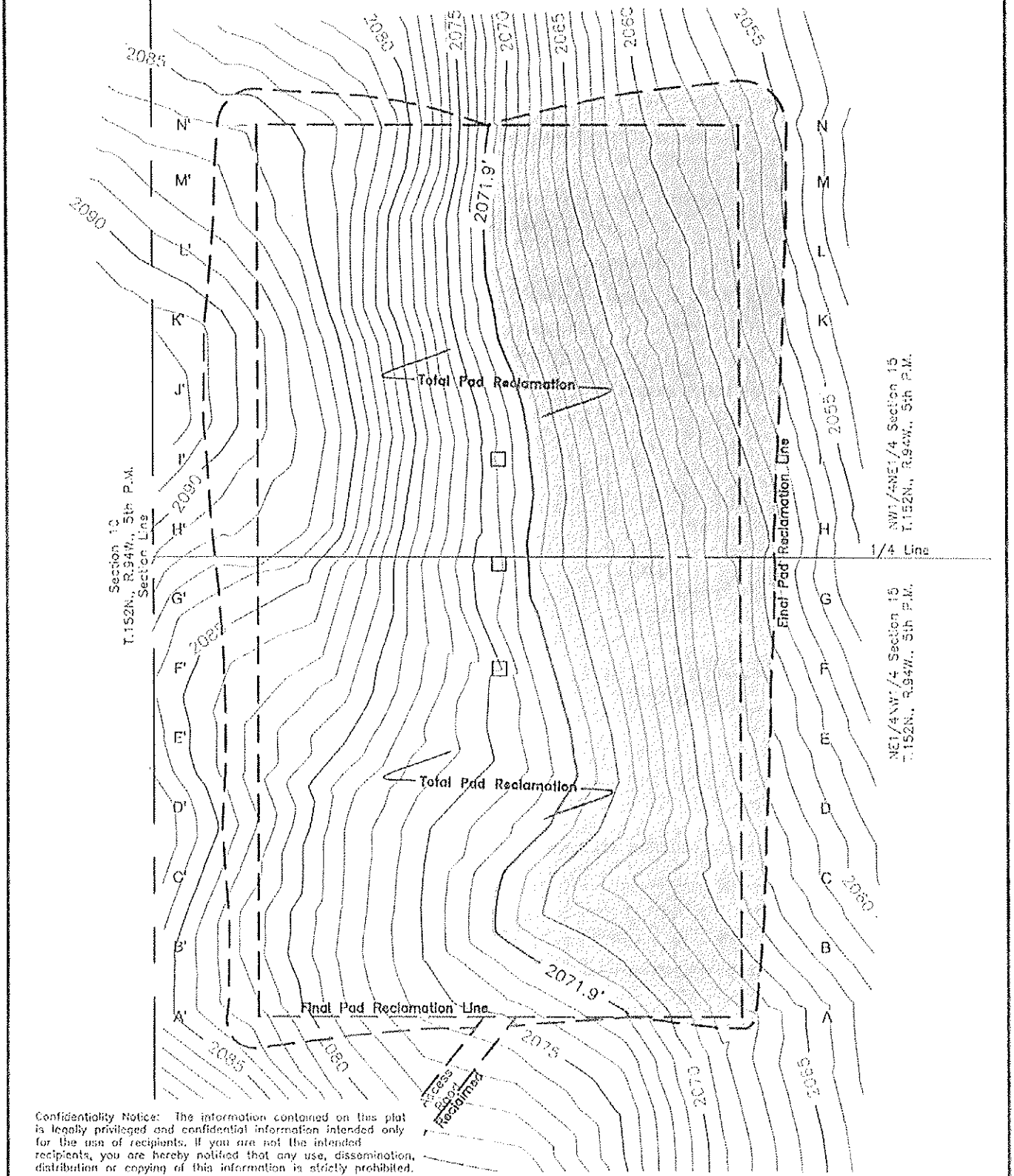
# Fort Berthold 152-94-15B-22-5H, Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H
## Reclamation Layout

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1" = 100' | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-113 | Reclam Layout | 12/16/2011 | 8711257/ 8711258 & 8711259 | 11 |

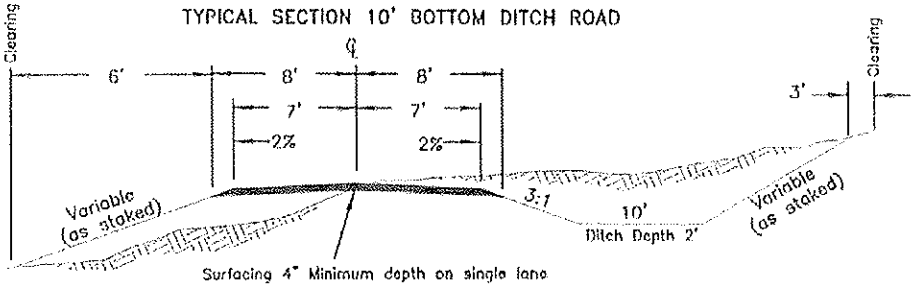
Kadrmas Lee & Jackson
Engineers Surveyors Planners

Dec 16, 2011 - 12:20pm - J:\oilfield\Petro Hunt\8711257\Cadd\8711257Rec02.dwg

(c) Kadrmas, Lee & Jackson 2011

# Fort Berthold 152-94-15B-22-5H, Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H
## Roadway Typical Sections

TYPICAL SECTION 10' BOTTOM DITCH ROAD




TYPICAL "B"

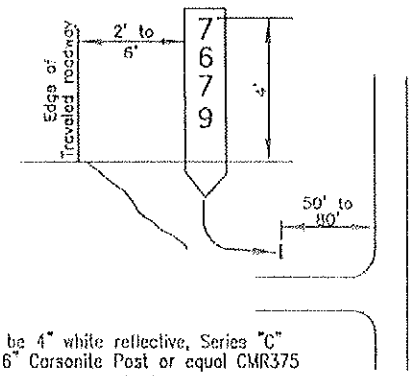
No Scale

| FILL SLOPES | FILL WIDENING | CUT SLOPES |
|---|---|---|
| 3:1 Under 4' Height<br>2:1 Over 4' Height<br>(-) Slopes steeper than 2:1 will be subject to FS approval | 2' to 5' high/add 1'<br>Over 5' high/add 2' | 3:1 Under 10' height<br>2:1 10' to 20' height<br>(-) Variable over 20' height W/FS approval |

CURVE WIDENING

130 / R

TYPICAL SECTION VERTICAL ROUTE MARKER



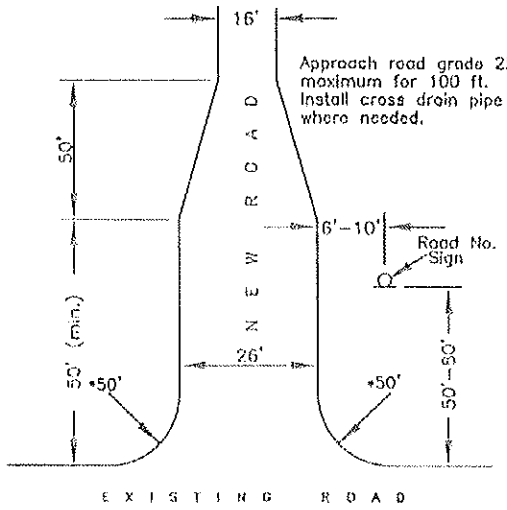

Letters shall be 4" white reflective, Series "C" on Brown 6' 6" Carsonite Post or equal CMR375

*Figure 11-28 - Typical Signage for Vertical Route Markers*

TYPICAL "F"

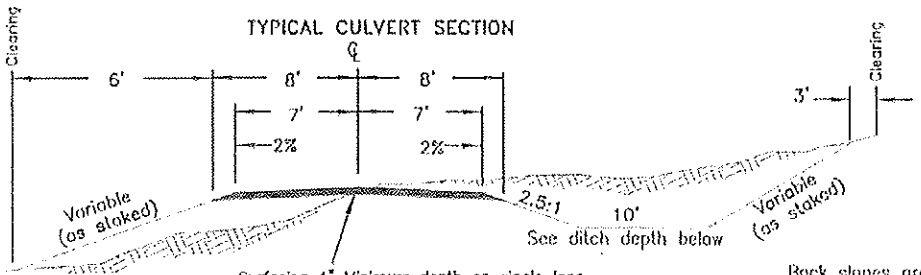
No Scale

TYPICAL APPROACH ROAD CONNECTION




*As noted on road sheets

TYPICAL CULVERT SECTION




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

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' |

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

TYPICAL "A"

No Scale

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | --- | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-113 | Road Typical | 12/16/2011 | 8711257<br>8711258 & 8711259 | 12 |

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Engineers Surveyors Planners



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Petro-Hunt, L.L.C.
Fort Berthold 152-94-15B-22-5H
Fort Berthold 152-94-15B-22-6H
Fort Berthold 152-94-15B-22-7H
NE1/4NW1/4 Section 15
NW1/4NE1/4 Section 15
T.152N., R.94W., 5th P.M.
McKenzie County, ND

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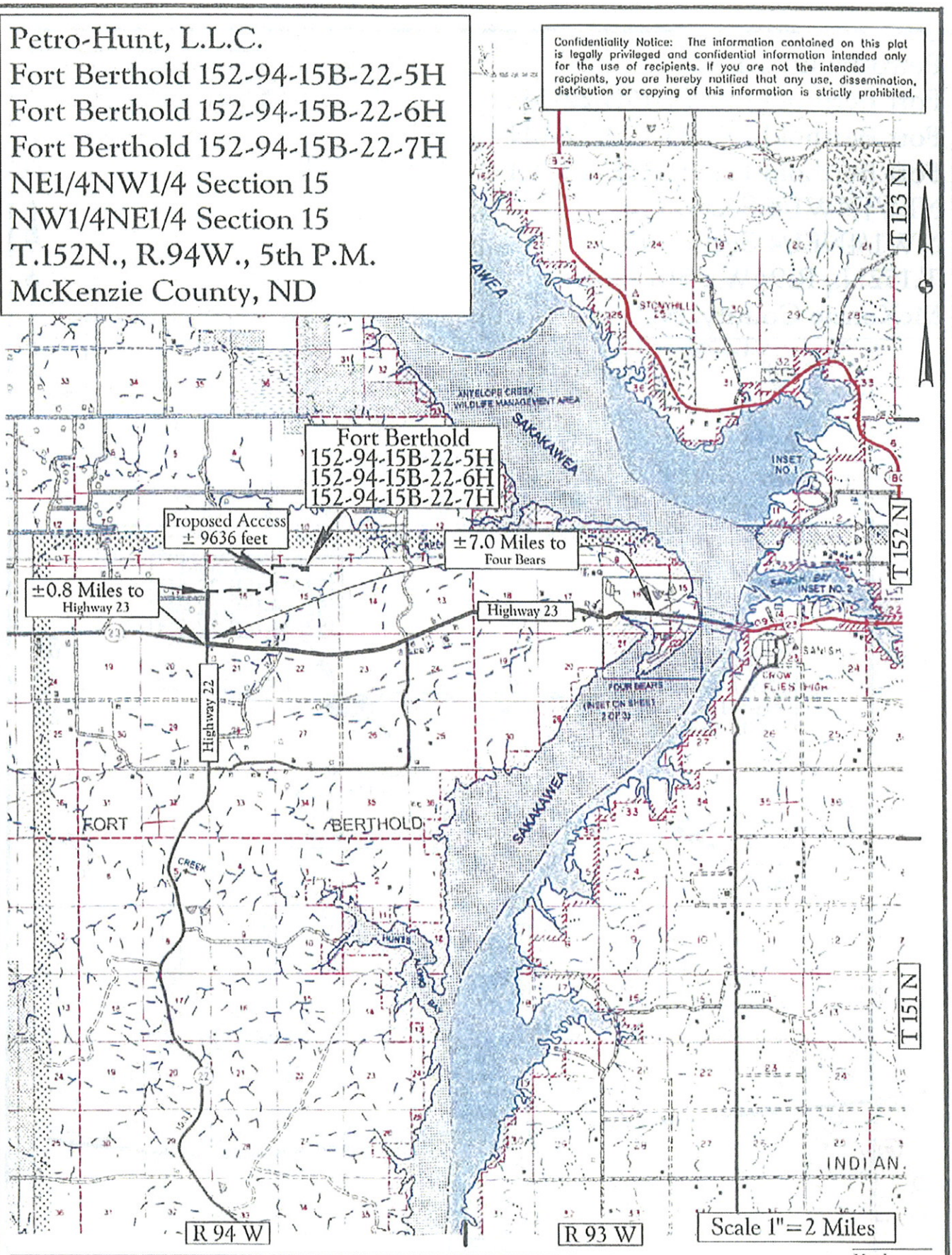


# Map "A"
# County Access Route

## Legend
Existing Roads
Proposed Roads

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Oct 16, 2011 - 3:56pm - C:\DOCUME~1\DEREKF~1\LOCALS~1\Temp\AcPublish_7076\8711257Loc01.dwg

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Petro-Hunt, L.L.C.
Fort Berthold 152-94-15B-22-5H
Fort Berthold 152-94-15B-22-6H
Fort Berthold 152-94-15B-22-7H
NE1/4NW1/4 Section 15
NW1/4NE1/4 Section 15
T.152N., R.94W., 5th P.M.
McKenzie County, ND

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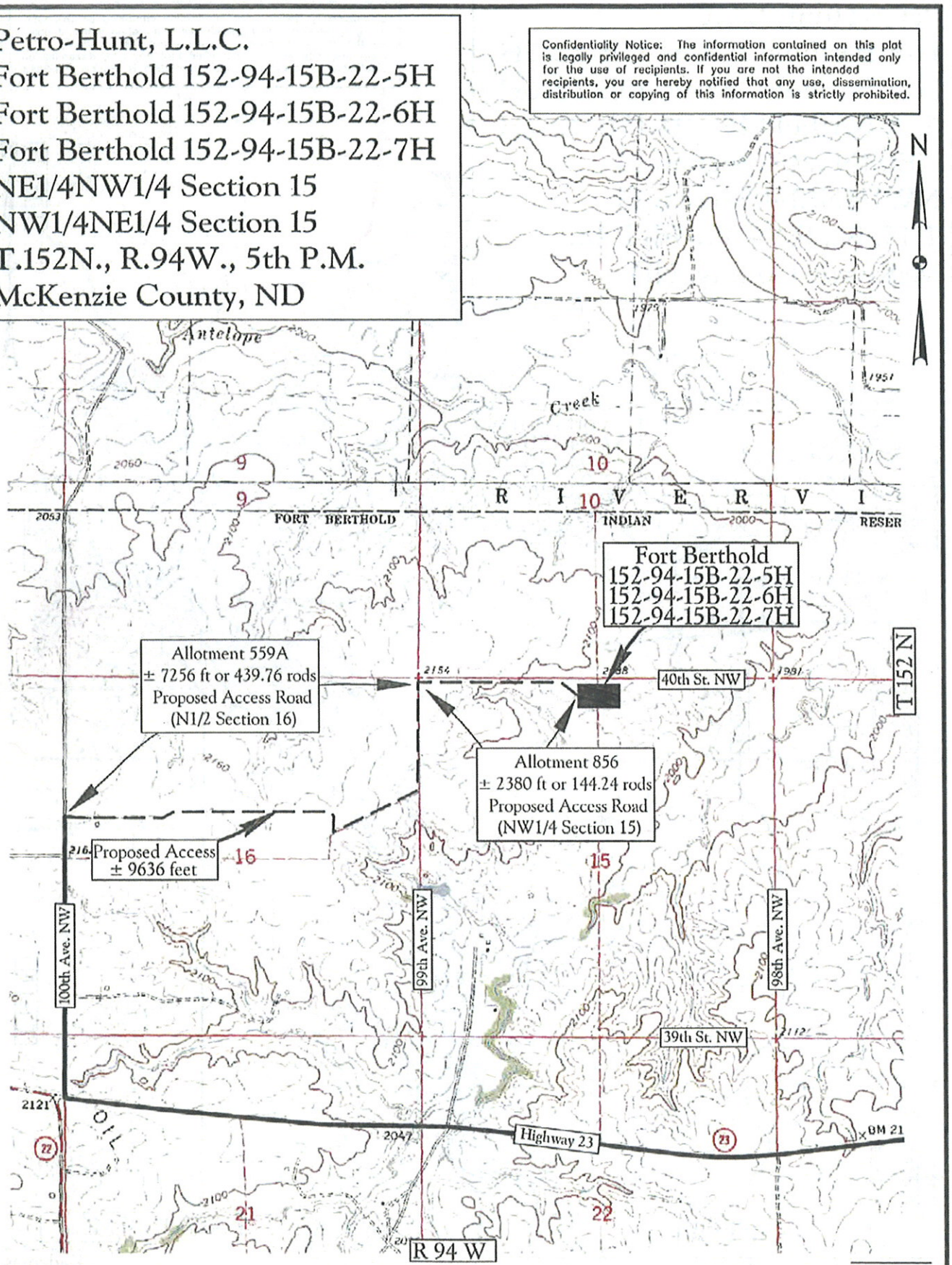


# Map "B"
Quad Access Route

## Legend
Existing Roads
Proposed Roads

Scale 1"=2000'

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Engineers Surveyors Planners

Oct 18, 2011 - 3:56pm - C:\DOCUME~1\DEREKF~1\LOCALS~1\Temp\AcPublish_7076\8711257Loc01.dwg

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Petro-Hunt, L.L.C.
Fort Berthold 152-94-15B-22-5H
Fort Berthold 152-94-15B-22-6H
Fort Berthold 152-94-15B-22-7H
NE1/4NW1/4 Section 15
NW1/4NE1/4 Section 15
T.152N., R.94W., 5th P.M.
McKenzie County, ND

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Map "C"
One Mile Radius Map

Legend
Existing Roads
Proposed Roads

Scale 1"=2000'

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Oct 18, 2011 - 3:56pm - C:\DOCUME~1\DEREKF~1\LOCALS~1\Temp\AcPublish_7076\8711257Loc01.dwg

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## 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

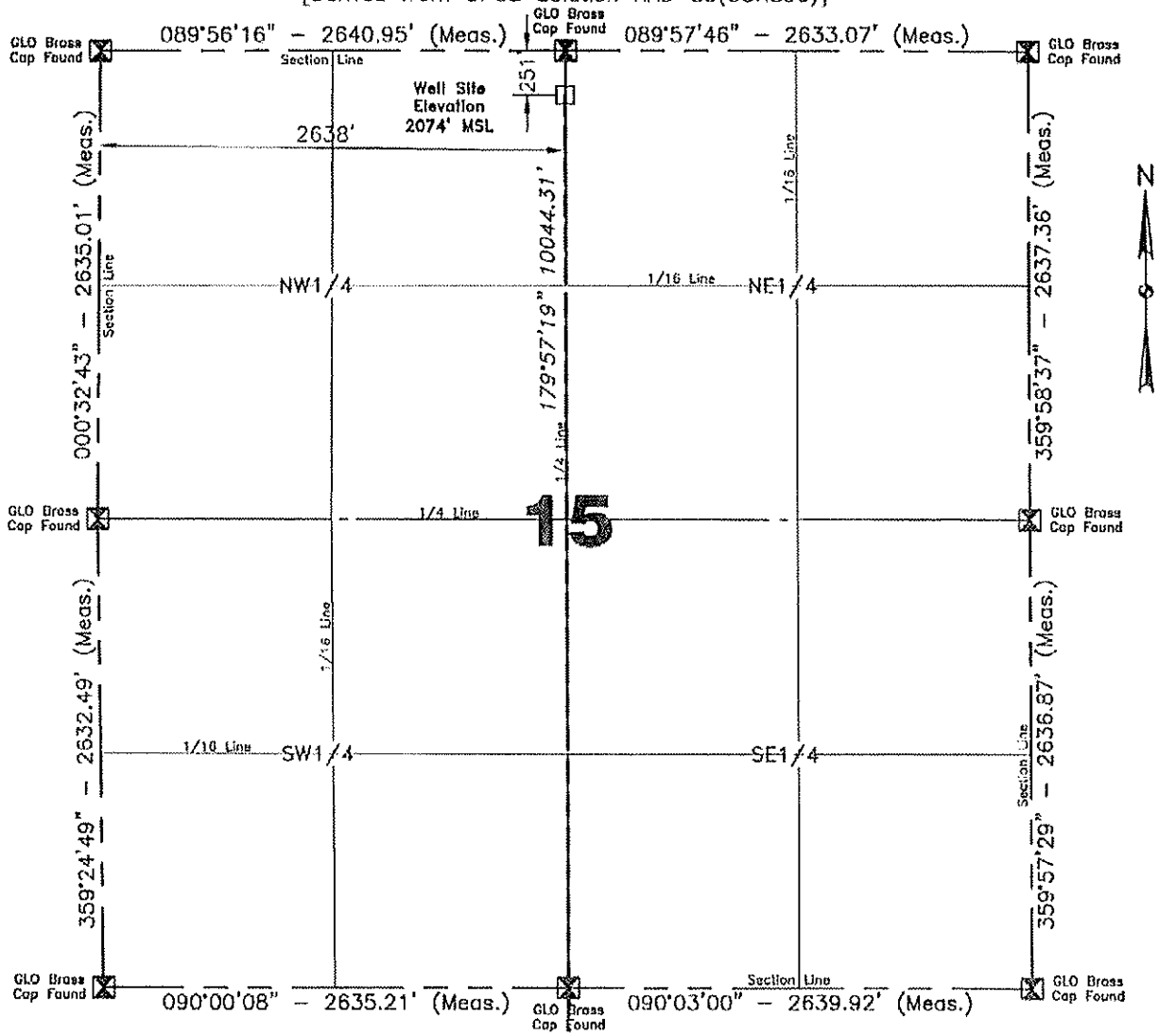
A = Active, AB = Abandoned, DRL = Drilling, Dry = Dry, EXP = Expired, IA = Inactive, LOC = Location, PA = Producer Abandoned, PNC = Permit Now Cancelled TA = Temporarily Abandoned, TAO = Temporarily Abandoned Observation.

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

# WELL LOCATION PLAT

**Petro-Hunt L.L.C.**
258 119 Avenue S.W. Killdeer, ND 58640
Fort Berthold 152-94-15B-22-6H
**251 feet from the north line and 2638 feet from the west line (surface location)**
Section 15, T. 152 N., R. 94 W., 5th P.M.
250 feet from the south line and 2640 feet from the west line (bottom hole location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site - Three Affiliated Tribes
**Latitude 47°59'29.424" North; Longitude 102°41'47.713" West (surface location)**
Latitude 47°57'50.311" North; Longitude 102°41'47.557" West (bottom hole location)
[Derived from OPUS Solution NAD-83(CORS96)]




**Scale 1"=1000'**

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NOTE: All land corners are assumed unless otherwise noted.
The well location shown hereon is not an as-built location.

I, Donald Leischner, Professional Land Surveyor, N.D. No. 7103, 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.

Alvin Lambert 8/02/2011
Surveyed By N.D.P.L.S. #1241 Date

REGISTERED PROFESSIONAL LAND SURVEYOR
DONALD LEISCHNER
LS-7103
DATE 10-31-11

Vertical Control Datum Used
Sea-Level Datum of NAVD 88
Based on elevation derived from OPUS Solution on GPS*CP SEC 14 (iron rebar) Located a distance of 5101.67' on an azimuth of 090°19'57" from the southeast corner of Section 15 T.152N., R.94W., 5th P.M. being at 2082.96' Elevation MSL.

Project No. 8711258
Book 0-113 Pg. 50-53,20-22 Staking

Professional Consulting Engineers and Surveyors
Registered in
North Dakota, South Dakota
Montana, Wyoming & Minnesota
Tele-Fax No. 701-572-2019
Bus. Phone No. 701-572-6352
222 Airport Road
Williston, North Dakota 58801-2976
Certificate of Authorization #C-061

Kadrmas Lee & Jackson
Engineers Surveyors Planners


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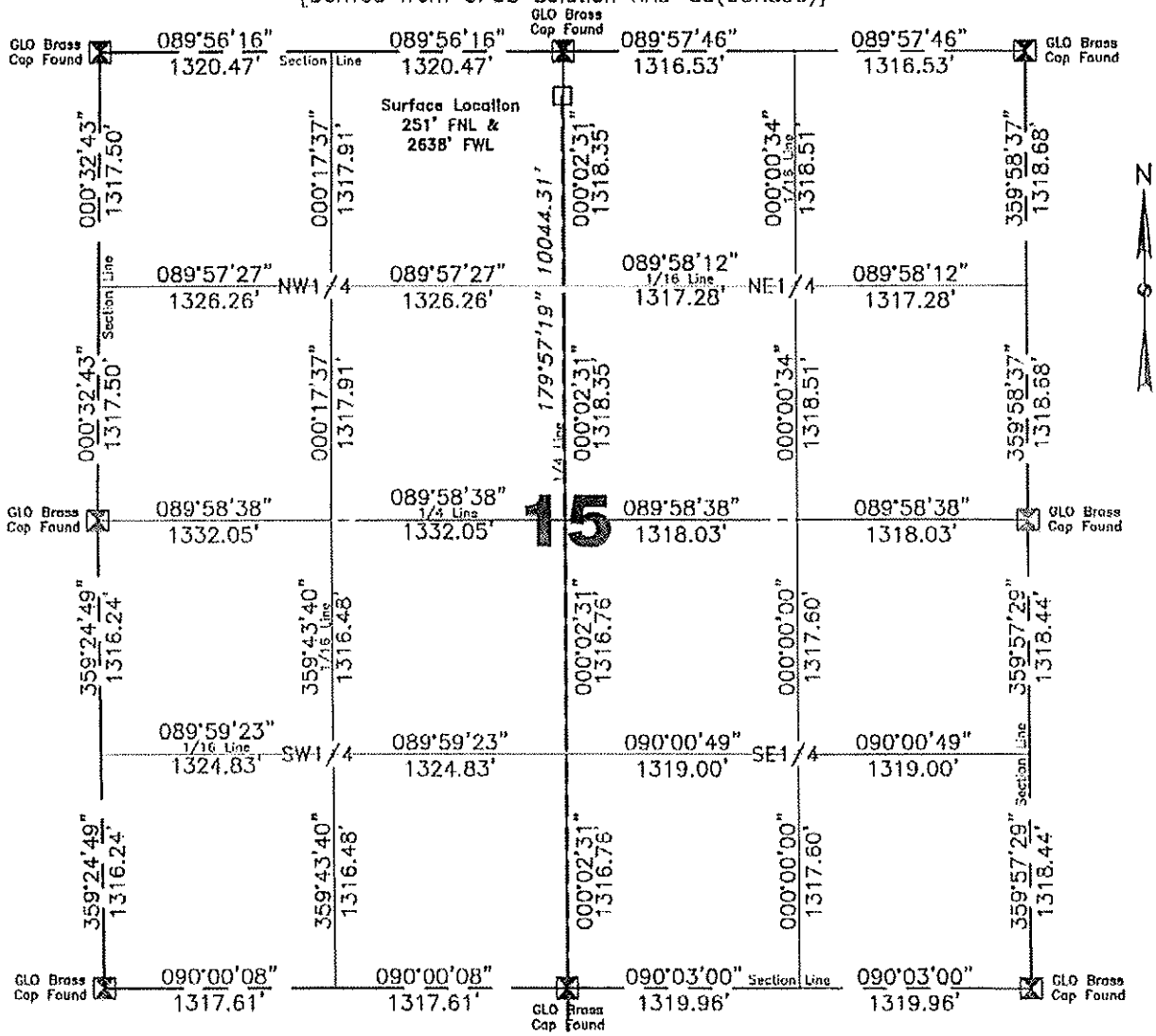
# HORIZONTAL SECTION PLAT

**Petro-Hunt L.L.C.**
258 119 Avenue S.W. Killdeer, ND 58640

## Fort Berthold 152-94-15B-22-6H

**251 feet from the north line and 2638 feet from the west line (surface location)**
Section 15, T. 152 N., R. 94 W., 5th P.M.
250 feet from the south line and 2640 feet from the west line (bottom hole location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site - Three Affiliated Tribes

**Latitude 47°59'29.424" North; Longitude 102°41'47.713" West (surface location)**
Latitude 47°57'50.311" North; Longitude 102°41'47.557" West (bottom hole location)
[Derived from OPUS Solution NAD-83(CORS96)]




**Scale 1"=1000'**

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I, Donald Leischner, Professional Land Surveyor, N.D. No. 7103, 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.

All corners shown on this plat were found in the field during Petro-Hunt, Fort Berthold 152-94-15B-22-6H oil well survey on August 2, 2011. Distances to all others are calculated. All azimuths are based on the south line of the SW1/4 Section 15, being on an azimuth of 090°00'08".

REGISTERED PROFESSIONAL LAND SURVEYOR
DONALD LEISCHNER
LS-7103
NORTH DAKOTA
DATE 10-31-11

| Surveyed By | Field Book |
|---|---|
| A. Lambert | O-113 |
| Computed & Drawn By | Project No. |
| M. Babcock | 8711258 |

Kadrmas Lee & Jackson
Engineers Surveyors Planners


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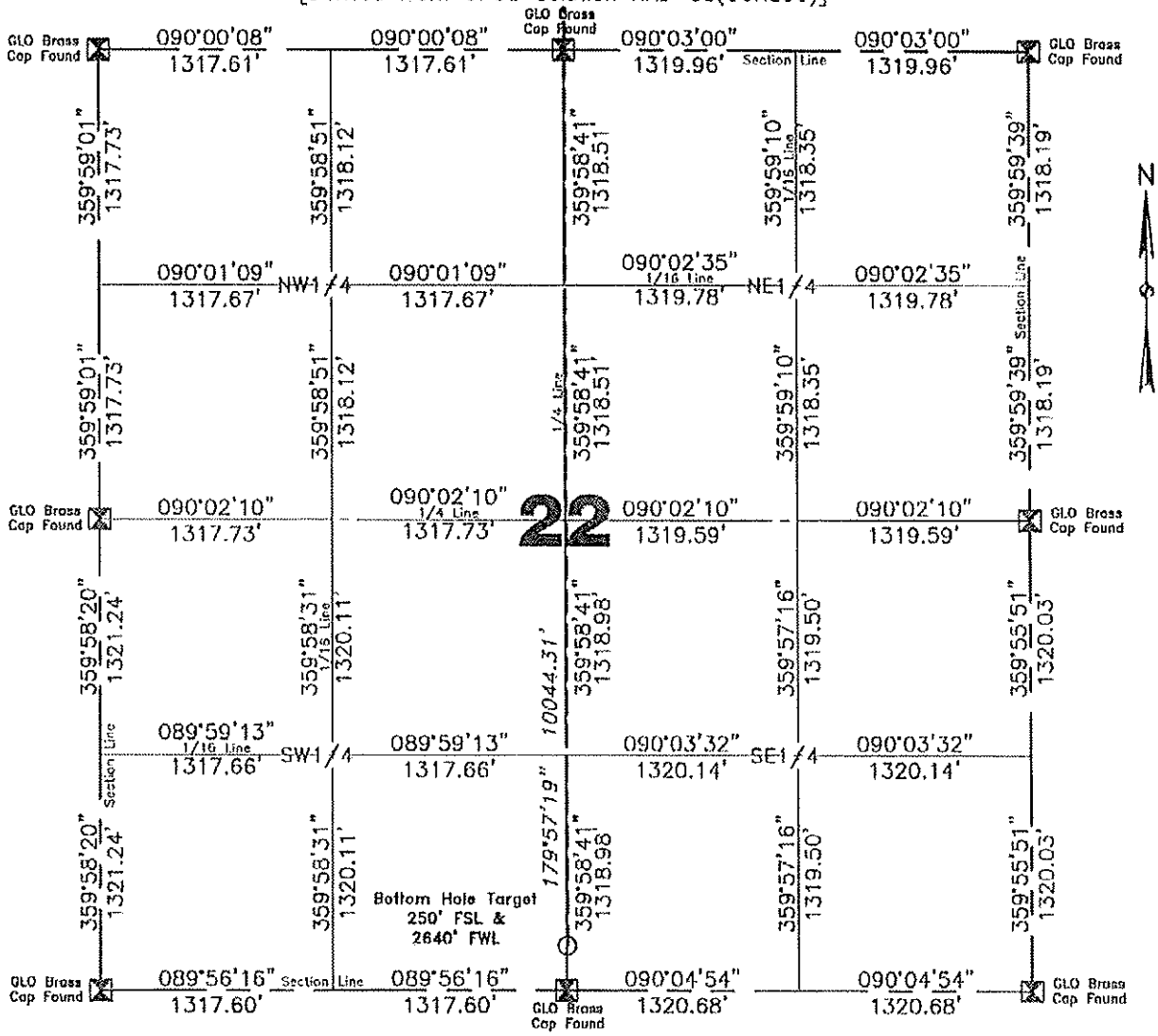
# HORIZONTAL SECTION PLAT

**Petro-Hunt L.L.C.**
258 119 Avenue S.W. Killdeer, ND 58640

## Fort Berthold 152-94-15B-22-6H

**251 feet from the north line and 2638 feet from the west line (surface location)**
Section 15, T. 152 N., R. 94 W., 5th P.M.
250 feet from the south line and 2640 feet from the west line (bottom hole location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site – Three Affiliated Tribes

**Latitude 47°59'29.424" North; Longitude 102°41'47.713" West (surface location)**
Latitude 47°57'50.311" North; Longitude 102°41'47.557" West (bottom hole location)
[Derived from OPUS Solution NAD-83(CORS96)]




**Scale 1"=1000'**

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I, Donald Leischner, Professional Land Surveyor, N.D. No. 7103, 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.

All corners shown on this plat were found in the field during Petro-Hunt, Fort Berthold 152-94-15B-22-6H oil well survey on August 2, 2011. Distances to all others are calculated. All azimuths are based on the south line of the SW1/4 Section 15, being on an azimuth of 090°00'08".

DONALD LEISCHNER 7103 REGISTERED LAND SURVEYOR STATE OF NORTH DAKOTA

DATE 10-31-11

| Surveyed By | Field Book |
|---|---|
| A. Lambert | O-113 |
| Computed & Drawn By | Project No. |
| M. Babcock | 8711258 |

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Engineers Surveyors Planners

Oct 18, 2011 – 2:52pm – J:\oilfield\Petro Hunt\8711258\Cadd\8711258las01.dwg

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# BOTTOM HOLE LOCATION PLAT

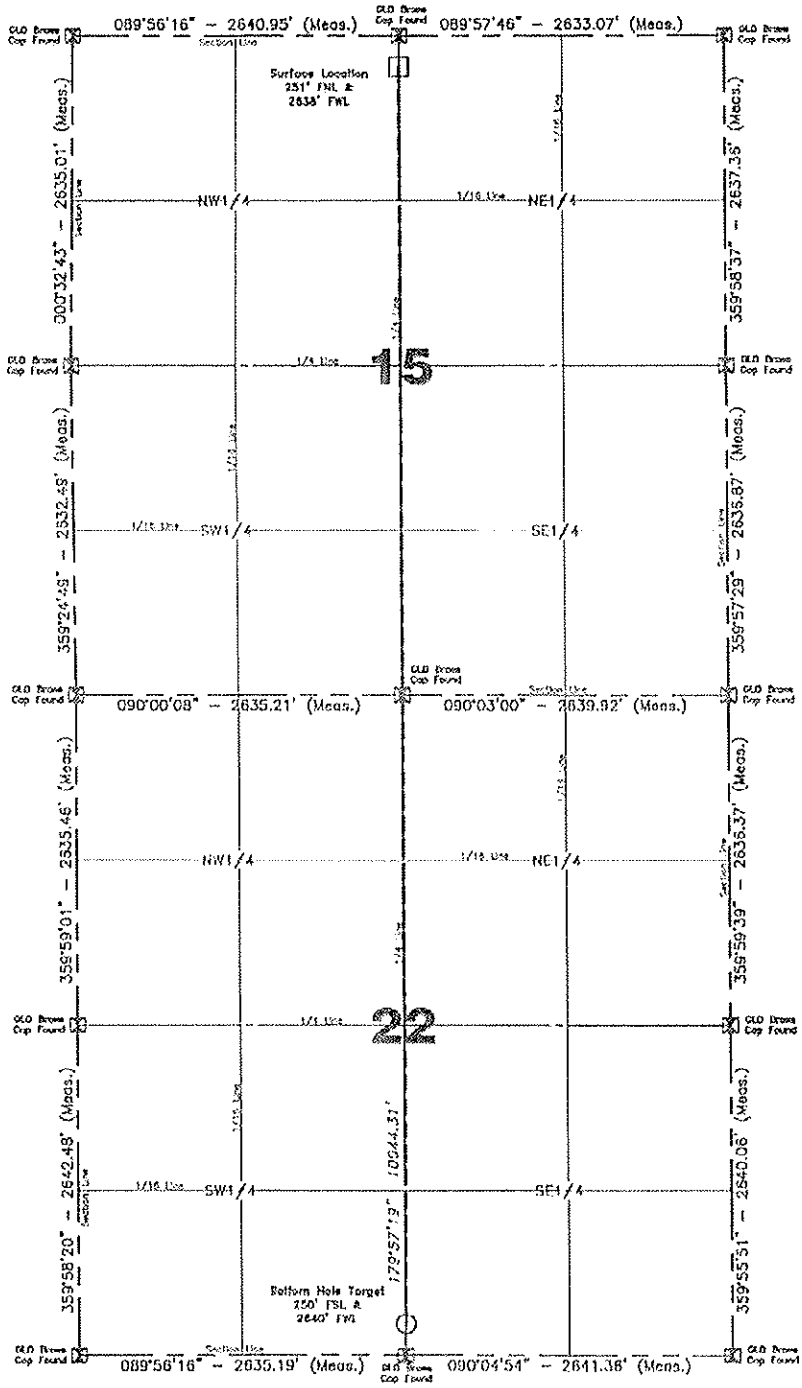
**Petro-Hunt L.L.C.**

258 119 Avenue S.W. Killdeer, ND 58640

## Fort Berthold 152-94-15B-22-6H

**251 feet from the north line and 2638 feet from the west line (surface location)**
Section 15, T. 152 N., R. 94 W., 5th P.M.
250 feet from the south line and 2640 feet from the west line (bottom hole location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site – Three Affiliated Tribes

**Latitude 47°59'29.424" North; Longitude 102°41'47.713" West (surface location)**
Latitude 47°57'50.311" North; Longitude 102°41'47.557" West (bottom hole location)
[Derived from OPUS Solution NAD-83(CORS96)]




N

Scale 1"=1500'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| Computed & Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1"=1500' | 10/14/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-113 | B.H. Layout | – | 8711258 | 4 |

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# Petro-Hunt, L.L.C.
# Fort Berthold 152-94-15B-22-5H
# Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H
# Section 15, T 152 N, R 94 W, 5th P.M.
# McKenzie County, North Dakota

| | | |
|---|---|---|
| Fort Berthold 152-94-15B-22-5H Elevation | 2075.1' | MSL |
| Fort Berthold 152-94-15B-22-6H Elevation | 2074.2' | MSL |
| Fort Berthold 152-94-15B-22-7H Elevation | 2073.9' | MSL |
| Well Pad Elevation | 2071.9' | MSL |

| | |
|---|---|
| Excavation | 39,115 C.Y. |
| Plus Pit | 0 C.Y. |
| | 39,115 C.Y. |
| Embankment | 25,690 C.Y. |
| Plus Shrinkage (+30%) | 7,705 C.Y. |
| | 33,395 C.Y. |
| Stockpile Top Soil (6") | 4,995 C.Y. |
| Production Rehabilitation | 0 C.Y. |
| Road Embankment & Stockpile from Pad | 725 C.Y. |
| Disturbed Area From Pad | 6.19 Acres |
| Total Fenced Area | 8.90 Acres |

(Disturbed Area from Road Not Included See Right-of Way Plat)

NOTE:
All cut end slopes are designed at 2:1 slopes & all fill end slopes are designed at 2:1 slopes

Fort Berthold 152-94-15B-22-5H

251' FNL
2563' FWL

Fort Berthold 152-94-15B-22-6H

251' FNL
2638' FWL

Fort Berthold 152-94-15B-22-7H

251' FNL
2563' FEL

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-113 | Quantities | 12/16/2011 | 8711257 8711258 & 8711259 | 5 |

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Engineers Surveyors Planners

Dec 16, 2011 11:34am - J:\oilfield\Petro Hunt\8711257\Cadd\8711257Bas02.dwg

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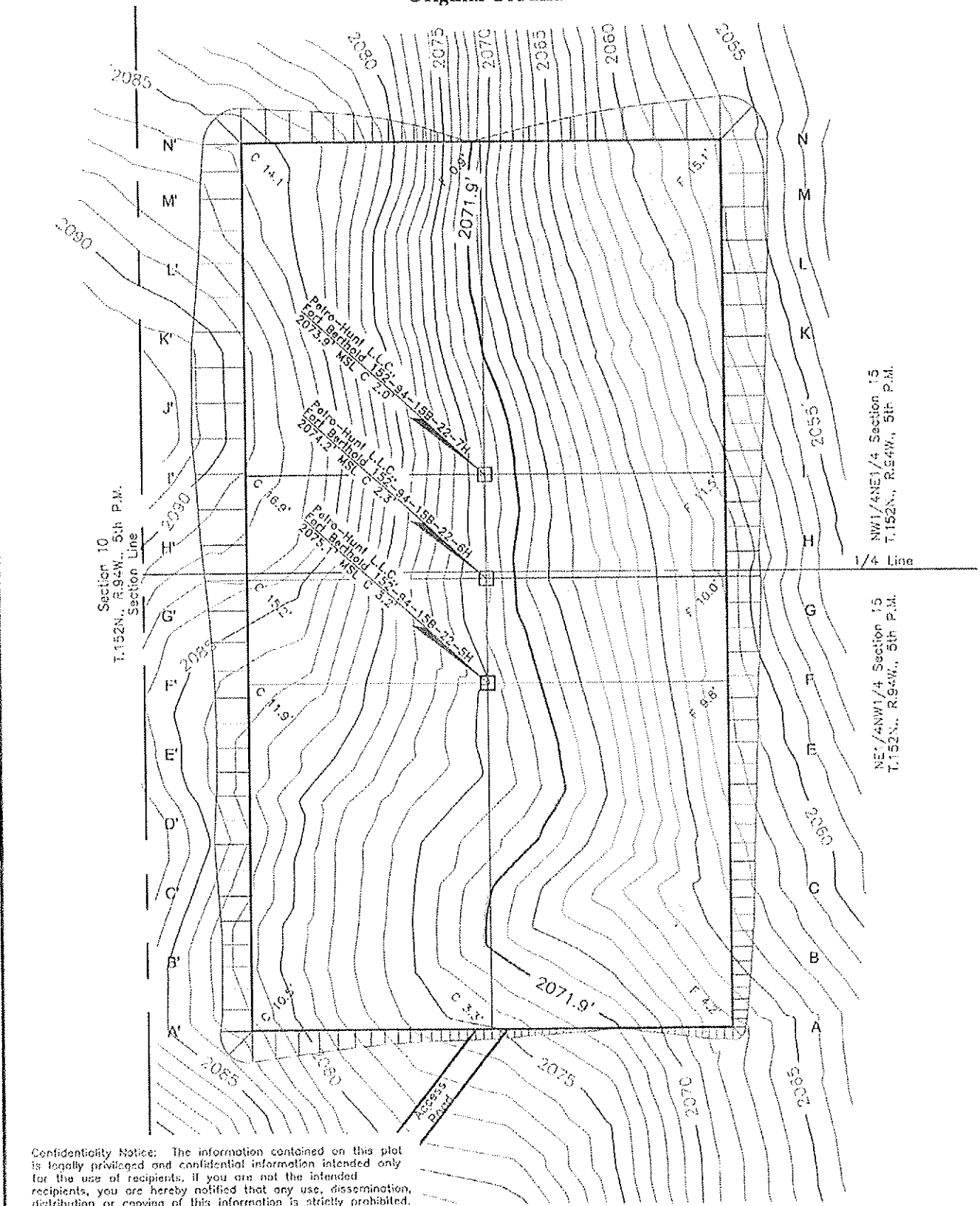
# Fort Berthold 152-94-15B-22-5H, Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H
## Original Ground

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Bobcock | A. Lambert | D. Leischner | 1" = 100' | 10/28/2011 |
| Field Book | Material | Revised | Project No. | Drawing No. |
| O-113 | Original Ground | 12/16/2011 | 8711257 8711258 & 8711259 | 6 |

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Engineers Surveyors Planners

Dec 16, 2011 - 11:39am - J:\oilfield\Petro Hunt\8711257\Cadd\8711257Bas02.dwg

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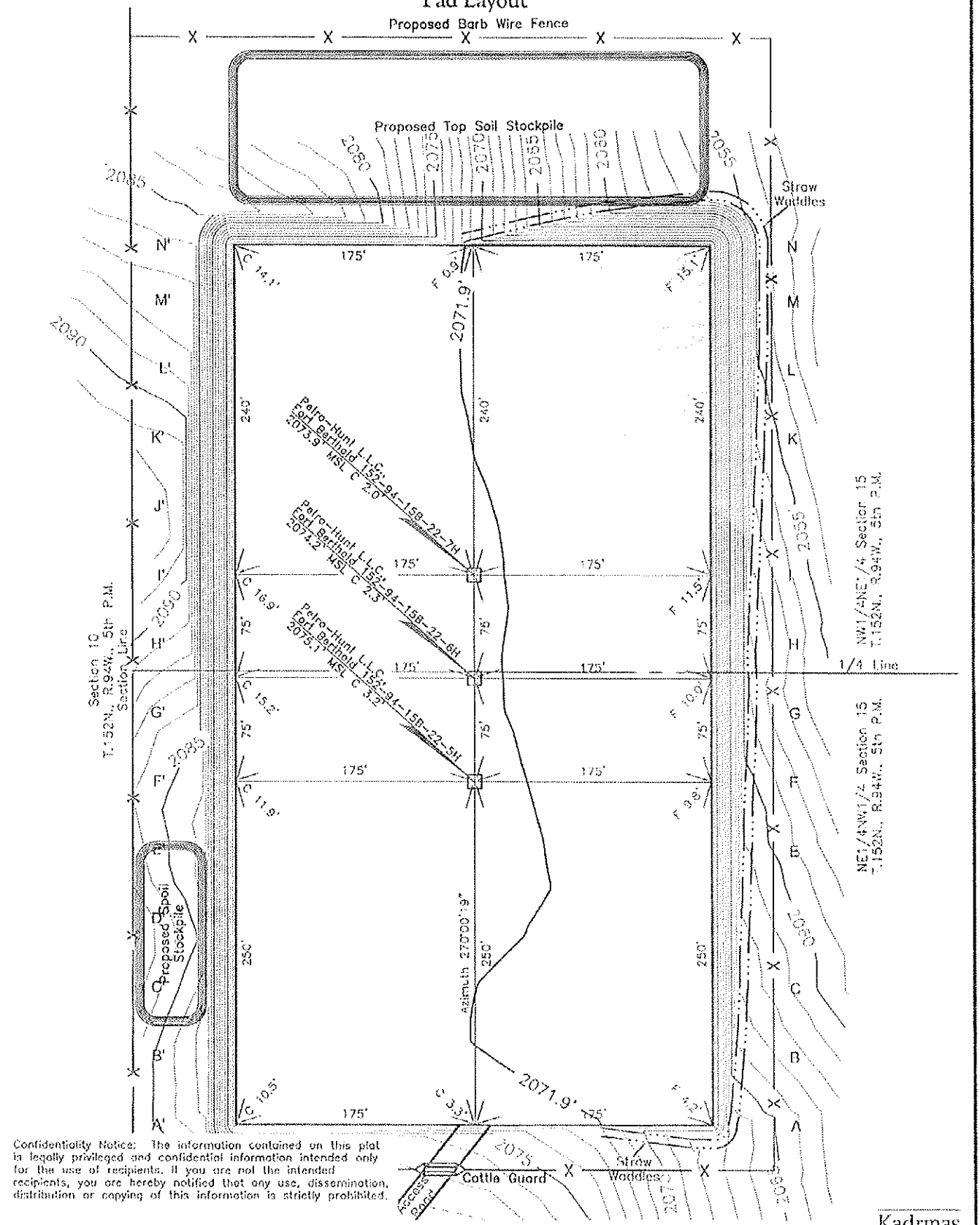
# Fort Berthold 152-94-15B-22-5H, Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H
## Pad Layout

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1" = 100' | 10/28/2011 |
| Field Book | Material | Revised | Project No. | Drawing No. |
| O-113 | Pad Layout | 12/16/2011 | 8711257 8711258 & 8711259 | 7 |

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Engineers Surveyors Planners


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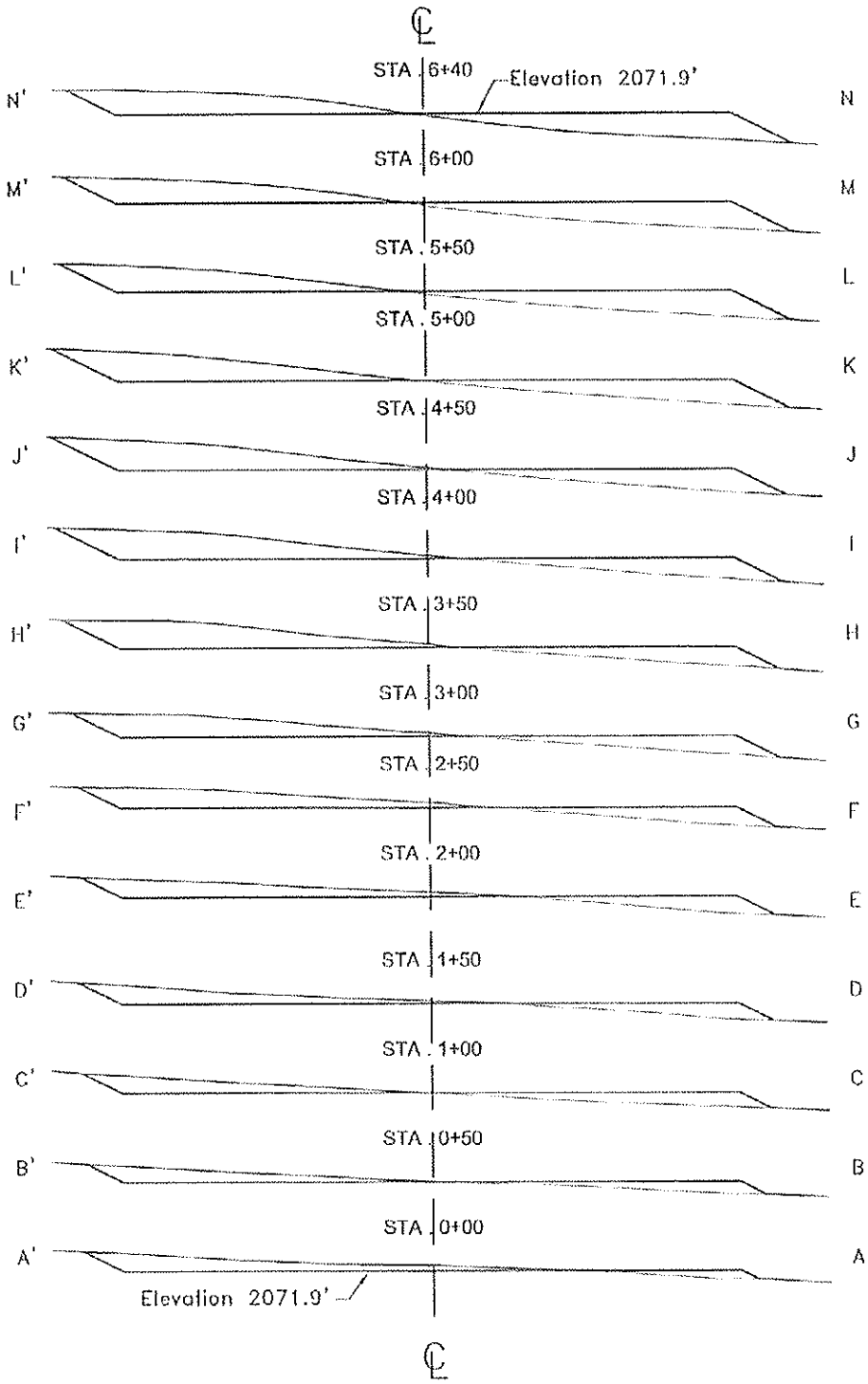
# Fort Berthold 152-94-15B-22-5H, Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H
## Cross Sections

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1"= 100' | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-113 | Cross Sections | 12/16/2011 | 8711257 8711258 & 8711259 | 8 |

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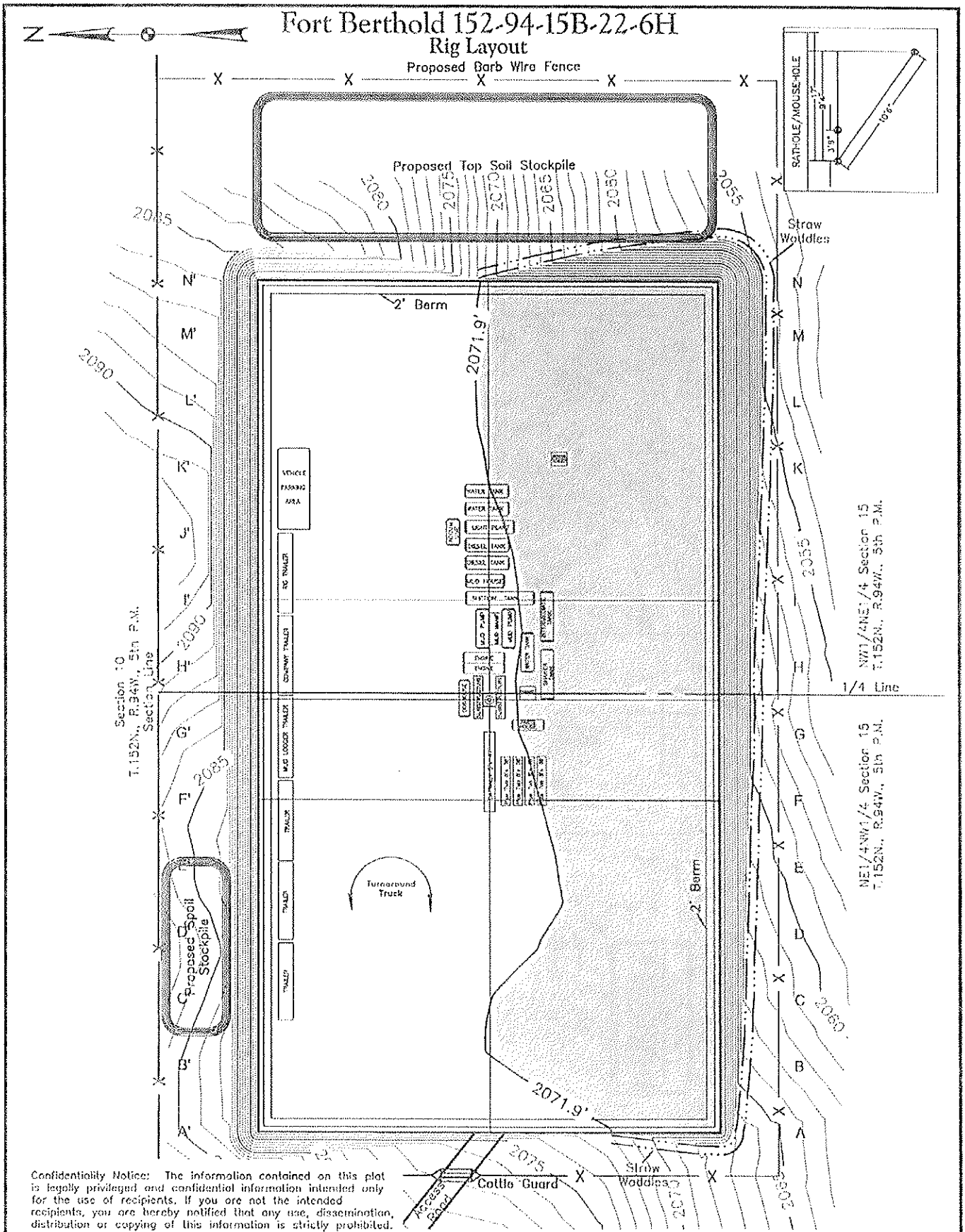
# Fort Berthold 152-94-15B-22-6H

## Rig Layout

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1" = 100' | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-11.3 | Rig Layout | 12/16/2011 | 8711258 | 9 |

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Engineers Surveyors Planners

Dec 16, 2011 - 12:14pm - J:\oilfield\Petro Hunt\8711257\Cadd\8711257Bas02.dwg

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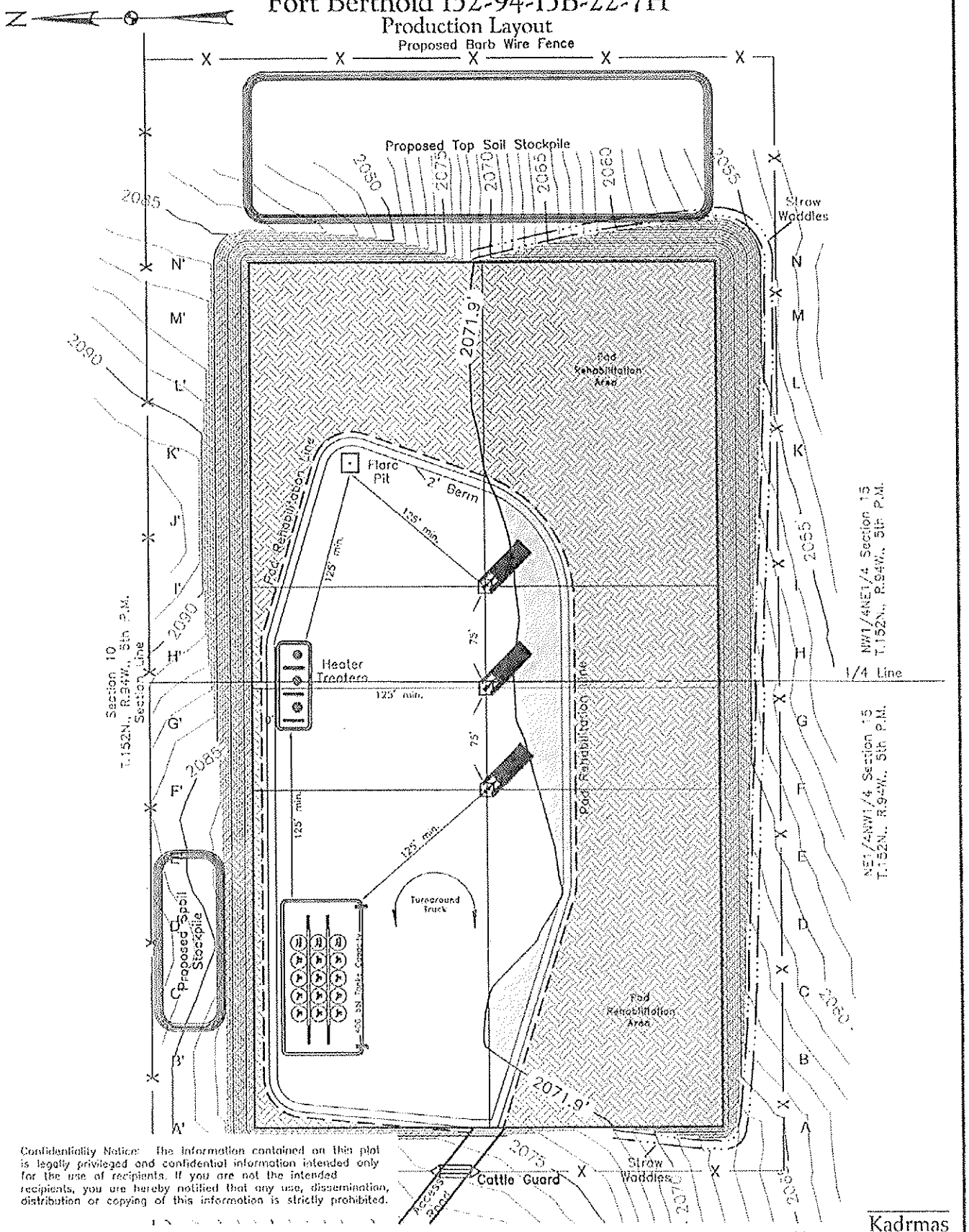
# Fort Berthold 152-94-15B-22-5H, Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H

## Production Layout

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1"= 100' | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-113 | Prod Layout | 12/16/2011 | 8711257 8711258 & 8711259 | 10 |

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Engineers Surveyors Planners

Dec 16, 2011 - 12:18pm - J:\oilfield\Petro Hunt\8711257\Cadd\8711257dss02.dwg

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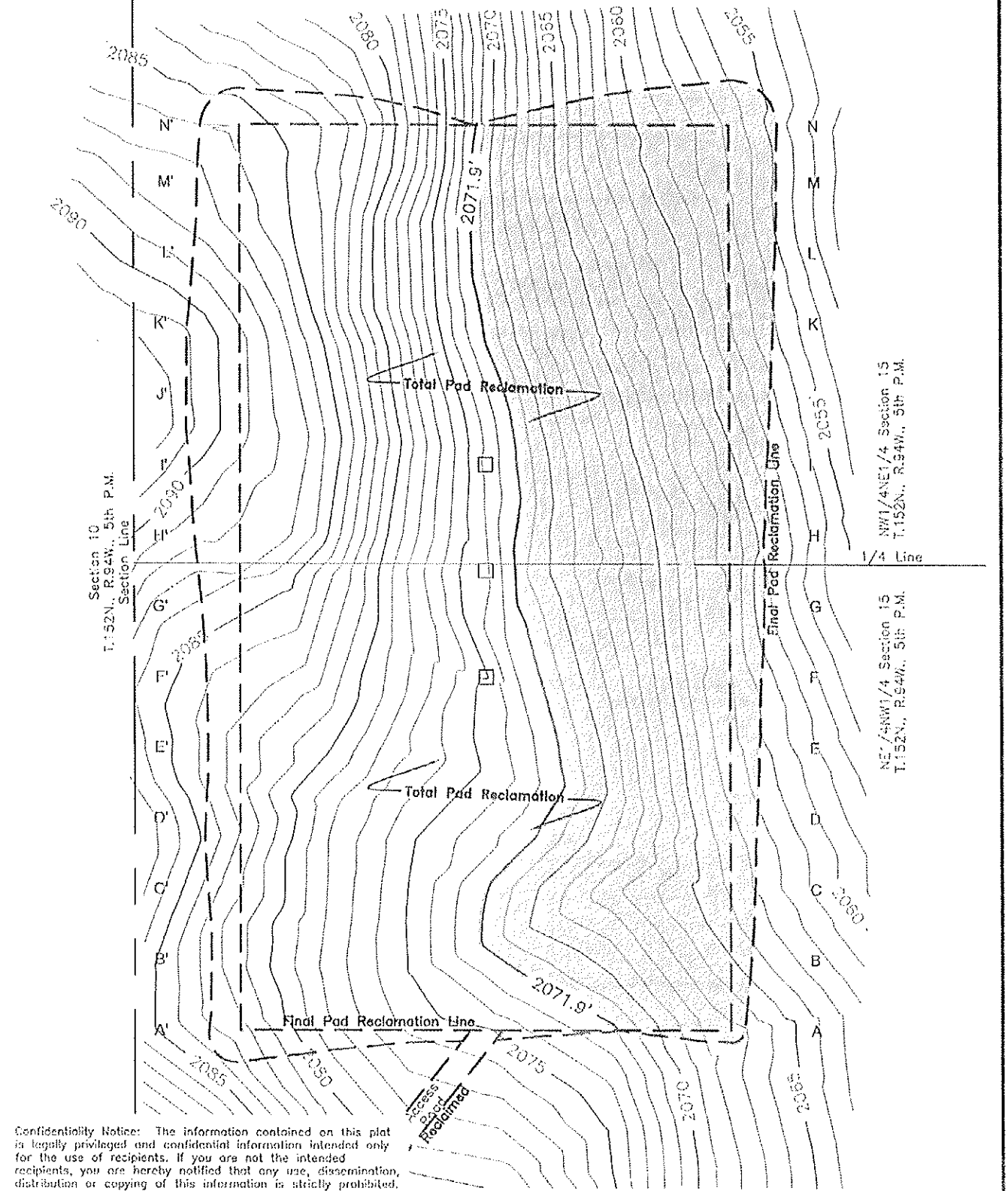
# Fort Berthold 152-94-15B-22-5H, Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H
## Reclamation Layout

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1"= 100' | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-113 | Reclam Layout | 12/16/2011 | 8711257 8711258 & 8711259 | 11 |

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Engineers Surveyors Planners

Dec 16, 2011 - 12:20pm - J:\oilfield\Petro Hunt\8711257\Cadd\8711257Dos02.dwg

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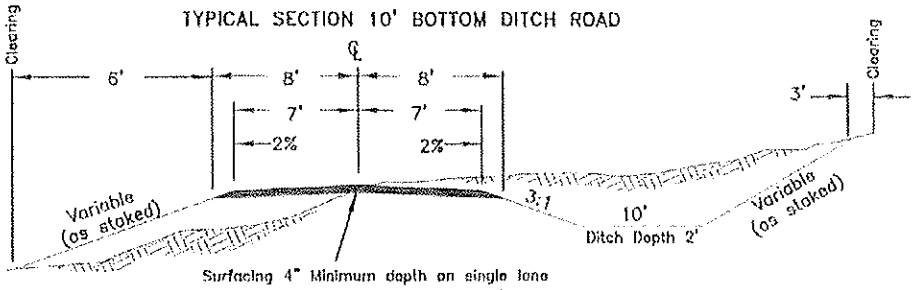
# Fort Berthold 152-94-15B-22-5H, Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H
## Roadway Typical Sections

TYPICAL SECTION 10' BOTTOM DITCH ROAD




TYPICAL "B"

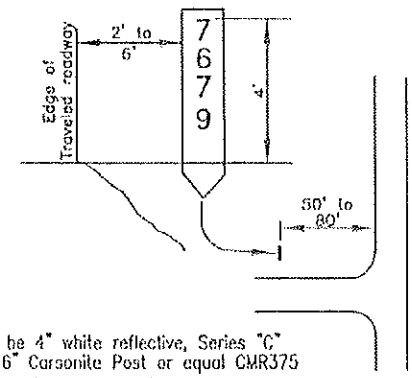
No Scale

| FILL SLOPES | FILL WIDENING | CUT SLOPES |
|---|---|---|
| 3:1 Under 4' Height<br>2:1 Over 4' Height<br>(–) Slopes steeper than 2:1 will be subject to FS approval | 2' to 5' high/add 1'<br>Over 5' high/add 2' | 3:1 Under 10' height<br>2:1 10' to 20' height<br>(–) Variable over 20' height W/FS approval |

CURVE WIDENING

130 / R

TYPICAL SECTION VERTICAL ROUTE MARKER



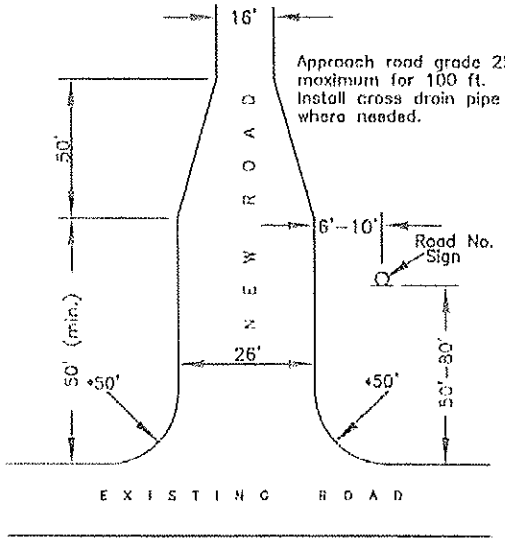

Letters shall be 4" white reflective, Series "C" on Brown 6' 6" Carsonite Post or equal CMR375

*Figure 11-28.- Typical Signage for Vertical Route Markers*

TYPICAL "F"

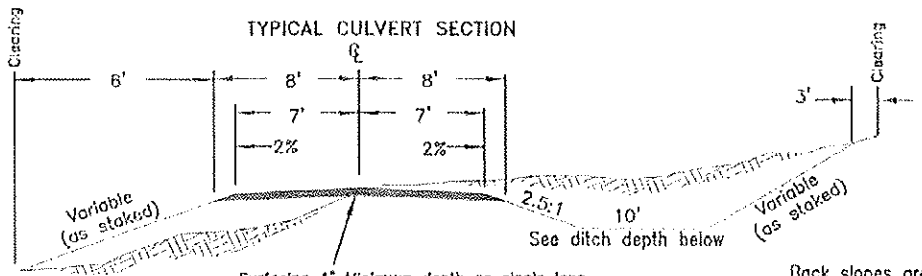
No Scale

TYPICAL APPROACH ROAD CONNECTION




*As noted on road sheets

TYPICAL CULVERT SECTION




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

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' |

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

TYPICAL "A"

No Scale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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | – | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O–113 | Road Typical | 12/16/2011 | 8711257/ 8711258 & 8711259 | 12 |

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Petro-Hunt, L.L.C.
Fort Berthold 152-94-15B-22-5H
Fort Berthold 152-94-15B-22-6H
Fort Berthold 152-94-15B-22-7H
NE1/4NW1/4 Section 15
NW1/4NE1/4 Section 15
T.152N., R.94W., 5th P.M.
McKenzie County, ND

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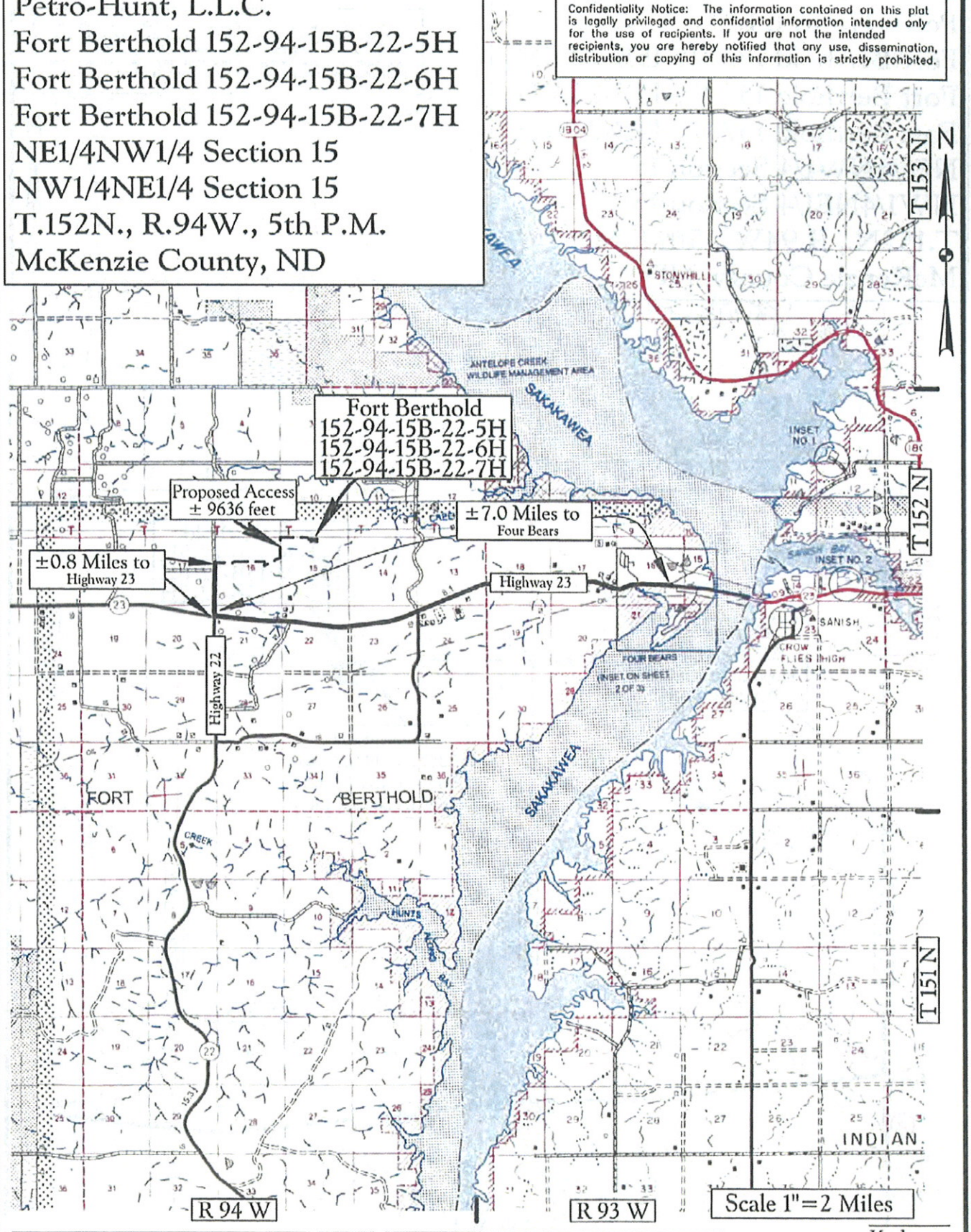


Map "A"
County Access Route

Legend
Existing Roads
Proposed Roads

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Oct 18, 2011 – 3:56pm – C:\DOCUME~1\DEREKF~1\LOCALS~1\Temp\AcPublish_7076\8711257Loc01.dwg

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Petro-Hunt, L.L.C.
Fort Berthold 152-94-15B-22-5H
Fort Berthold 152-94-15B-22-6H
Fort Berthold 152-94-15B-22-7H
NE1/4NW1/4 Section 15
NW1/4NE1/4 Section 15
T.152N., R.94W., 5th P.M.
McKenzie County, ND

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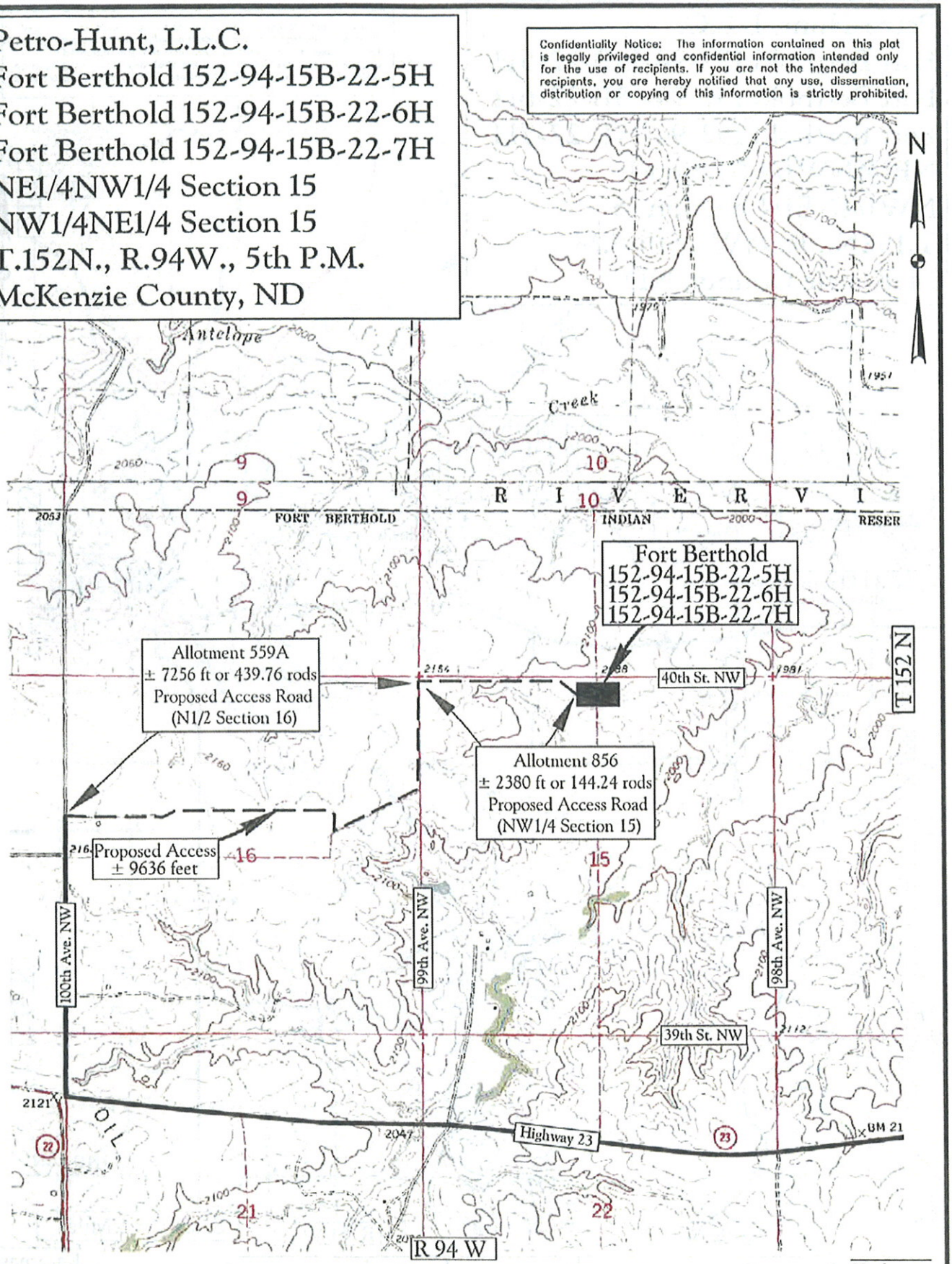


Map "B"
Quad Access Route

Legend
Existing Roads
Proposed Roads

Scale 1"=2000'

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Oct 18, 2011 – 3:56pm – C:\DOCUME~1\DEREKF~1\LOCALS~1\Temp\AcPublish_7076\8711257Loc01.dwg

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Petro-Hunt, L.L.C.
Fort Berthold 152-94-15B-22-5H
Fort Berthold 152-94-15B-22-6H
Fort Berthold 152-94-15B-22-7H
NE1/4NW1/4 Section 15
NW1/4NE1/4 Section 15
T.152N., R.94W., 5th P.M.
McKenzie County, ND

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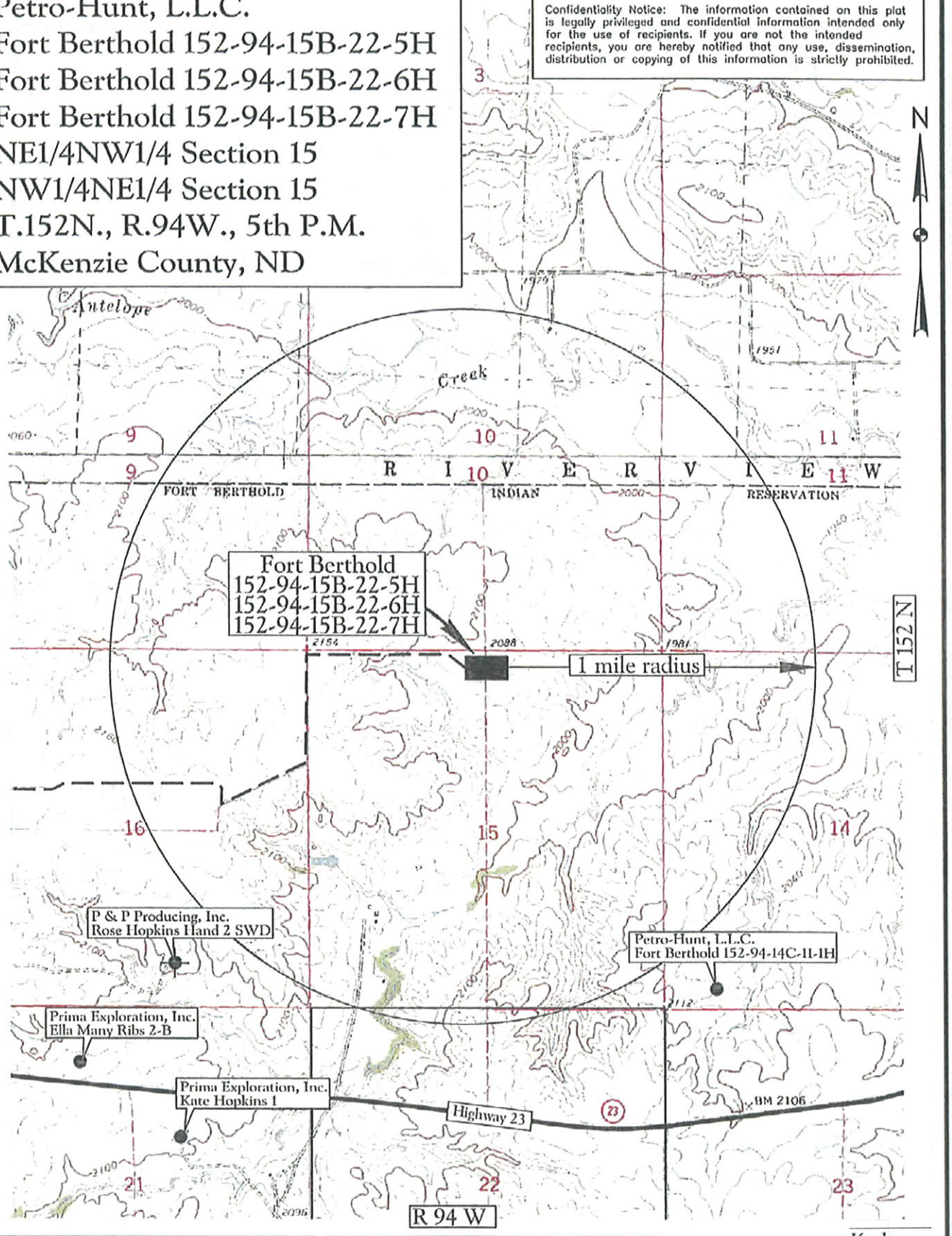


# Map "C"
One Mile Radius Map

## Legend
Existing Roads
Proposed Roads

Scale 1"=2000'

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Oct 18, 2011 - 3:56pm - C:\DOCUME~1\DEREKF~1\LOCALS~1\Temp\AcPublish_7076\8711257Loc01.dwg

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# 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.

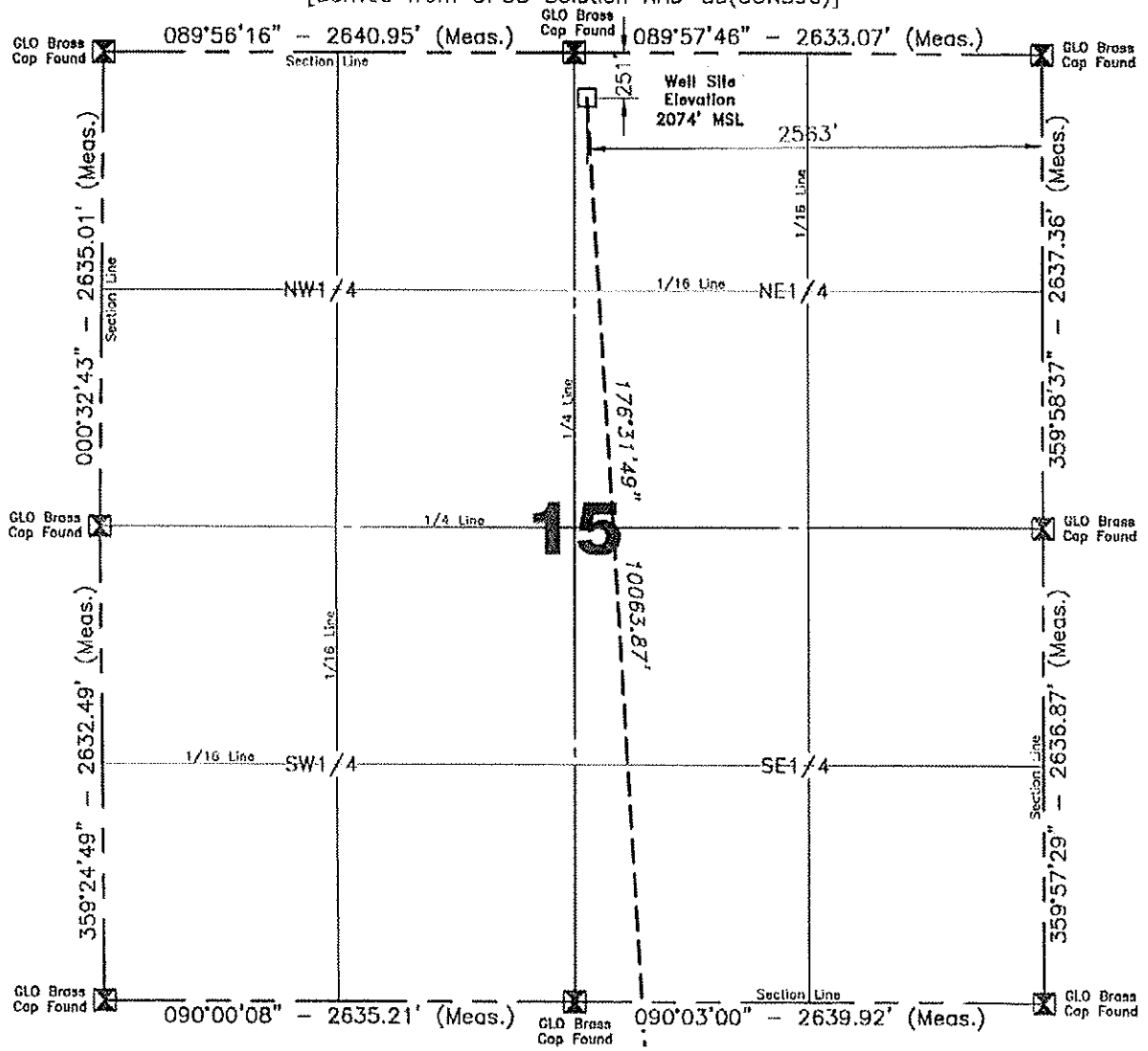
AGD = Acid Gas Disposal, AI = Air Injection, DF = Dump Flood, DFP = Dump Flood Producing, GASN = Nitrogen Gas Well, GASC = Gas Condensate, GASD = Gas Dry, GI = Gas Injection, GS = Gas Storage, OG = Oil or Gas Well, SWD = Salt Water Disposal, WI = Water Injection, WS = Water Supply, ST = Strat Test

Exhibit "D"
GIS Well Symbols

Prepared by NDIC Oil and Gas Division

# WELL LOCATION PLAT

**Petro-Hunt L.L.C.**
258 119 Avenue S.W. Killdeer, ND 58640
Fort Berthold 152-94-15B-22-7H
**251 feet from the north line and 2563 feet from the east line (surface location)**
Section 15, T. 152 N., R. 94 W., 5th P.M.
250 feet from the south line and 1960 feet from the east line (bottom hole location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site - Three Affiliated Tribes
**Latitude 47°59'29.426" North; Longitude 102°41'46.609" West (surface location)**
Latitude 47°57'50.303" North; Longitude 102°41'37.619" West (bottom hole location)
[Derived from OPUS Solution NAD-83(CORS96)]




**Scale 1"=1000'**

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NOTE: All land corners are assumed unless otherwise noted.
The well location shown hereon is not an as-built location.

I, Donald Leischner, Professional Land Surveyor, N.D. No. 7103, 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.

Alvin Lambert 8/02/2011
Surveyed By N.D.P.L.S. #1241 Date

REGISTERED PROFESSIONAL LAND SURVEYOR DONALD LEISCHNER LS-7103 DATE 10-31-11 NORTH DAKOTA

DATE

Vertical Control Datum Used
Sea-Level Datum of NAVD 88
Based on elevation derived from OPUS Solution on GPS*CP SEC 14 (iron rebar) Located a distance of S101.67' on an azimuth of 090°19'57" from the southeast corner of Section 15 T.152N., R.94W., 5th P.M. being at 2082.96' Elevation MSL.

Project No. 8711259
Book 0-113 Pg. 50-53,20-22 Staking


Professional Consulting Engineers and Surveyors
Registered in
North Dakota, South Dakota
Montana, Wyoming & Minnesota
Tele-Fax No. 701-572-2019
Bus. Phone No. 701-572-6352
222 Airport Road
Williston, North Dakota 58801-2976
Certificate of Authorization #C-001

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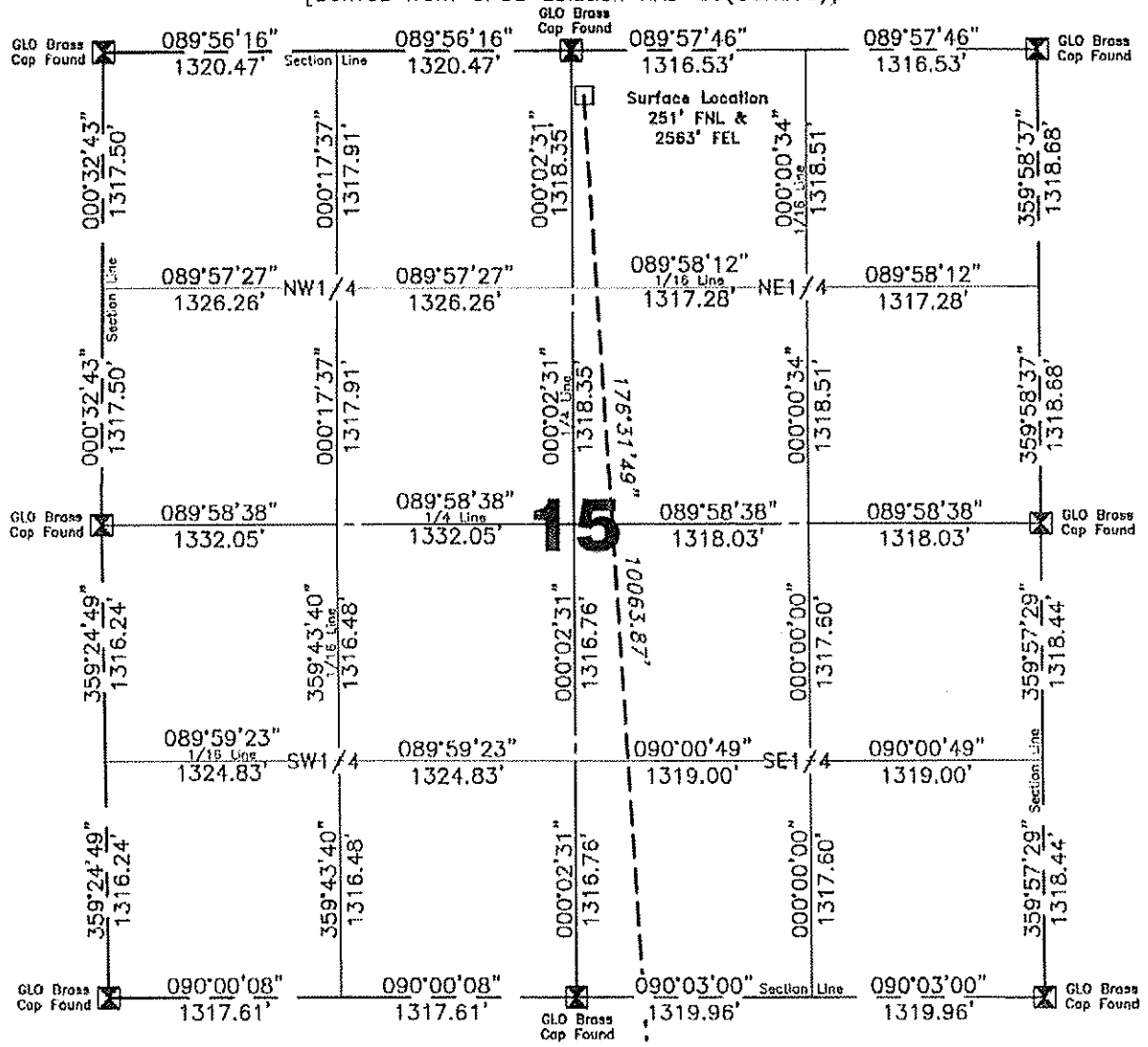
# HORIZONTAL SECTION PLAT

**Petro-Hunt L.L.C.**
258 119 Avenue S.W. Killdeer, ND 58640

## Fort Berthold 152-94-15B-22-7H

**251 feet from the north line and 2563 feet from the east line (surface location)**
Section 15, T. 152 N., R. 94 W., 5th P.M.
250 feet from the south line and 1960 feet from the east line (bottom hole location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site – Three Affiliated Tribes

**Latitude 47°59'29.426" North; Longitude 102°41'46.609" West (surface location)**
Latitude 47°57'50.303" North; Longitude 102°41'37.619" West (bottom hole location)
[Derived from OPUS Solution NAD-83(CORS96)]




**Scale 1"=1000'**

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I, Donald Leischner, Professional Land Surveyor, N.D. No. 7103, 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.

All corners shown on this plat were found in the field during Petro-Hunt, Fort Berthold 152-94-15B-22-7H oil well survey on August 2, 2011. Distances to all others are calculated. All azimuths are based on the south line of the SW1/4 Section 15, being on an azimuth of 090°00'08".

DONALD LEISCHNER LS-7103 REGISTERED PROFESSIONAL LAND SURVEYOR NORTH DAKOTA

DATE 10-31-11

| Surveyed By | Field Book |
|---|---|
| A. Lambert | O-113 |
| Computed & Drawn By | Project No. |
| M. Babcock | 8711259 |

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Engineers Surveyors Planners

Oct 18, 2011 – 2:52pm – J:\oilfield\Petro Hunt\8711259\Cadd\8711259Bas01.dwg

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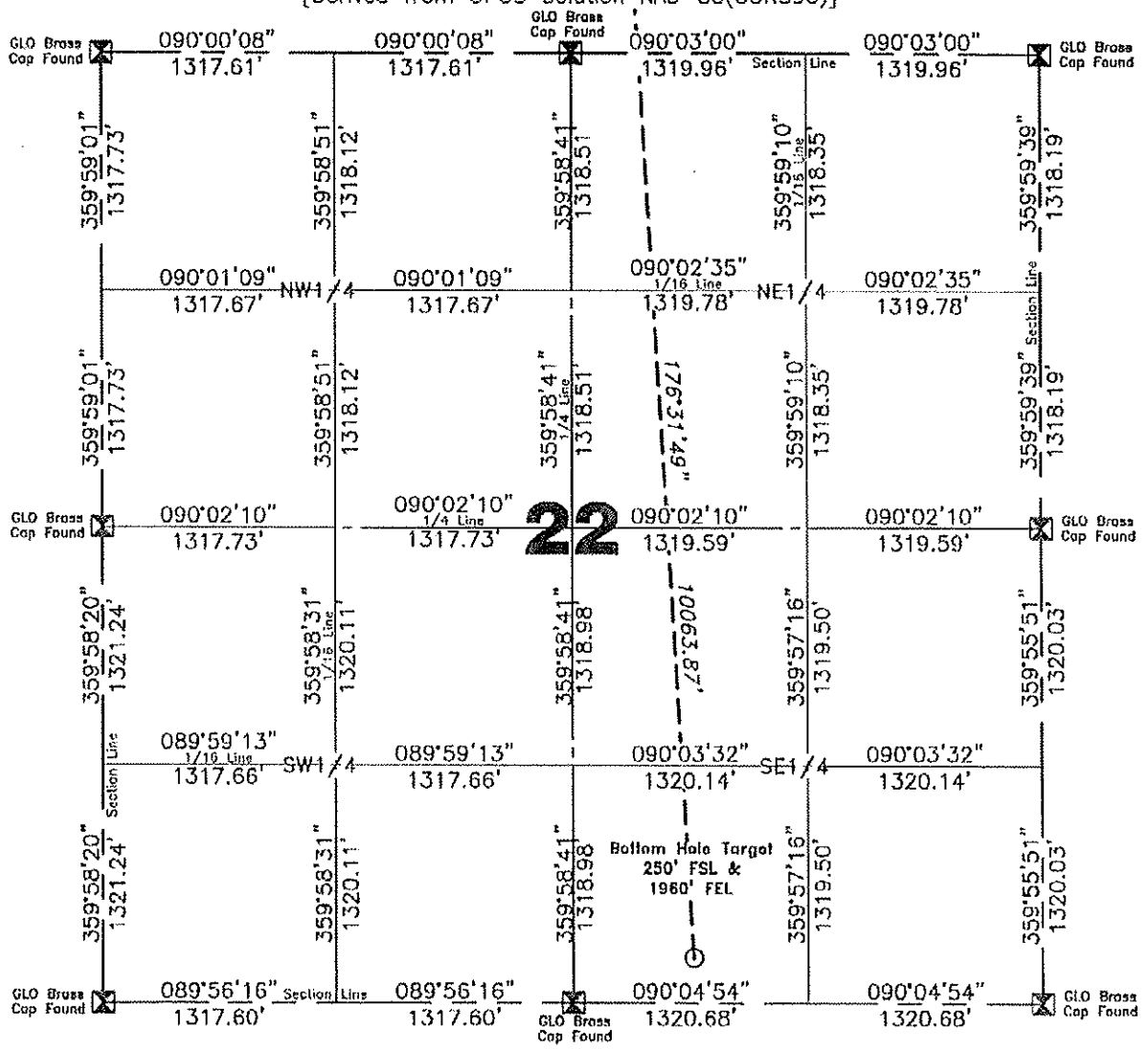
# HORIZONTAL SECTION PLAT

**Petro-Hunt L.L.C.**
258 119 Avenue S.W. Killdeer, ND 58640

## Fort Berthold 152-94-15B-22-7H

**251 feet from the north line and 2563 feet from the east line (surface location)**
Section 15, T. 152 N., R. 94 W., 5th P.M.
250 feet from the south line and 1960 feet from the east line (bottom hole location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site - Three Affiliated Tribes

**Latitude 47°59'29.426" North; Longitude 102°41'46.609" West (surface location)**
Latitude 47°57'50.303" North; Longitude 102°41'37.619" West (bottom hole location)
[Derived from OPUS Solution NAD-83(CORS96)]




**Scale 1"=1000'**

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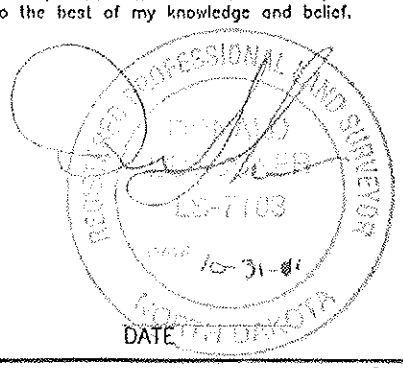
All corners shown on this plat were found in the field during Petro-Hunt, Fort Berthold 152-94-15B-22-7H oil well survey on August 2, 2011. Distances to all others are calculated. All azimuths are based on the south line of the SW1/4 Section 15, being on an azimuth of 090°00'08".




| Surveyed By | Field Book |
|---|---|
| A. Lambert | O-113 |
| Computed & Drawn By | Project No. |
| M. Babcock | 8711259 |

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Engineers Surveyors Planners

Oct 18, 2011 - 2:52pm - J:\oilfield\Petro Hunt\8711259\Cadd\8711259Bas01.dwg

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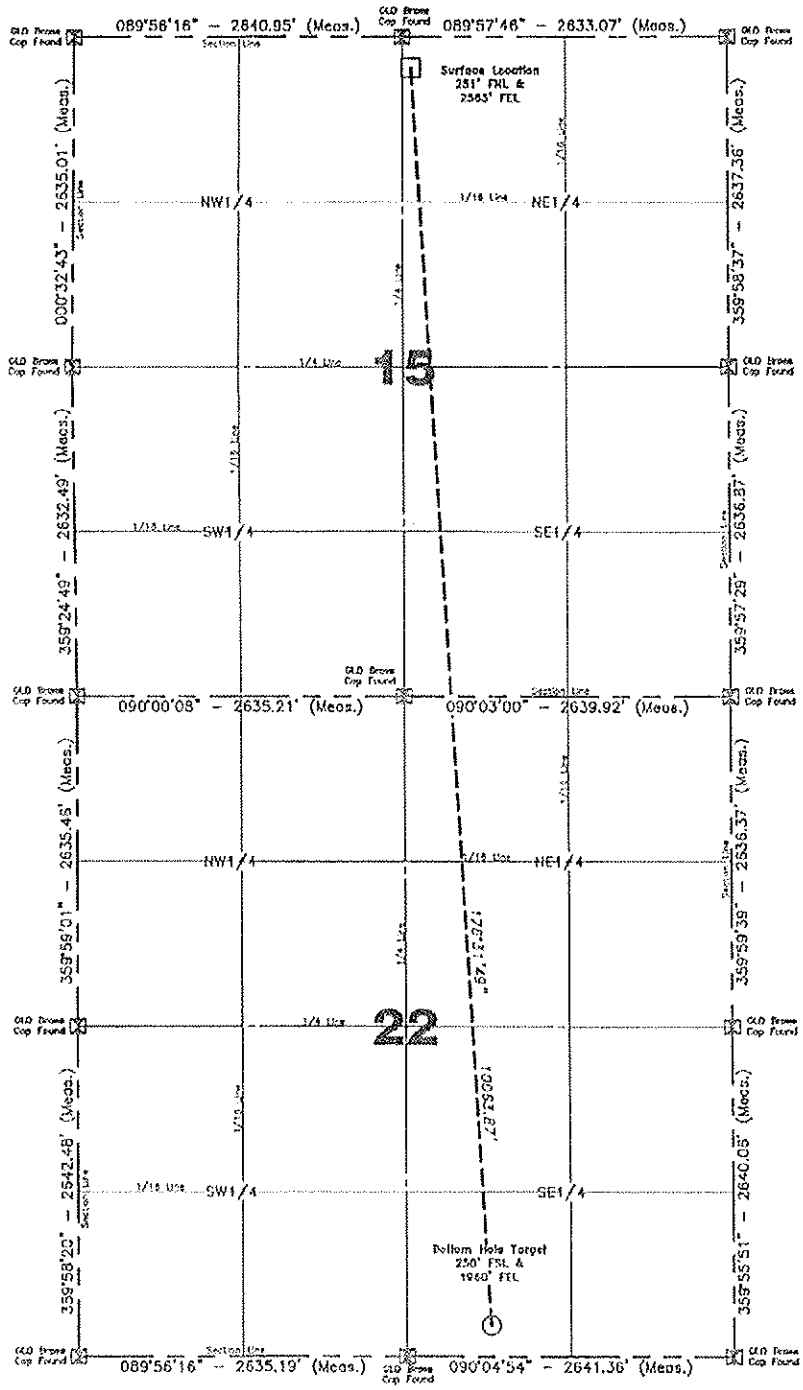
# BOTTOM HOLE LOCATION PLAT

Petro-Hunt L.L.C.
258 119 Avenue S.W. Killdeer, ND 58640

## Fort Berthold 152-94-15B-22-7H

**251 feet from the north line and 2563 feet from the east line (surface location)**
Section 15, T. 152 N., R. 94 W., 5th P.M.
250 feet from the south line and 1960 feet from the east line (bottom hole location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site – Three Affiliated Tribes

**Latitude 47°59'29.426" North; Longitude 102°41'46.609" West (surface location)**
Latitude 47°57'50.303" North; Longitude 102°41'37.619" West (bottom hole location)
[Derived from OPUS Solution NAD-83(CORS96)]





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| Computed & Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1"=1500' | 10/14/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-113 | B.H. Layout | | 8711259 | 4 |

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# Petro-Hunt, L.L.C.
# Fort Berthold 152-94-15B-22-5H
# Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H
# Section 15, T 152 N, R 94 W, 5th P.M.
# McKenzie County, North Dakota

Fort Berthold 152-94-15B-22-5H Elevation 2075.1' MSL
Fort Berthold 152-94-15B-22-6H Elevation 2074.2' MSL
Fort Berthold 152-94-15B-22-7H Elevation 2073.9' MSL
Well Pad Elevation 2071.9' MSL

| | |
|---|---|
| Excavation | 39,115 C.Y. |
| Plus Pit | 0 C.Y. |
| | 39,115 C.Y. |
| Embankment | 25,690 C.Y. |
| Plus Shrinkage (+30%) | 7,705 C.Y. |
| | 33,395 C.Y. |
| Stockpile Top Soil (6") | 4,995 C.Y. |
| Production Rehabilitation | 0 C.Y. |
| Road Embankment & Stockpile from Pad | 725 C.Y. |
| Disturbed Area From Pad | 6.19 Acres |
| Total Fenced Area | 8.90 Acres |

(Disturbed Area from Road Not Included See Right-of Way Plat)

NOTE:
All cut end slopes are designed at 2:1 slopes & all fill end slopes are designed at 2:1 slopes

Fort Berthold 152-94-15B-22-5H
251' FNL
2563' FWL

Fort Berthold 152-94-15B-22-6H
251' FNL
2638' FWL

Fort Berthold 152-94-15B-22-7H
251' FNL
2563' FEL

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | - | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-113 | Quantities | 12/16/2011 | 8711257 8711258 & 8711259 | 5 |

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Engineers Surveyors Planners


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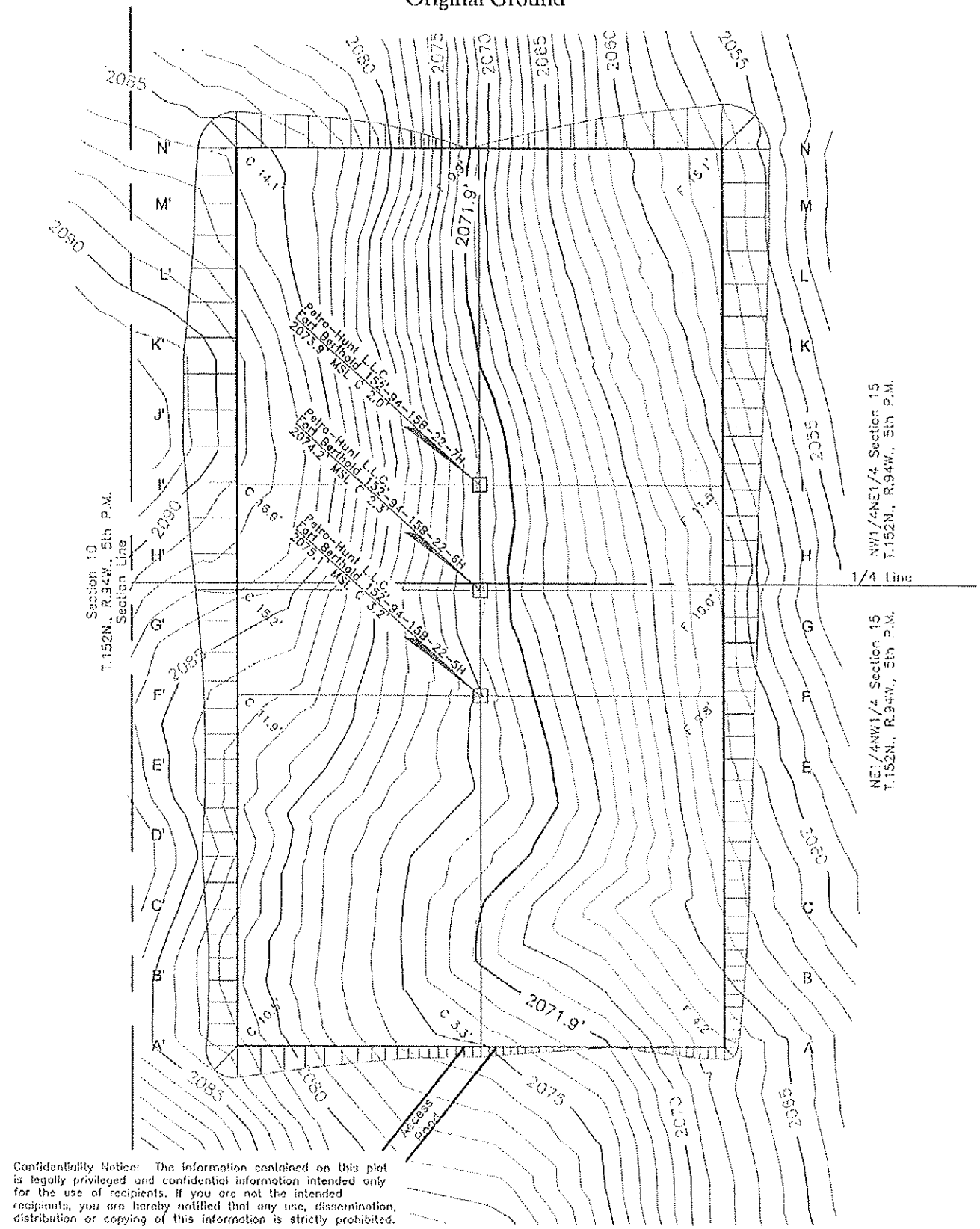
# Fort Berthold 152-94-15B-22-5H, Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H
## Original Ground





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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1"= 100' | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-113 | Original Ground | 12/16/2011 | 8711257 8711258 & 8711259 | 6 |

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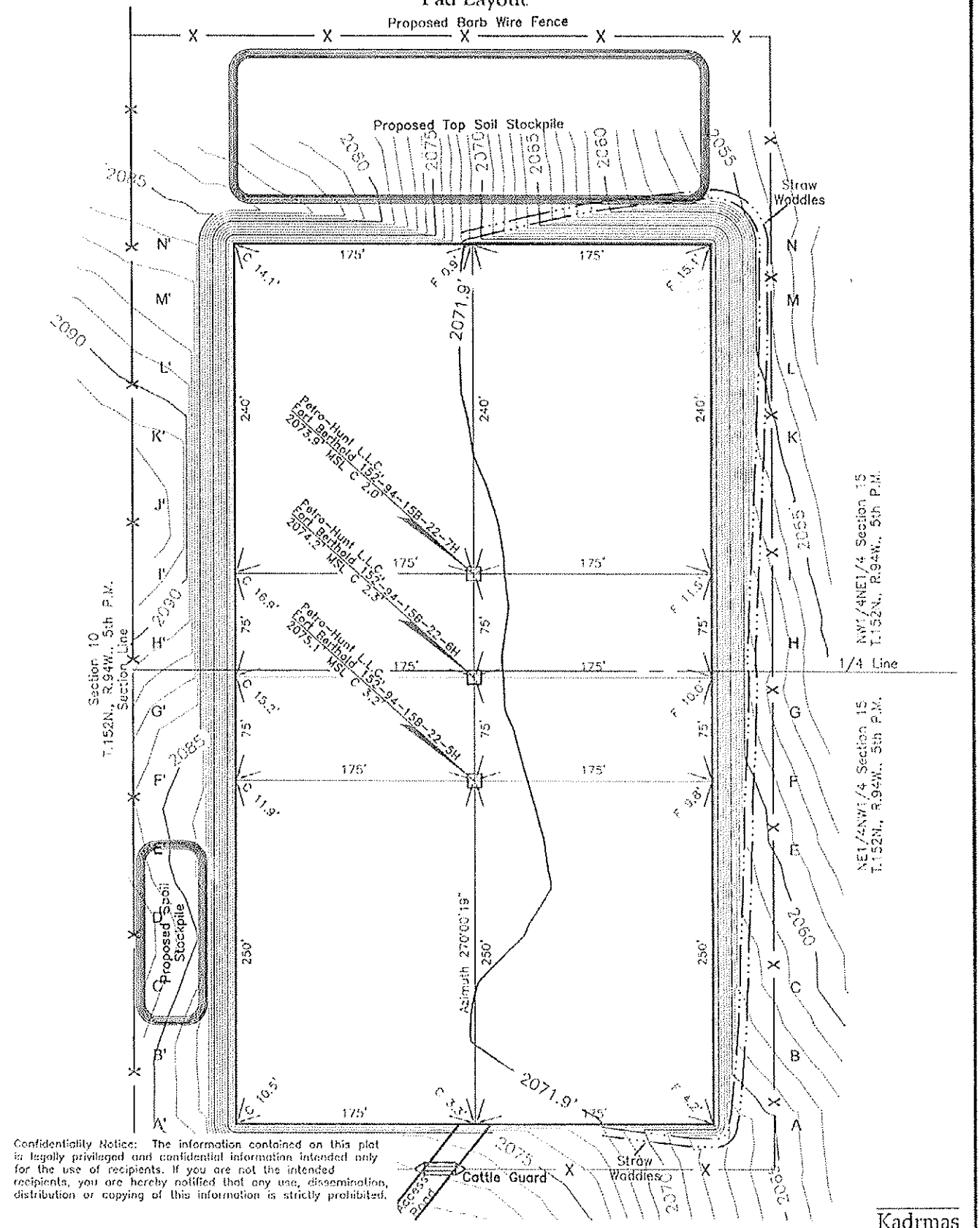
# Fort Berthold 152-94-15B-22-5H, Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H
## Pad Layout

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1"= 100' | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-113 | Pad Layout | 12/16/2011 | 8711257<br>8711258 & 8711259 | 7 |

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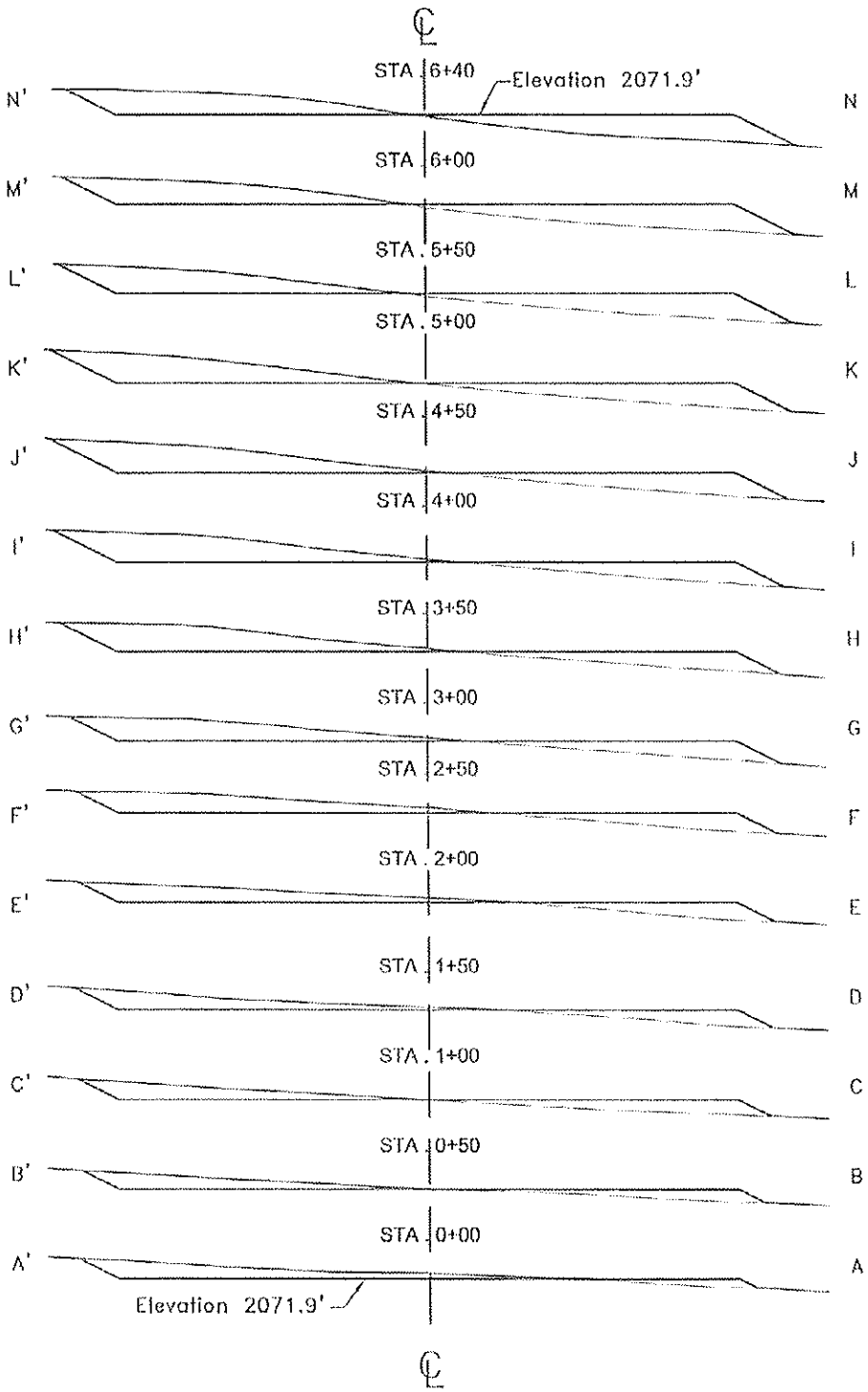
# Fort Berthold 152-94-15B-22-5H, Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H
## Cross Sections

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1"= 100' | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-113 | Cross Sections | 12/16/2011 | 8711257 8711258 & 8711259 | 8 |

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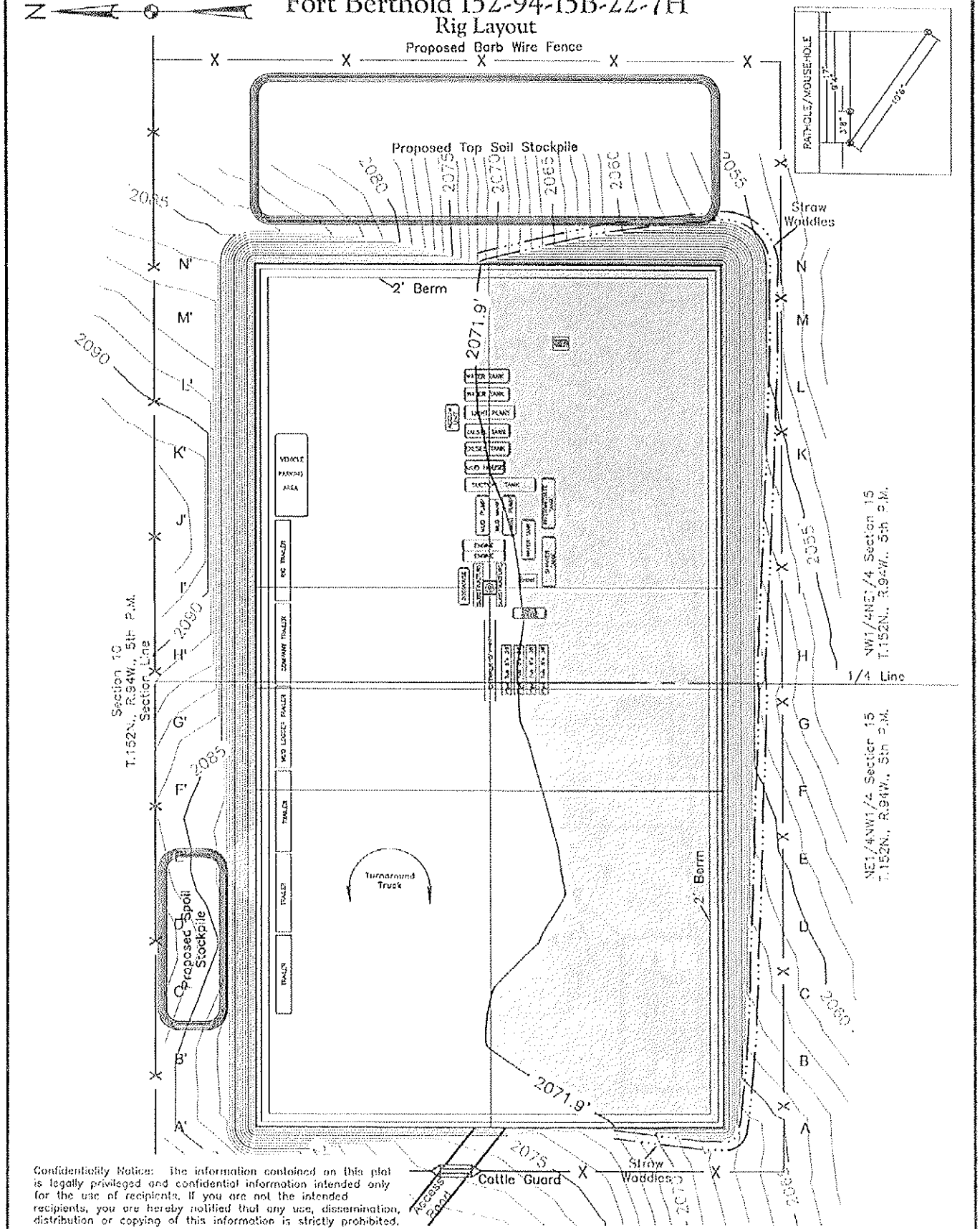
# Fort Berthold 152-94-15B-22-7H

## Rig Layout

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1"= 100' | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-113 | Rig Layout | 12/16/2011 | 8711259 | 9 |

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Dec 16, 2011 - 12:16pm - J:\oilfield\Petro Hunt\8711257\Cadd\8711257Bas02.dwg

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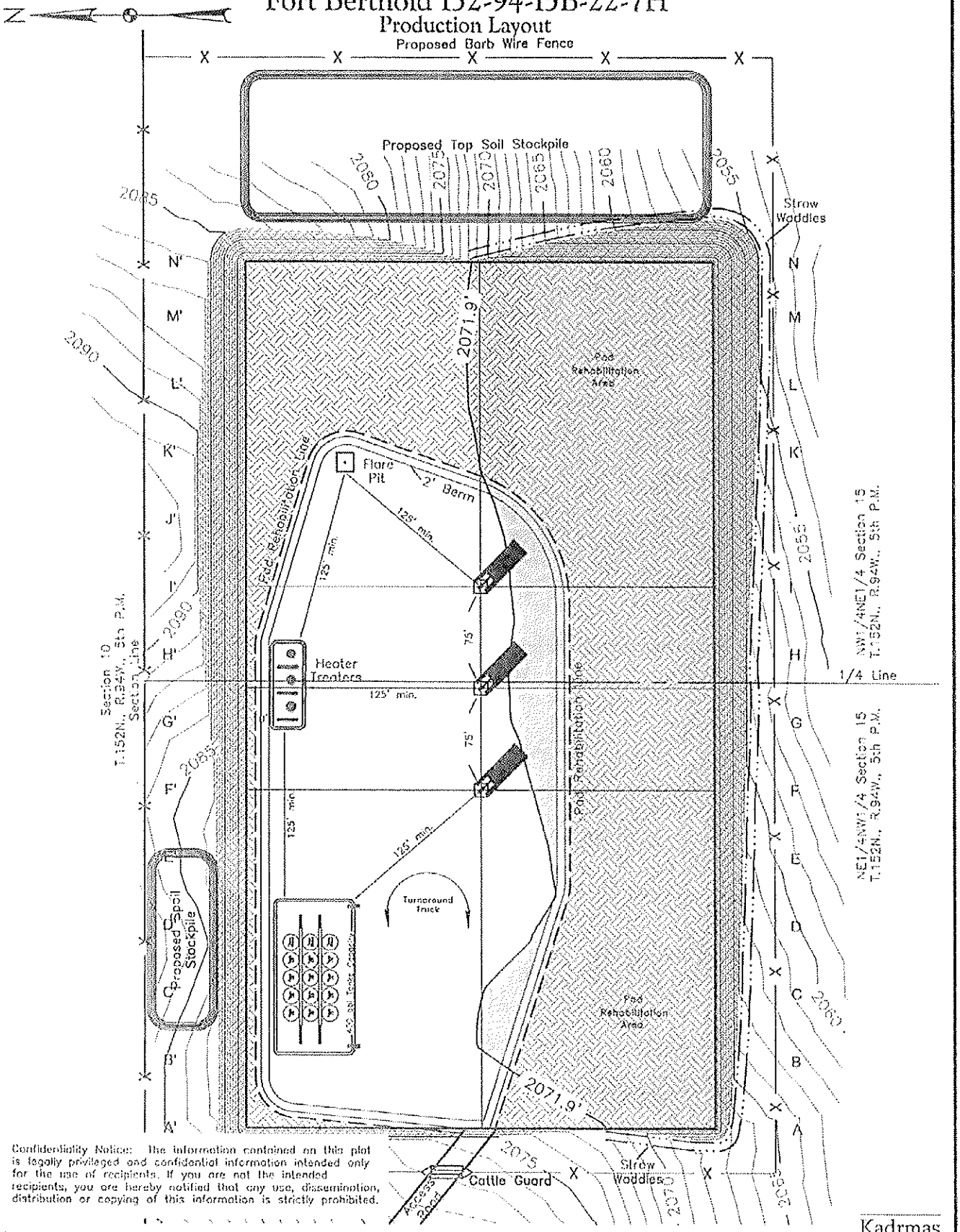
# Fort Berthold 152-94-15B-22-5H, Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H
## Production Layout

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1"= 100' | 10/28/2011 |
| Field Book | Material | Revised | Project No. | Drawing No. |
| O-113 | Prod Layout | 12/16/2011 | 8711257 8711258 & 8711259 | 10 |

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Dec 16, 2011 - 12:18pm - J:\oilfield\Petro Hunt\8711257\Cadd\8711257Bas02.dwg

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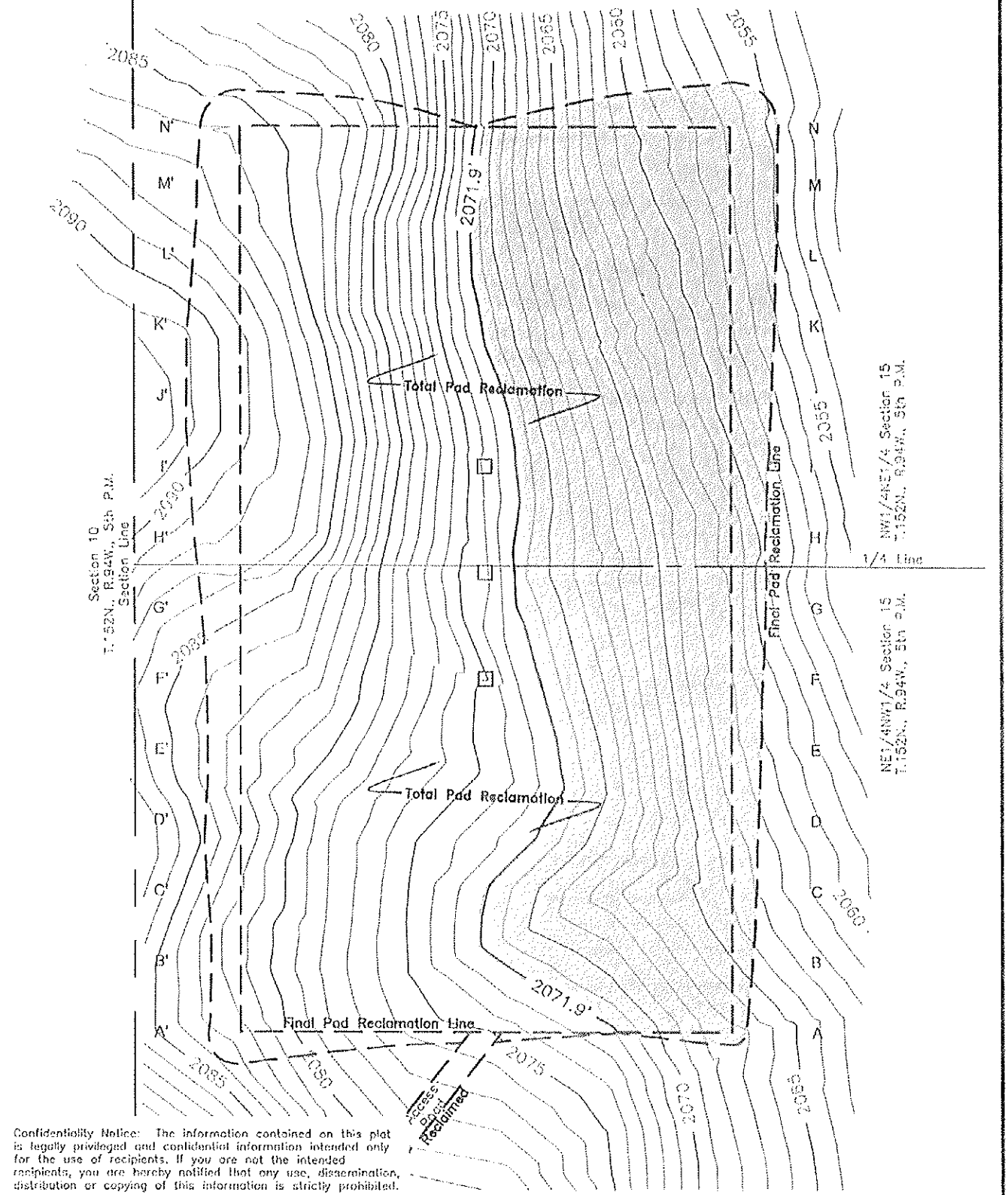
# Fort Berthold 152-94-15B-22-5H, Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H
## Reclamation Layout

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | 1"= 100' | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O 113 | Reclam Layout | 12/16/2011 | 8711257 8711258 & 8711259 | 11 |

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Dec 16, 2011 - 12:20pm - d:\oilfield\Petro Hunt\8711257\Cadd\8711257Rec02.dwg

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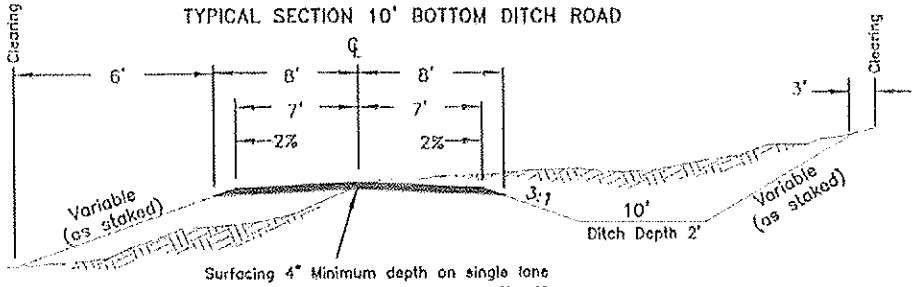
# Fort Berthold 152-94-15B-22-5H, Fort Berthold 152-94-15B-22-6H
# Fort Berthold 152-94-15B-22-7H

## Roadway Typical Sections

TYPICAL SECTION 10' BOTTOM DITCH ROAD




TYPICAL "B"

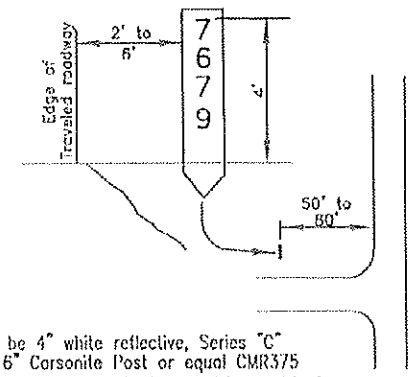
No Scale

| FILL SLOPES | FILL WIDENING | CUT SLOPES |
|---|---|---|
| 3:1 Under 4' Height<br>2:1 Over 4' Height<br>(–) Slopes steeper than 2:1 will be subject to FS approval | 2' to 5' high/add 1'<br>Over 5' high/add 2' | 3:1 Under 10' height<br>2:1 10' to 20' height<br>(–) Variable over 20' height W/FS approval |

CURVE WIDENING

130 / R

TYPICAL SECTION VERTICAL ROUTE MARKER



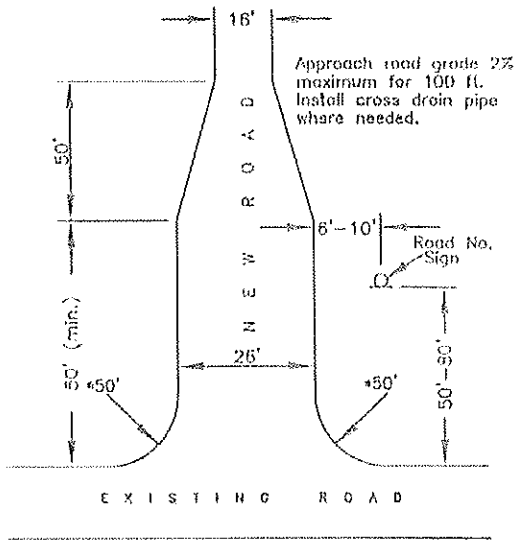

Letters shall be 4" white reflective, Series "C" on Brown 6' 6" Corsonite Post or equal CMR375

*Figure 11-28.- Typical Signage for Vertical Route Markers*

TYPICAL "F"

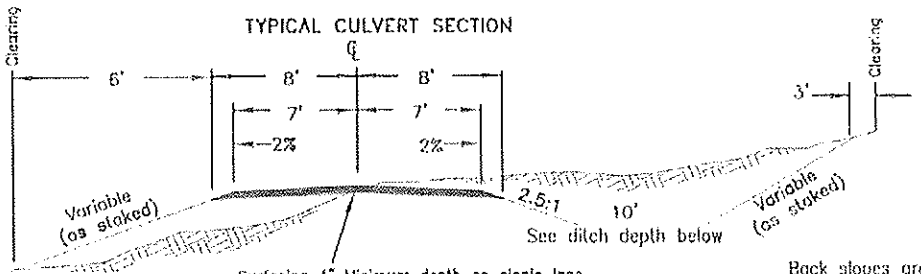
No Scale

TYPICAL APPROACH ROAD CONNECTION




*As noted on road sheets

TYPICAL CULVERT SECTION




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

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' |

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

TYPICAL "A"

No Scale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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Babcock | A. Lambert | D. Leischner | — | 10/28/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O–113 | Road Typical | 12/16/2011 | 8711257<br>8711258 & 8711259 | 12 |

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Petro-Hunt, L.L.C.
Fort Berthold 152-94-15B-22-5H
Fort Berthold 152-94-15B-22-6H
Fort Berthold 152-94-15B-22-7H
NE1/4NW1/4 Section 15
NW1/4NE1/4 Section 15
T.152N., R.94W., 5th P.M.
McKenzie County, ND

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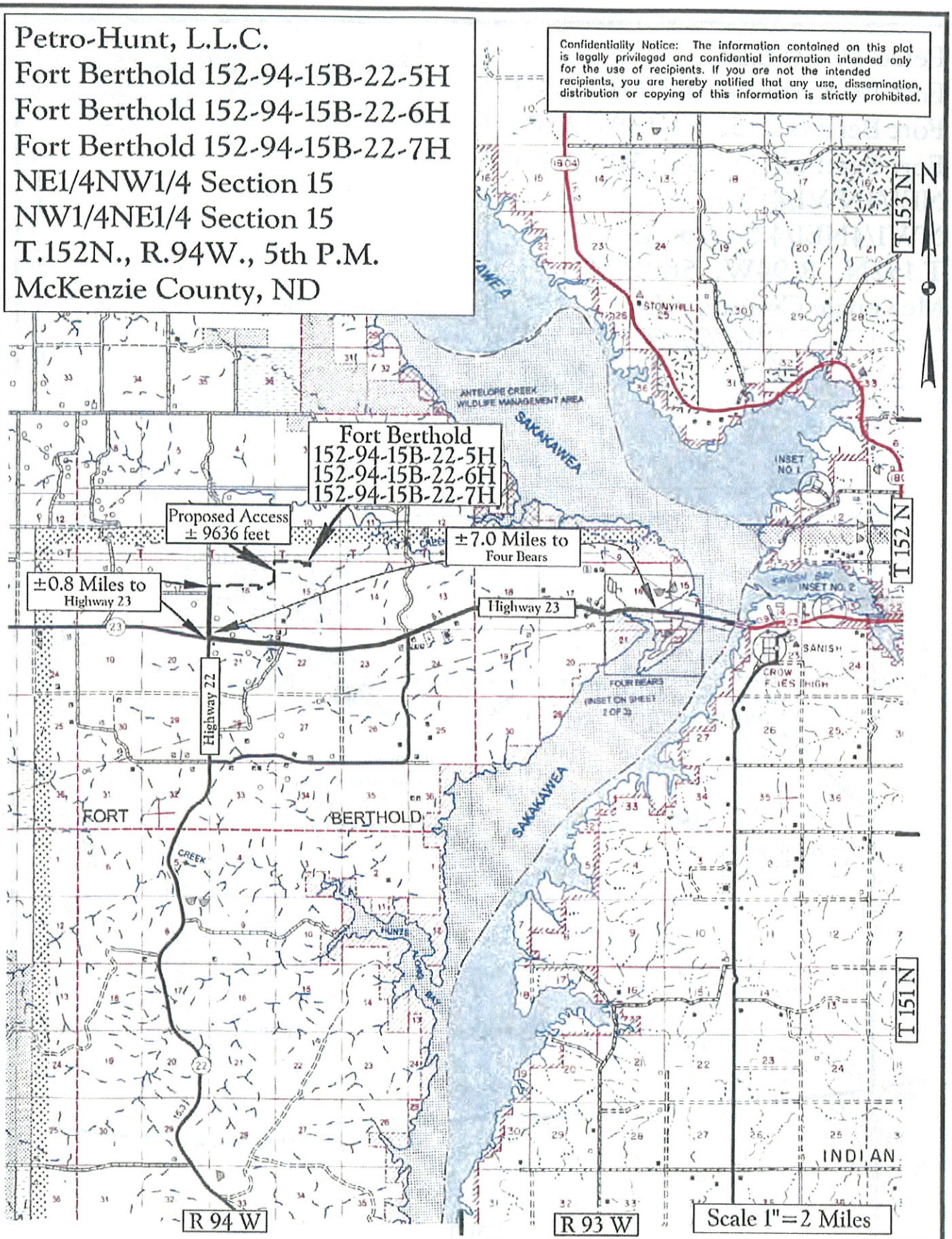


# Map "A"
# County Access Route

## Legend

Existing Roads
Proposed Roads

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Oct 18, 2011 - 2:49pm - C:\DOCUME~1\DEREKF~1\LOCALS~1\Temp\AcPublish_7076\8711257Loc01.dwg

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Petro-Hunt, L.L.C.
Fort Berthold 152-94-15B-22-5H
Fort Berthold 152-94-15B-22-6H
Fort Berthold 152-94-15B-22-7H
NE1/4NW1/4 Section 15
NW1/4NE1/4 Section 15
T.152N., R.94W., 5th P.M.
McKenzie County, ND

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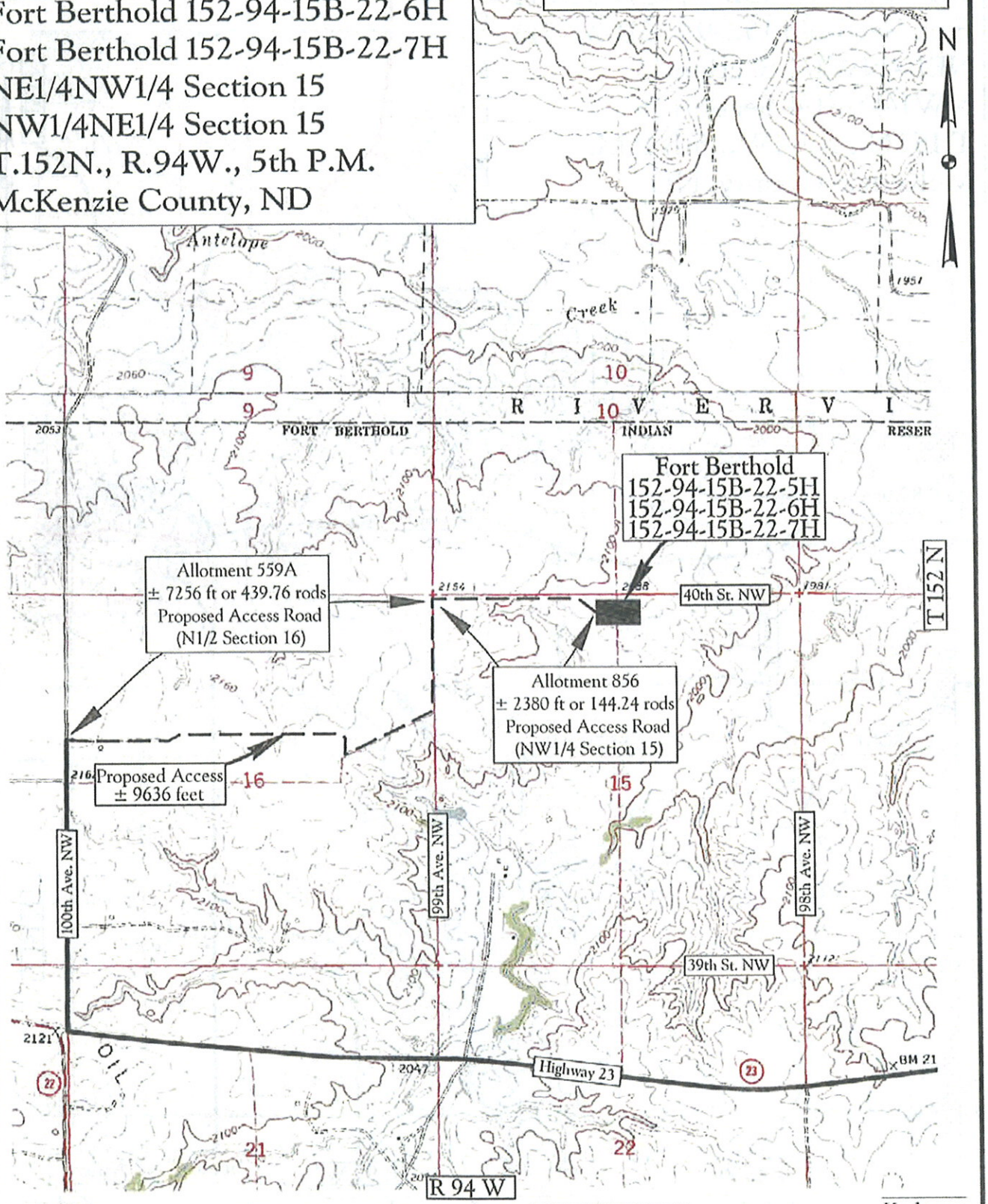


Map "B"
Quad Access Route

Legend
Existing Roads
Proposed Roads

Scale 1"=2000'

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Oct 18, 2011 - 2:50pm - C:\DOCUME~1\DEREKF~1\LOCALS~1\Temp\AcPublish_7076\8711257Loc01.dwg

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Petro-Hunt, L.L.C.
Fort Berthold 152-94-15B-22-5H
Fort Berthold 152-94-15B-22-6H
Fort Berthold 152-94-15B-22-7H
NE1/4NW1/4 Section 15
NW1/4NE1/4 Section 15
T.152N., R.94W., 5th P.M.
McKenzie County, ND

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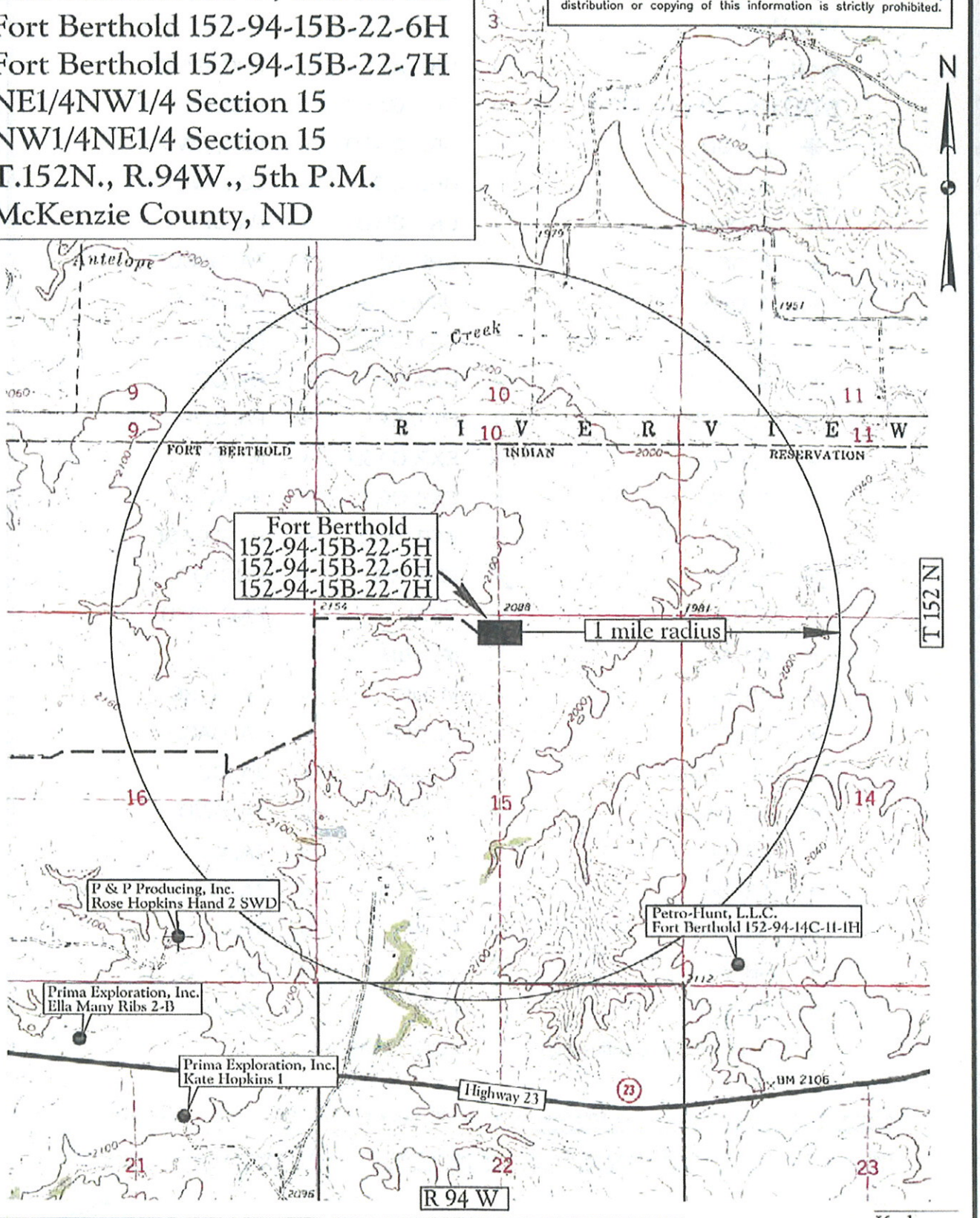


Map "C"
One Mile Radius Map

Legend
Existing Roads
Proposed Roads

Scale 1"=2000'

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Oct 18, 2011 - 2:50pm - C:\DOCUME~1\DEREKF~1\LOCALS~1\Temp\AcPublish_7076\8711257Loc01.dwg

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## 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

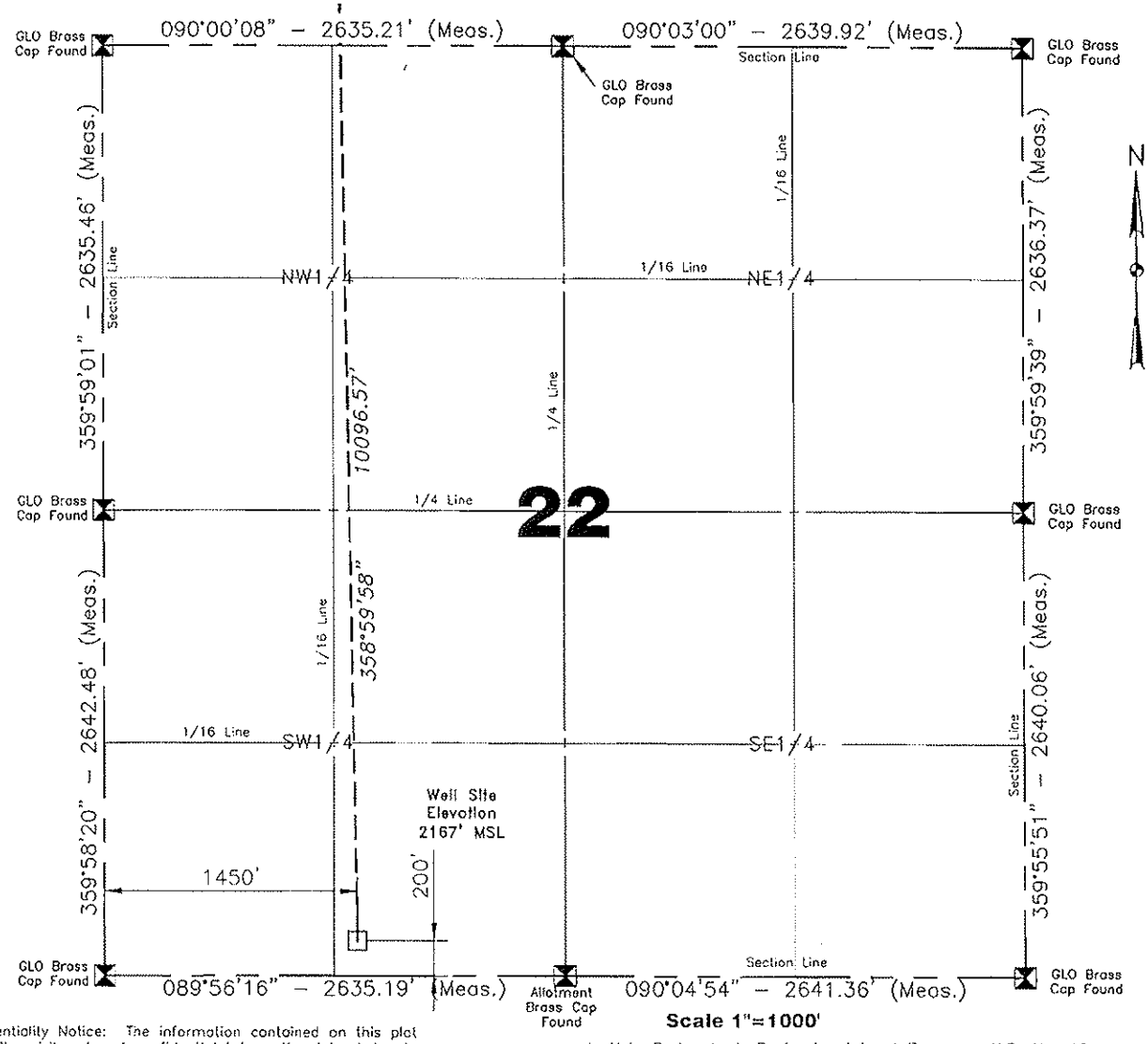
# WELL LOCATION PLAT

Petro-Hunt, L.L.C.
258 119 Avenue S.W. Killdeer, ND 58640

## Fort Berthold 152-94-22C-15-4H

200 feet from the south line and 1450 feet from the west line (surface location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
250 feet from the north line and 1280 feet from the west line (bottom location)
Section 15, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site - Three Affiliated Tribes 563A

Latitude 47°57'49.801" North; Longitude 102°42'05.038" West (surface location)
Latitude 47°59'29.414" North; Longitude 102°42'07.681" West (bottom location)
[Derived from OPUS Solution NAD-83(CORS96)]




**Scale 1"=1000'**

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NOTE: All land corners are assumed unless otherwise noted. The well location shown hereon is not an as-built location.

I, Alvin R. Lambert, Professional Land Surveyor, N.D. No. 1241, 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.

Alvin R. Lambert 09/30/2011
Surveyed By N.D.P.L.S. #1241 Date

REGISTERED LAND SURVEYOR

Vertical Control Datum Used
Sea-Level Datum of NAVD 88
Based on elevation derived from OPUS Solution on GPS*KLJ1 (iron rebar) Located a distance of 5965.00' on an azimuth of 153°23'53" from the SE corner of Section 22 T.152N., R.94W., 5th P.M. being at 2143.93' Elevation MSL.

Project No. 8711280
Book 0-109 Pg. 28-32 Staking


Professional Consulting Engineers and Surveyors
Registered in
North Dakota, South Dakota
Montana, Wyoming & Minnesota
Tele-Fax No. 701-572-2019
Bus. Phone No. 701-572-6352
222 Airport Road
Williston, North Dakota 58801-2976
Certificate of Authorization #C-061


Revised 11/28/2011 11/29/11 DATE

Kadrmas Lee & Jackson
Engineers Surveyors Planners

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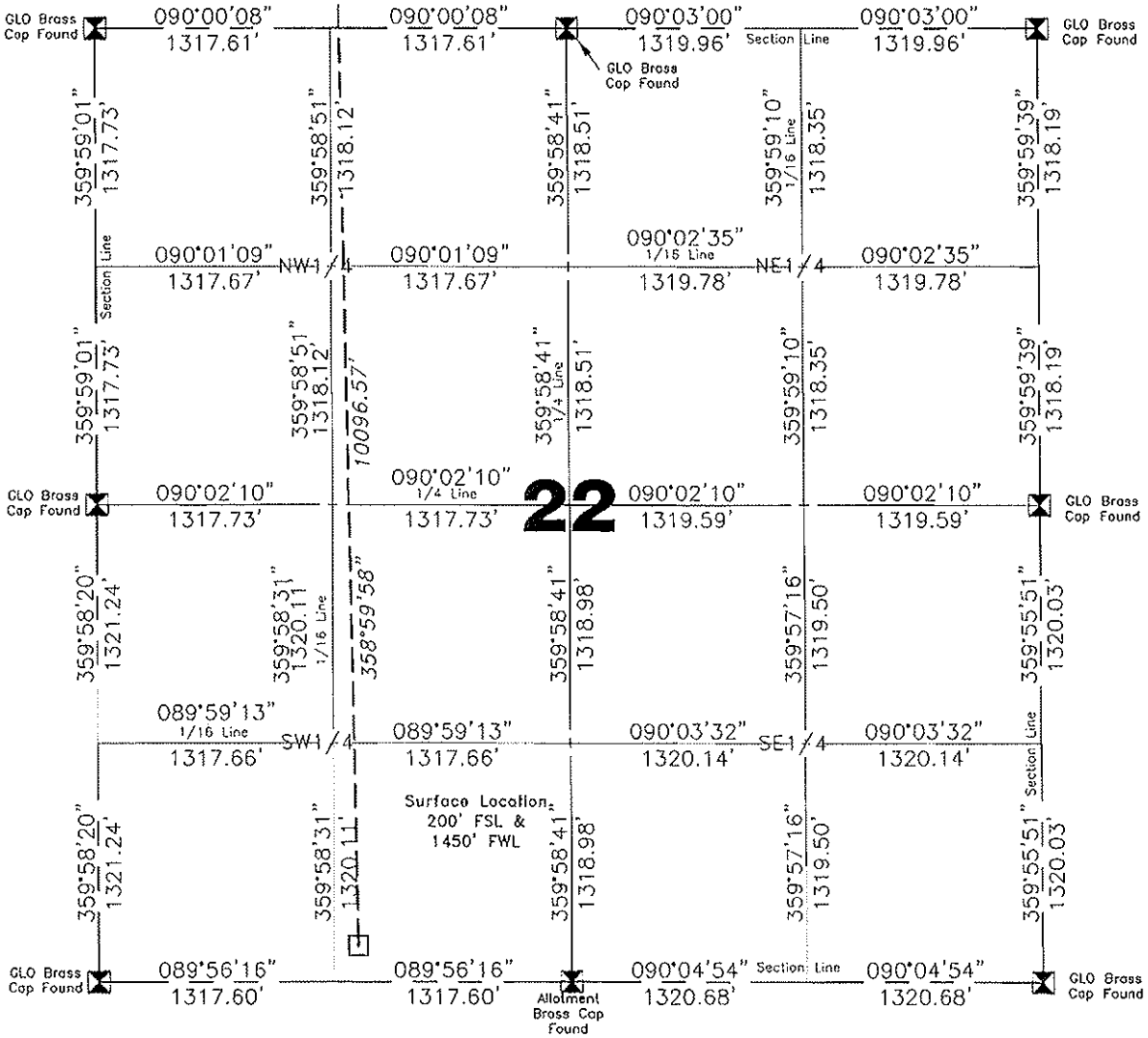
# HORIZONTAL SECTION PLAT

Petro-Hunt, L.L.C.
258 119 Avenue S.W. Killdeer, ND 58640

## Fort Berthold 152-94-22C-15-4H

200 feet from the south line and 1450 feet from the west line (surface location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
250 feet from the north line and 1280 feet from the west line (bottom location)
Section 15, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site - Three Affiliated Tribes 563A

Latitude 47°57'49.801" North; Longitude 102°42'05.038" West (surface location)
Latitude 47°59'29.414" North; Longitude 102°42'07.681" West (bottom location)
[Derived from OPUS Solution NAD-83(CORS96)]




**Scale 1"=1000'**

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I, Alvin R. Lambert, Professional Land Surveyor, N.D. No. 1241, 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.

All corners shown on this plat were found in the field during Petro-Hunt, L.L.C., Fort Berthold 152-94-22C-15-4H oil well survey on September 30, 2011. Distances to all others are calculated. All azimuths are based on the south line of the SE1/4 of Section 22, being on an azimuth of 090°04'54".

REGISTERED PROFESSIONAL LAND SURVEYOR 1241 STATE OF NORTH DAKOTA

11/29/11
DATE

| Surveyed By | Field Book |
|---|---|
| A. Lambert | O--109 |
| Computed & Drawn By | Project No. |
| M. Meismer | 8711280 |

Revised 11/28/2011

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Engineers Surveyors Planners

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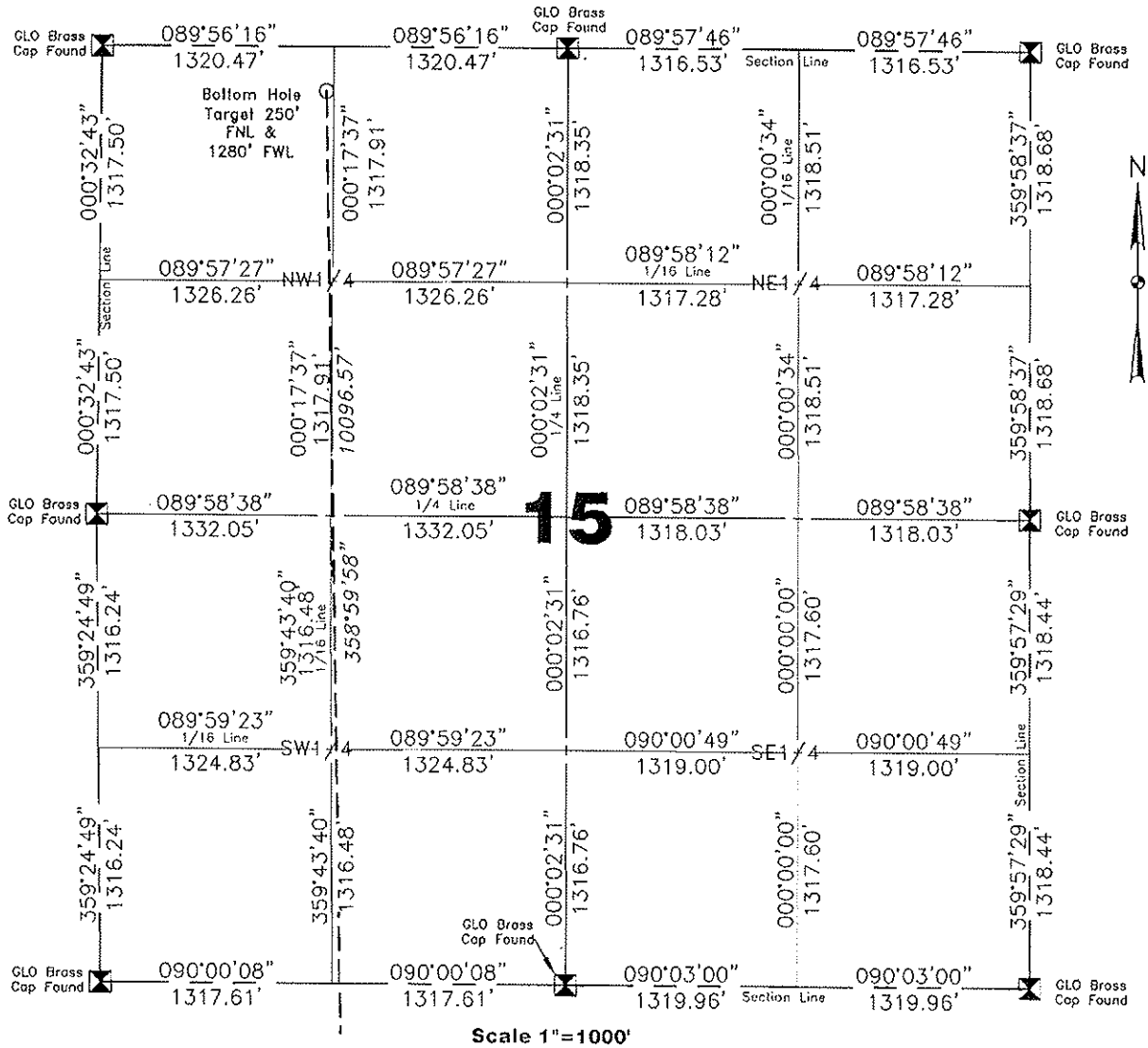
# HORIZONTAL SECTION PLAT

Petro-Hunt, L.L.C.
258 119 Avenue S.W. Killdeer, ND 58640

## Fort Berthold 152-94-22C-15-4H

200 feet from the south line and 1450 feet from the west line (surface location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
250 feet from the north line and 1280 feet from the west line (bottom location)
Section 15, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site - Three Affiliated Tribes 563A

Latitude 47°57'49.801" North; Longitude 102°42'05.038" West (surface location)
Latitude 47°59'29.414" North; Longitude 102°42'07.681" West (bottom location)
[Derived from OPUS Solution NAD-83(CORS96)]




**Scale 1"=1000'**

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All corners shown on this plat were found in the field during Petro-Hunt, L.L.C., Fort Berthold 152-94-22C-15-4H oil well survey on September 30, 2011. Distances to all others are calculated. All azimuths are based on the south line of the SE1/4 of Section 22, being on an azimuth of 090°04'54".

| Surveyed By | Field Book |
|---|---|
| A. Lambert | O-109 |
| Computed & Drawn By | Project No. |
| M. Meismer | 8711280 |

Revised 11/28/2011

11/29/11
DATE

Kadrmas Lee & Jackson
Engineers Surveyors Planners

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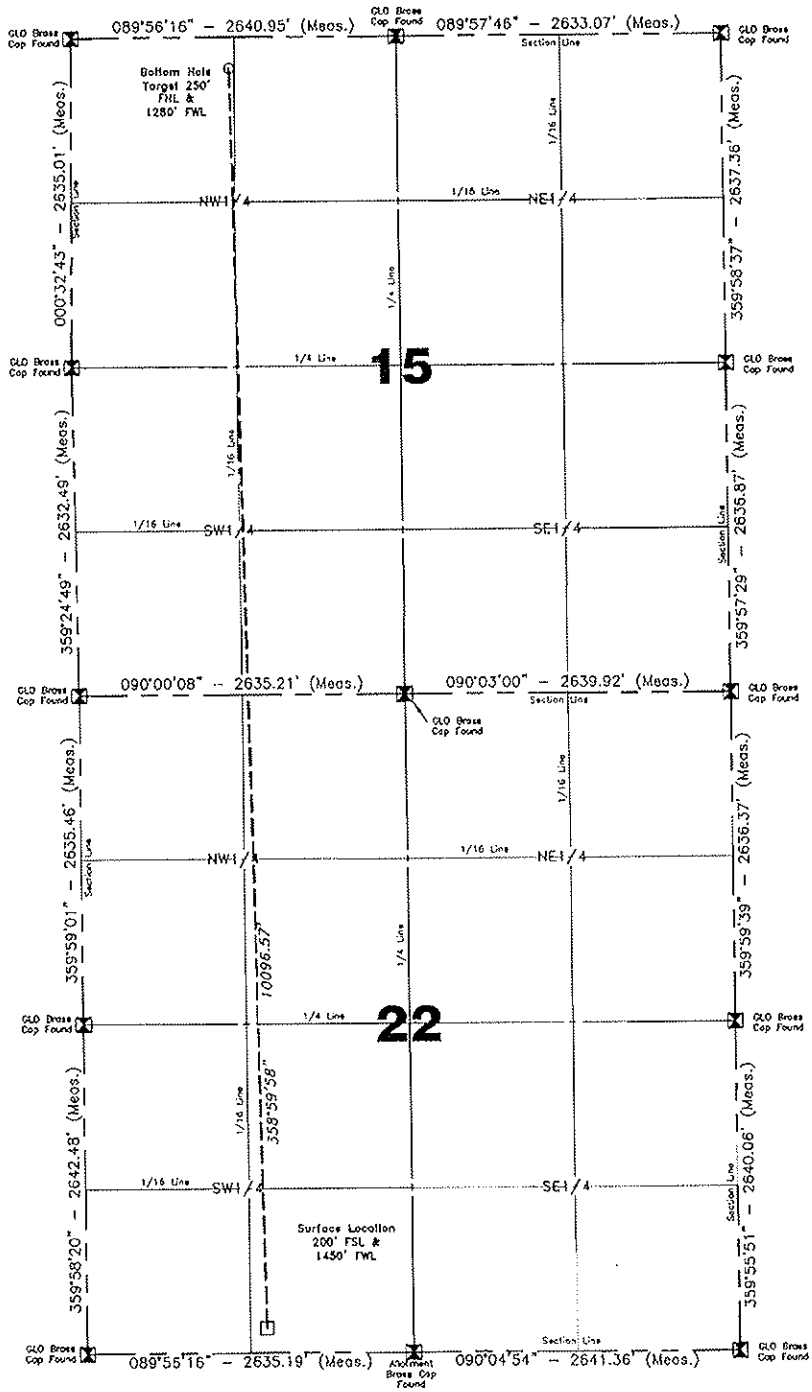
# BOTTOM HOLE LOCATION PLAT

Petro-Hunt, L.L.C.
258 119 Avenue S.W. Killdeer, ND 58640

## Fort Berthold 152-94-22C-15-4H

200 feet from the south line and 1450 feet from the west line (surface location)
Section 22, T. 152 N., R. 94 W., 5th P.M.
250 feet from the north line and 1280 feet from the west line (bottom location)
Section 15, T. 152 N., R. 94 W., 5th P.M.
McKenzie County, North Dakota
Surface owner @ well site – Three Affiliated Tribes 563A

Latitude 47°57'49.801" North; Longitude 102°42'05.038" West (surface location)
Latitude 47°59'29.414" North; Longitude 102°42'07.681" West (bottom location)
[Derived from OPUS Solution NAD-83(CORS96)]





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| Computed & Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Meismer | A. Lambert | A. Lambert | 1"=1500' | 10/17/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-109 | B.H. Layout | 11/28/2011 | 8711280 | 4 |

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Engineers Surveyors Planners

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# Petro-Hunt, L.L.C.
# Fort Berthold 152-94-22C-15-4H
# Section 22, T 152 N, R 94 W, 5th P.M.
# McKenzie County, North Dakota

| | |
|---|---|
| Well Site Elevation | 2166.7' MSL |
| Well Pad Elevation | 2165.9' MSL |

| | |
|---|---|
| Excavation | 6,345 C.Y. |
| Embankment | 2,380 C.Y. |
| Plus Shrinkage (+30%) | 715 C.Y. |
| | 3,095 C.Y. |
| Stockpile Top Soil (6") | 3,050 C.Y. |
| Road Embankment & Stockpile from Pad | 200 C.Y. |
| Disturbed Area From Pad | 3.78 Acres |
| Total Fenced Area | 5.21 Acres |

(Disturbed Area from Road Not Included See Right-of-Way Plat)

NOTE :
All cut end slopes are designed at 2:1 slopes & all fill end slopes are designed at 2:1 slopes

Well Site Location
200' FSL
1450' FWL

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Meismer | Alvin Lambert | A. Lambert | None | 10/17/11 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-109 | Quantities | 11/28/2011 | 8711280 | 5 |

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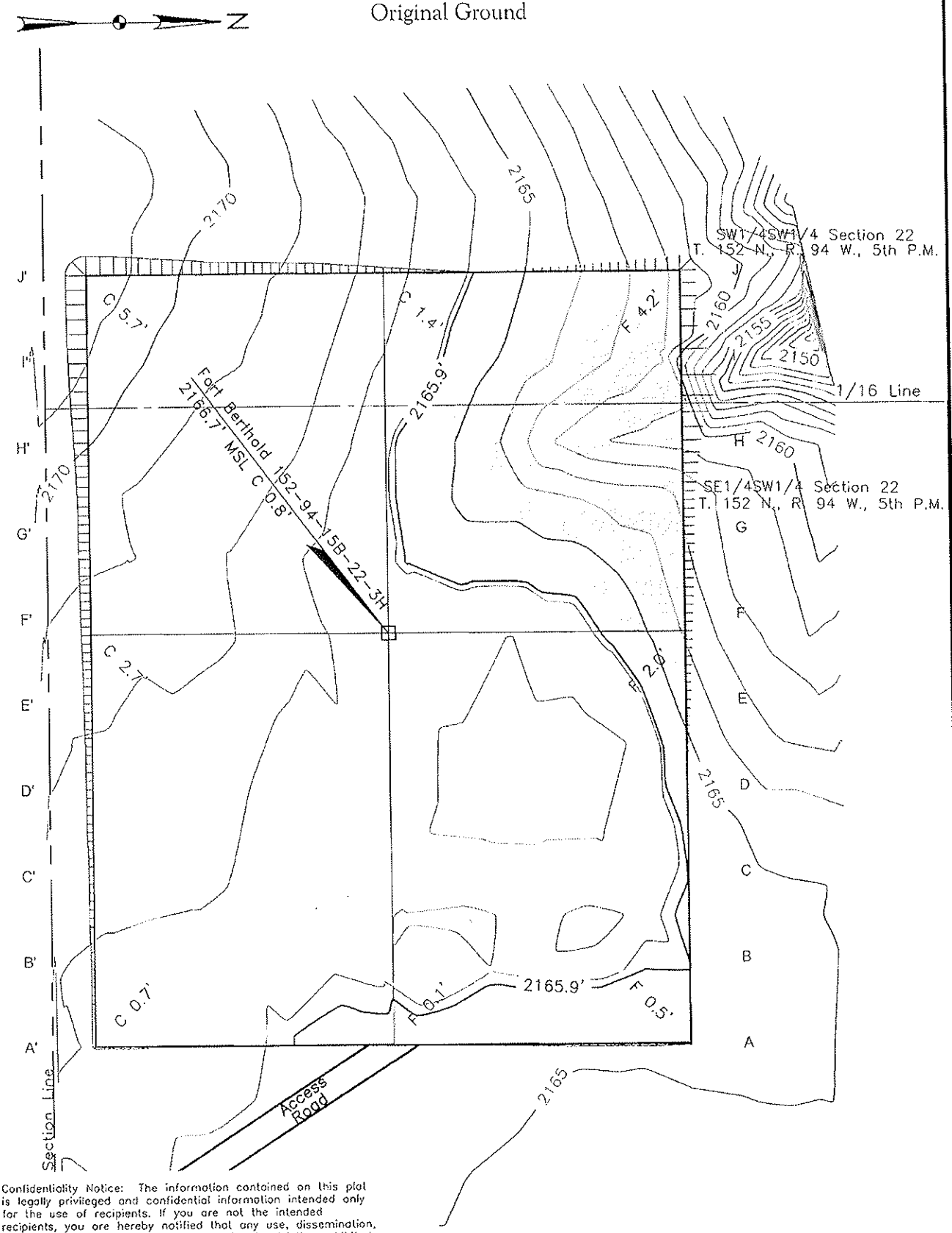
# Fort Berthold 152-94-22C-15-4H

## Original Ground

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Meismer | A. Lambert | A. Lambert | 1"= 80' | 10/17/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-109 | Original Ground | 11/28/2011 | 8711280 | 6 |

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Engineers Surveyors Planners

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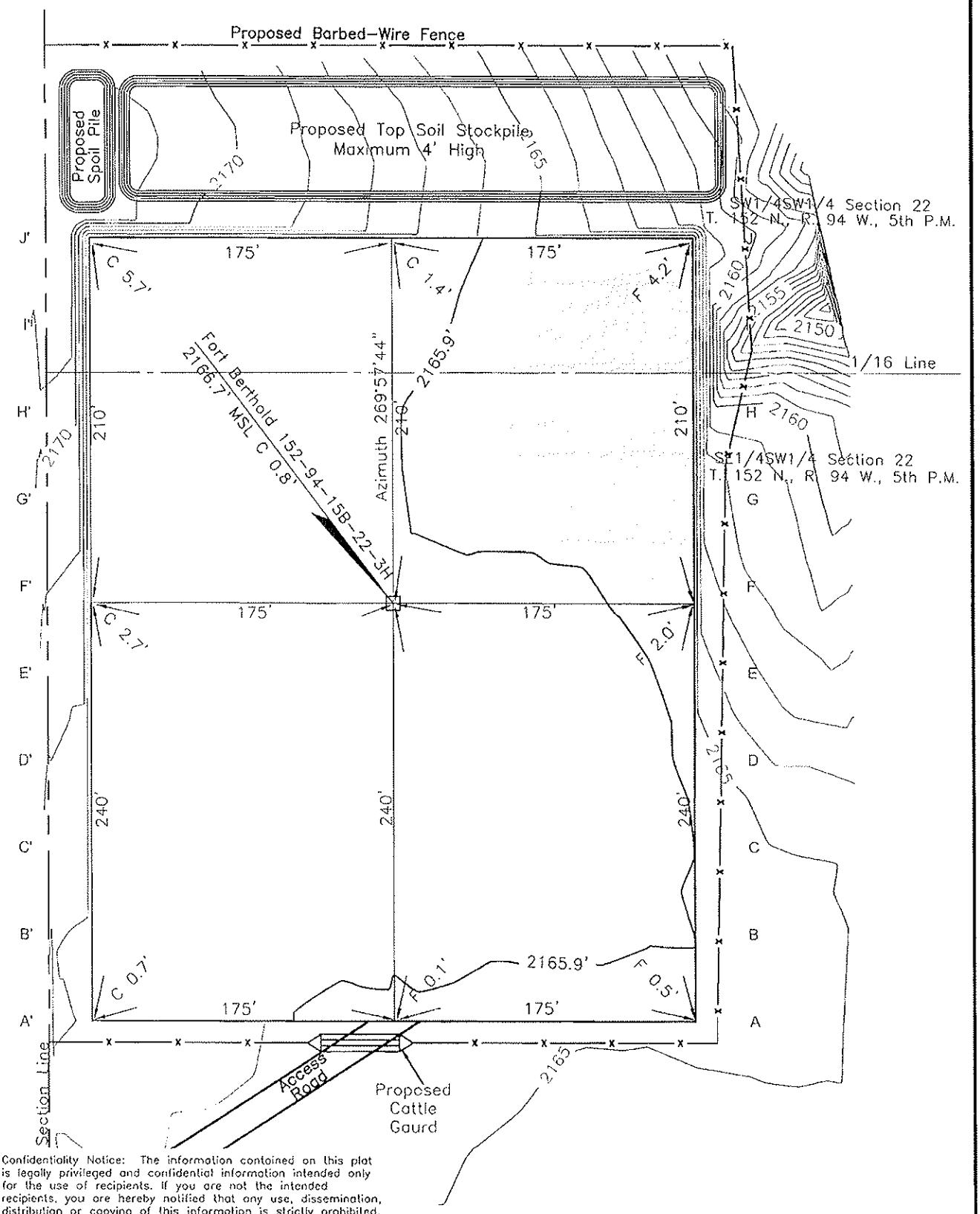
# Fort Berthold 152-94-22C-15-4H

## Pad Layout

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Meismer | A. Lambert | A. Lambert | 1"= 80' | 10/17/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| 0-109 | Pad Layout | 11/28/2011 | 8711280 | 7 |

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Nov 29, 2011 - 3:32pm - C:\DOCUME~1\DEREKF~1\LOCALS~1\Temp\AcPublish_2392\8711280BAS02.dwg

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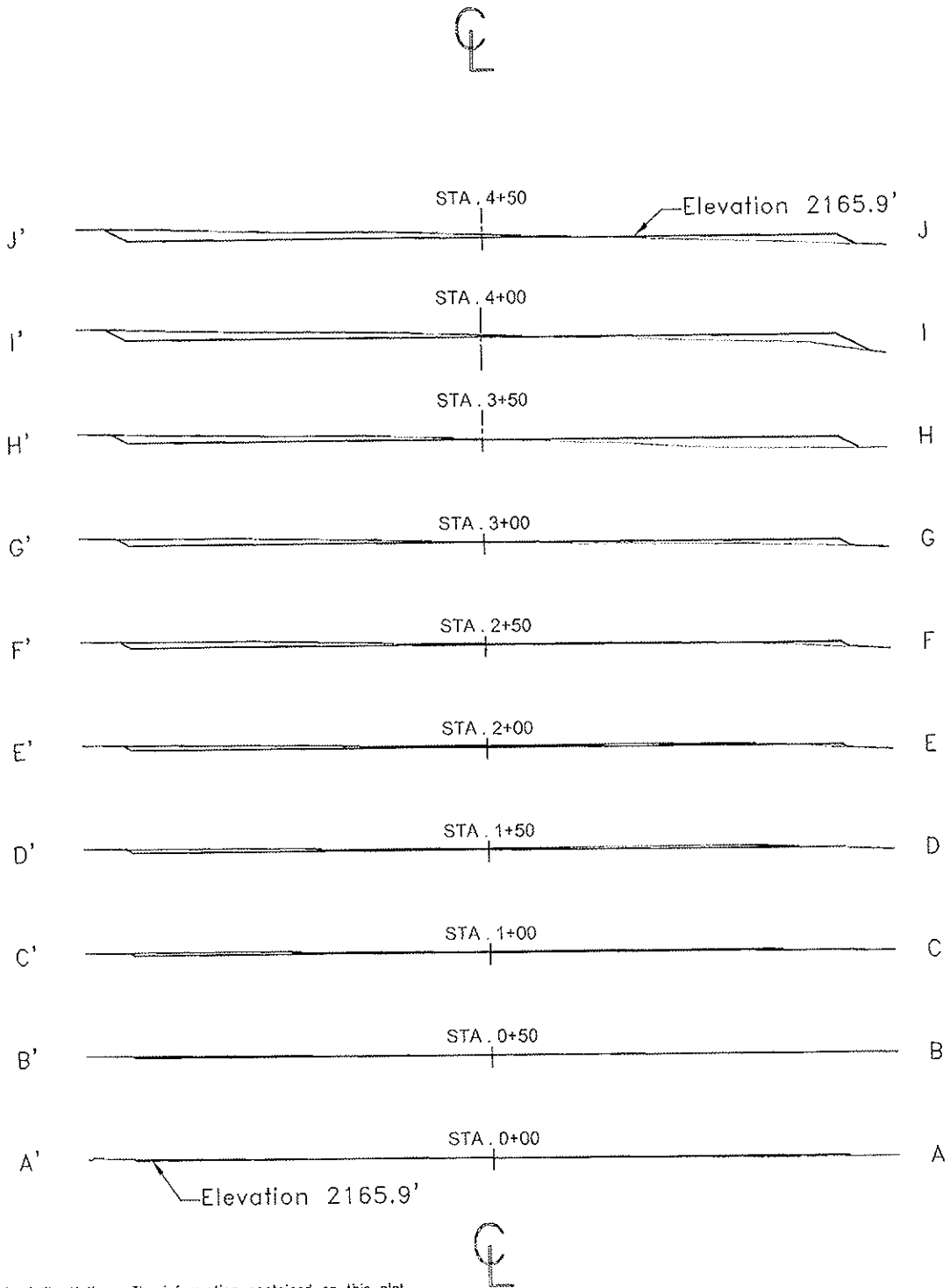
# Fort Berthold 152-94-22C-15-4H

## Cross Sections

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Meismer | A. Lambert | A. Lambert | 1"= 80' | 10/17/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-109 | Cross Sections | 11/14/2011 | 871280 | 8 |

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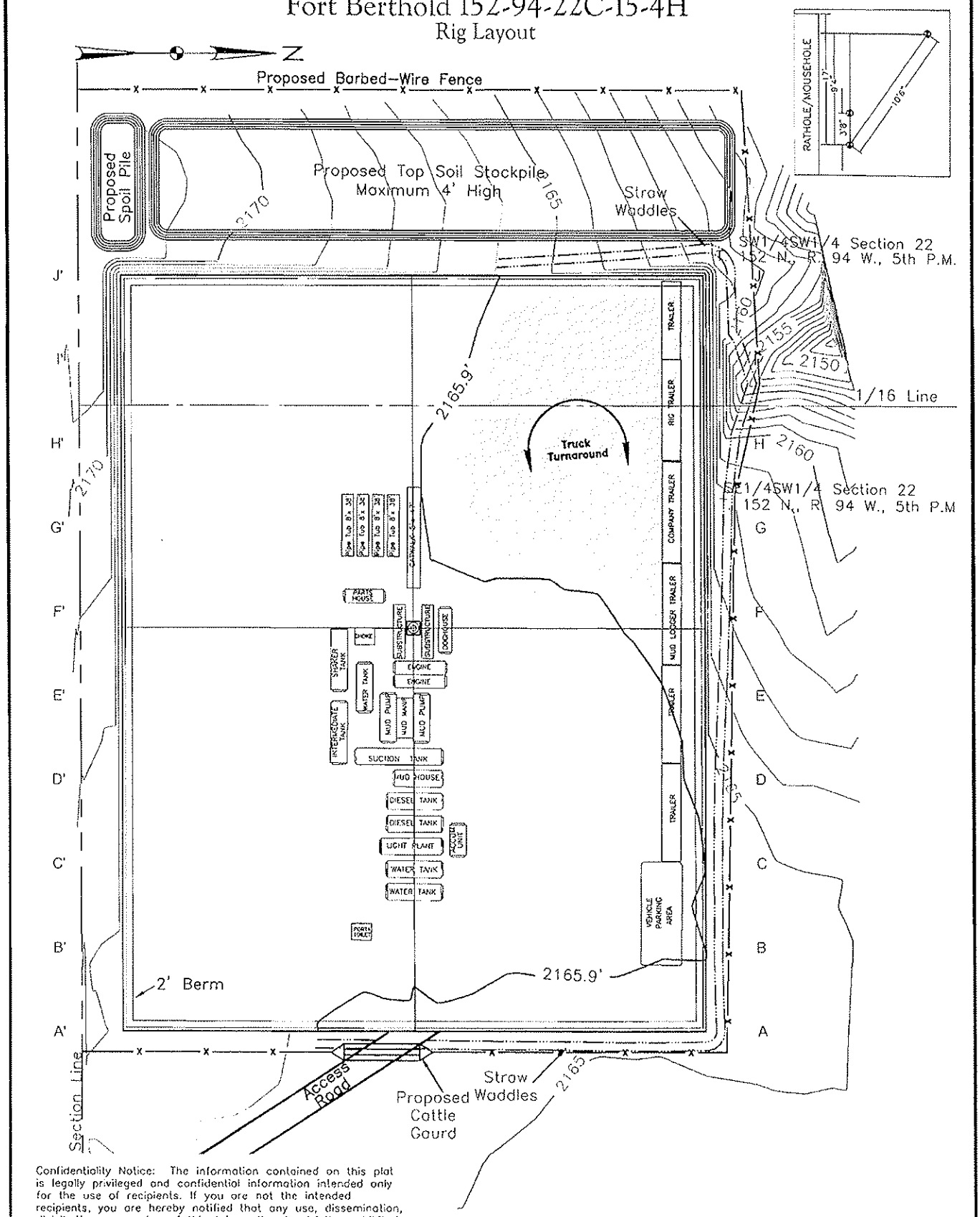
# Fort Berthold 152-94-22C-15-4H

## Rig Layout

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Meismer | A. Lambert | A. Lambert | 1"= 80' | 10/17/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-109 | Rig Layout | 11/28/2011 | 8711280 | 9 |

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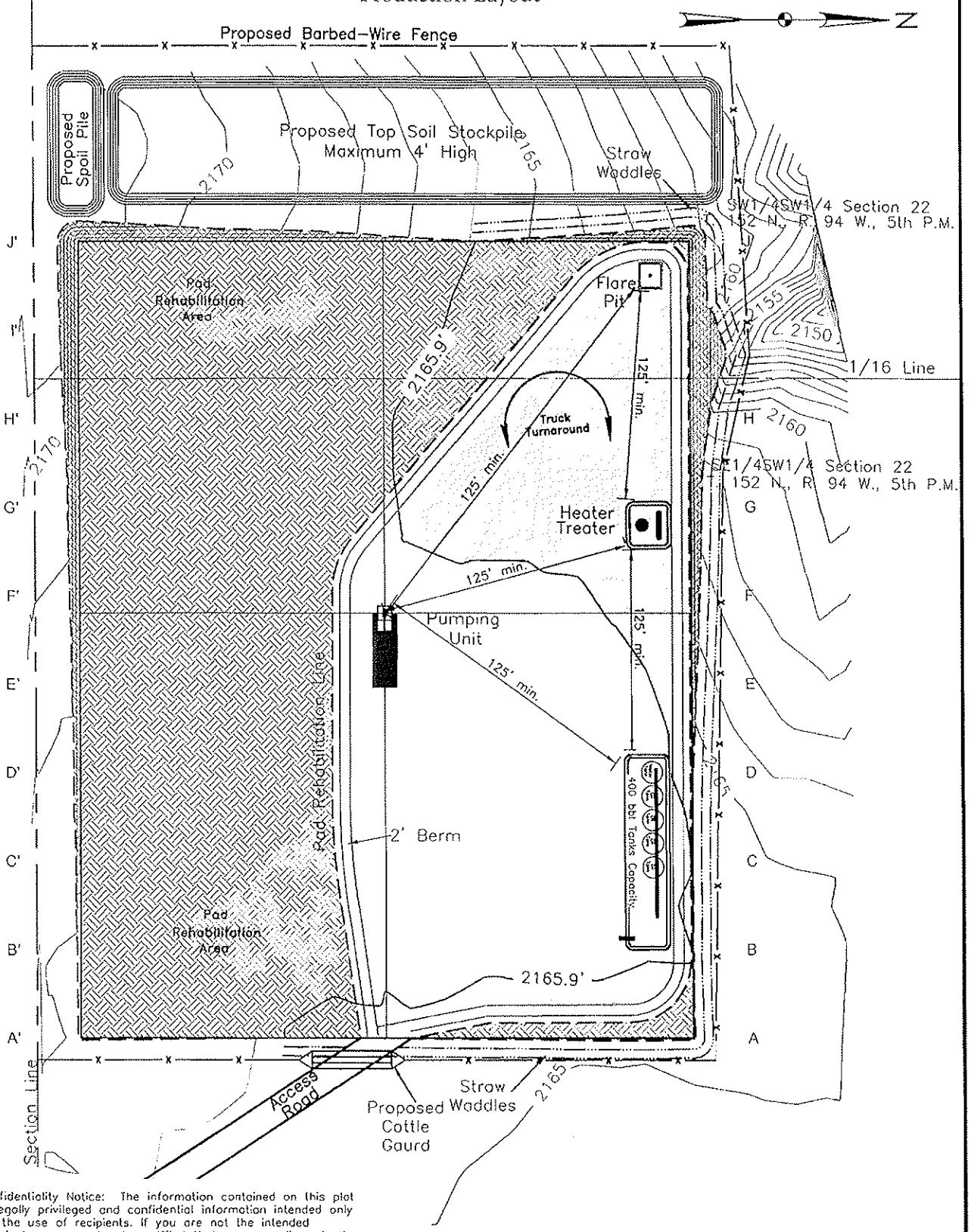
# Fort Berthold 152-94-22C-15-4H
## Production Layout

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Meismer | A. Lambert | A. Lambert | 1"= 80' | 10/17/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-109 | Prod Layout | 11/28/2011 | 8711280 | 10 |

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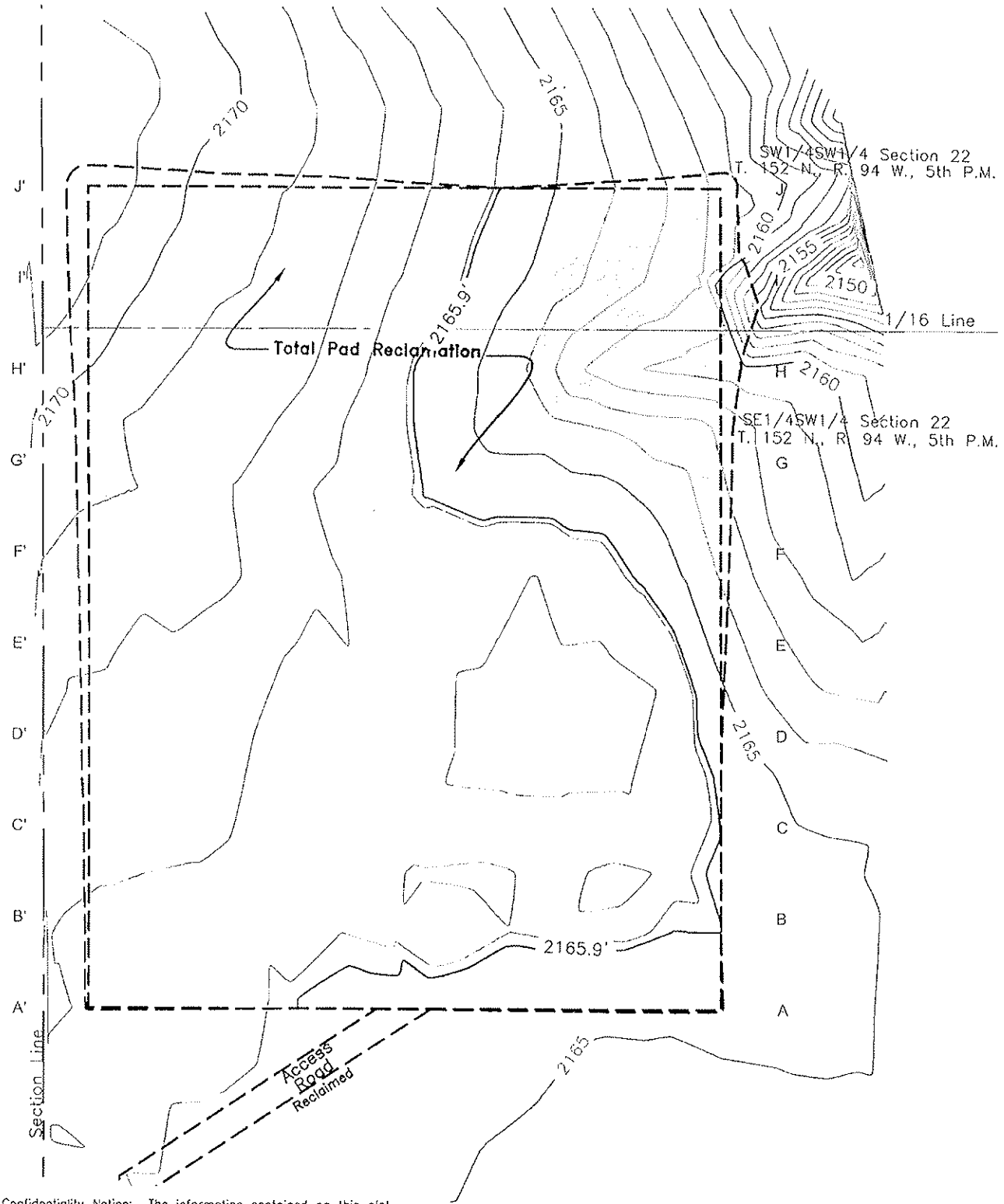
# Fort Berthold 152-94-22C-15-4H

## Reclamation Layout

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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Meismer | A. Lambert | A. Lambert | 1"= 80' | 10/17/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| O-109 | Reclam Layout | | 8711280 | 11 |

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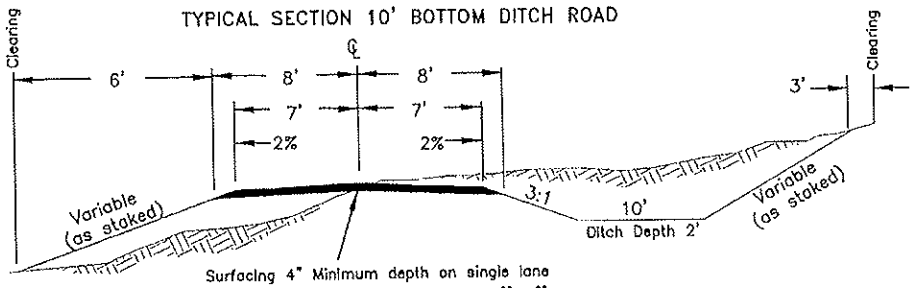
# Fort Berthold 152-94-22C-15-4H

## Roadway Typical Sections

TYPICAL SECTION 10' BOTTOM DITCH ROAD




TYPICAL "B"

No Scale

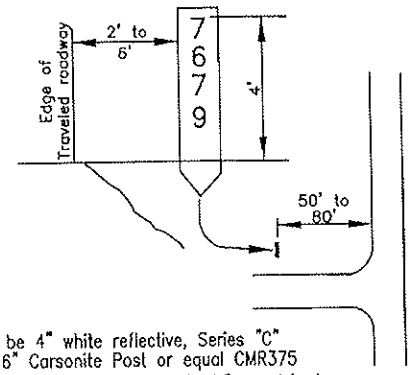
FILL SLOPES
3:1 Under 4' Height
2:1 Over 4' Height
(–) Slopes steeper than 2:1 will be subject to FS approval

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

TYPICAL SECTION VERTICAL ROUTE MARKER



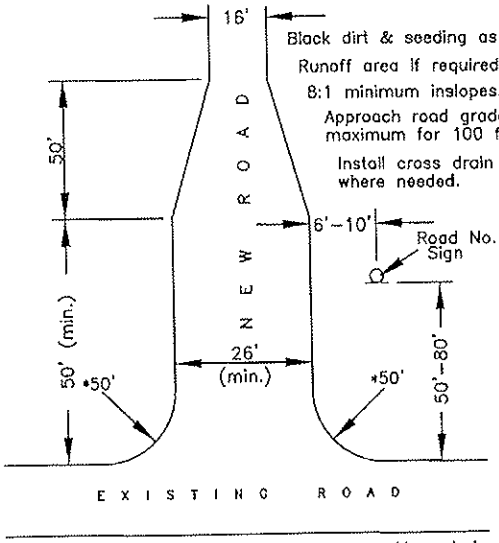

Letters shall be 4" white reflective, Series "C" on Brown 6' 6" Carsonite Post or equal CMR375

*Figure 11-28.- Typical Signage for Vertical Route Markers*

TYPICAL "F"

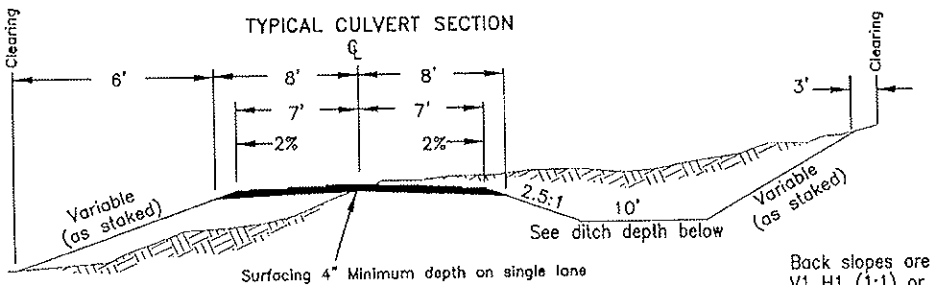
No Scale

TYPICAL APPROACH ROAD CONNECTION




*As noted on road sheets

TYPICAL CULVERT SECTION




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

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' |

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

TYPICAL "A"

No Scale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| Drawn By | Surveyed By | Approved By | Scale | Date |
|---|---|---|---|---|
| M. Meismer | A. Lambert | A. Lambert | None | 10/17/2011 |
| **Field Book** | **Material** | **Revised** | **Project No.** | **Drawing No.** |
| 0–109 | Road Typical | | 8711280 | 12 |

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Petro-Hunt, L.L.C.
Fort Berthold 152-94-22C-15-4H
200' FSL & 1450' FWL
SE1/4SW1/4 Section 22
T.152N., R.94W., 5th P.M.
McKenzie County, ND

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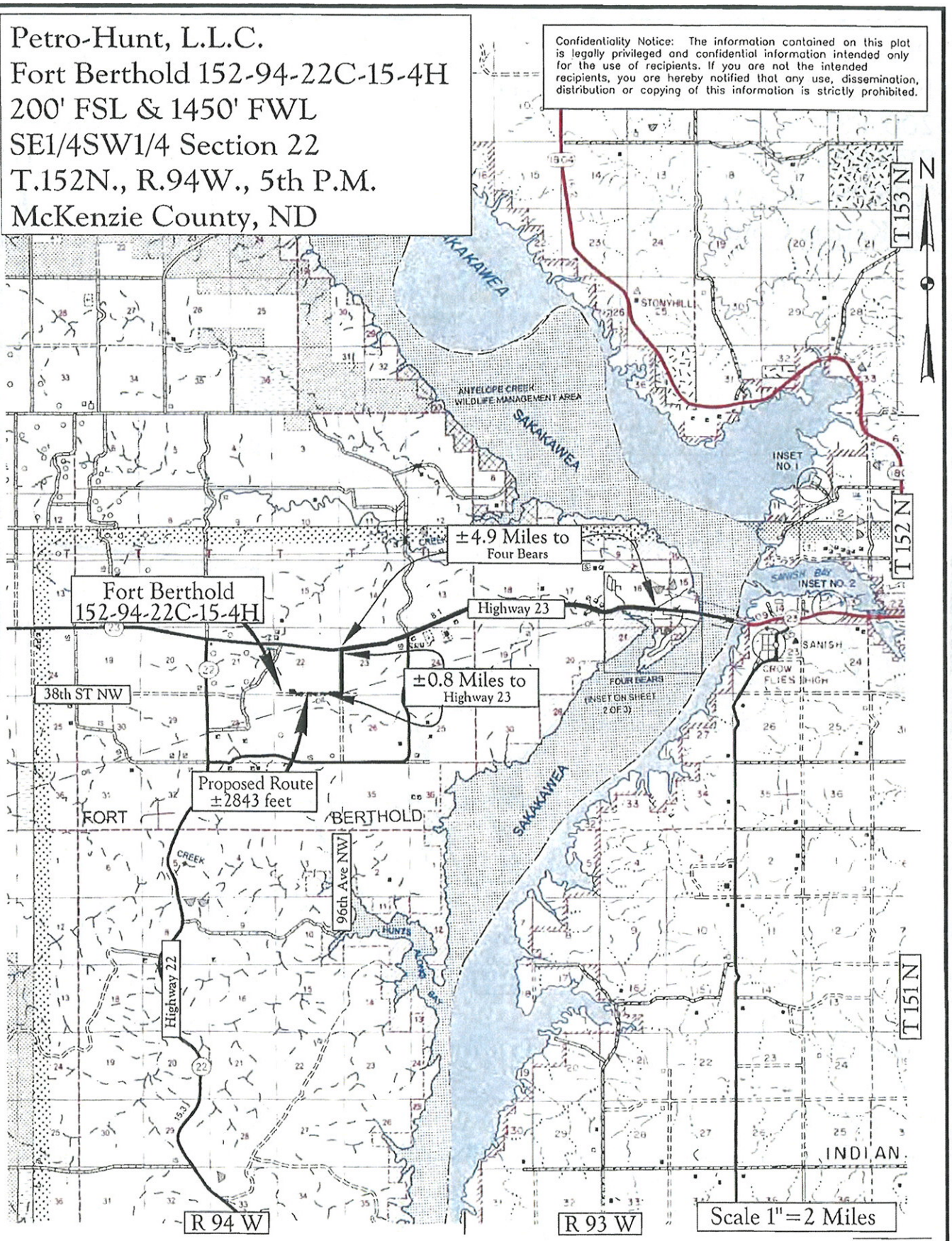


Map "A"
County Access Route

Legend
Existing Roads
Proposed Roads

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Petro-Hunt, L.L.C.
Fort Berthold 152-94-22C-15-4H
200' FSL & 1450' FWL
SE1/4SW1/4 Section 22
T.152N., R.94W., 5th P.M.
McKenzie County, ND

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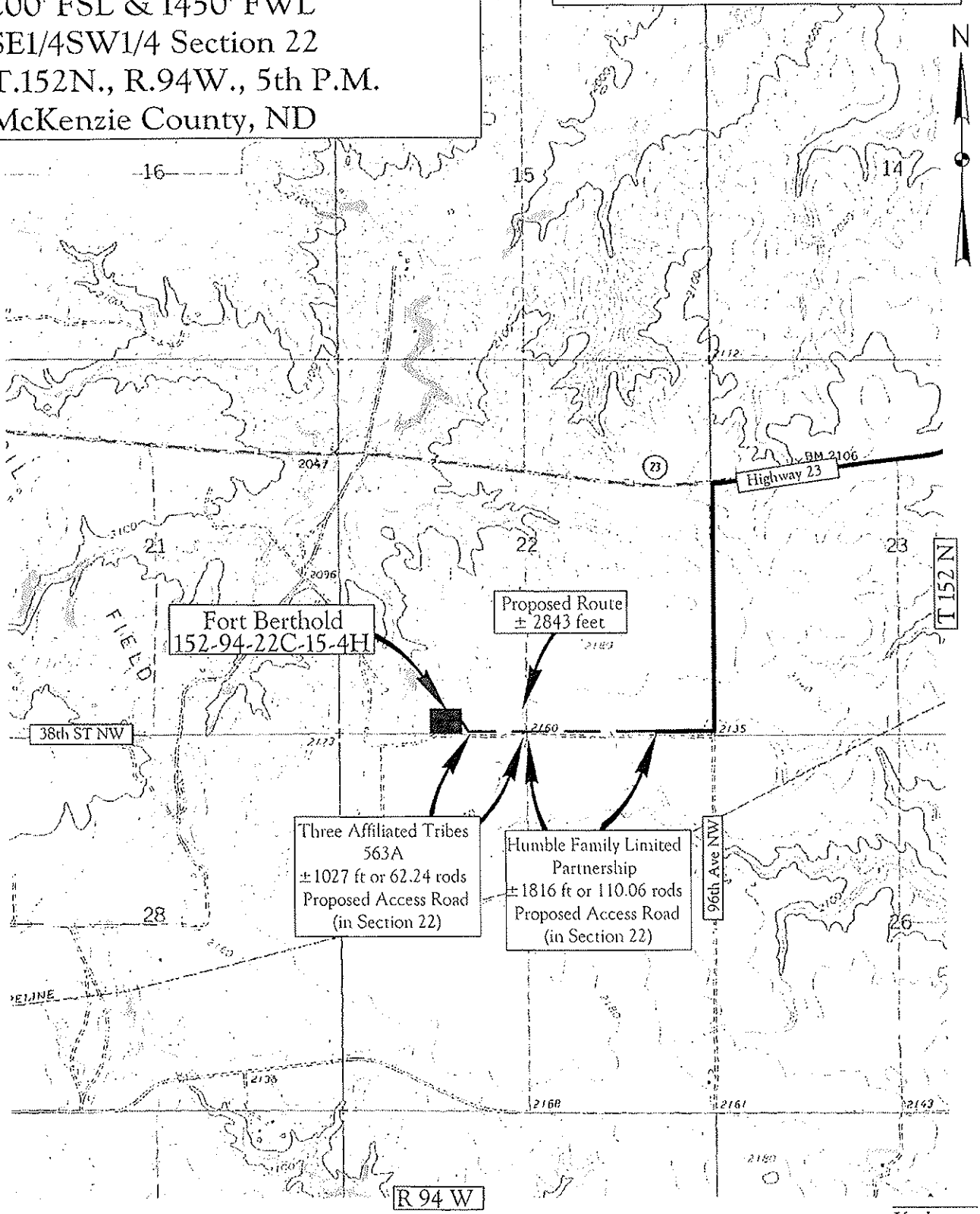


Map "B"
Quad Access Route

Legend
Existing Roads
Proposed Roads

Scale 1" = 2000'

Kadrmas Lee & Jackson
Engineers Surveyors Planners

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# Petro-Hunt, L.L.C.
# Fort Berthold 152-94-22C-15-4H
# 200' FSL & 1450' FWL
# SE1/4SW1/4 Section 22
# T.152N., R.94W., 5th P.M.
# McKenzie County, ND

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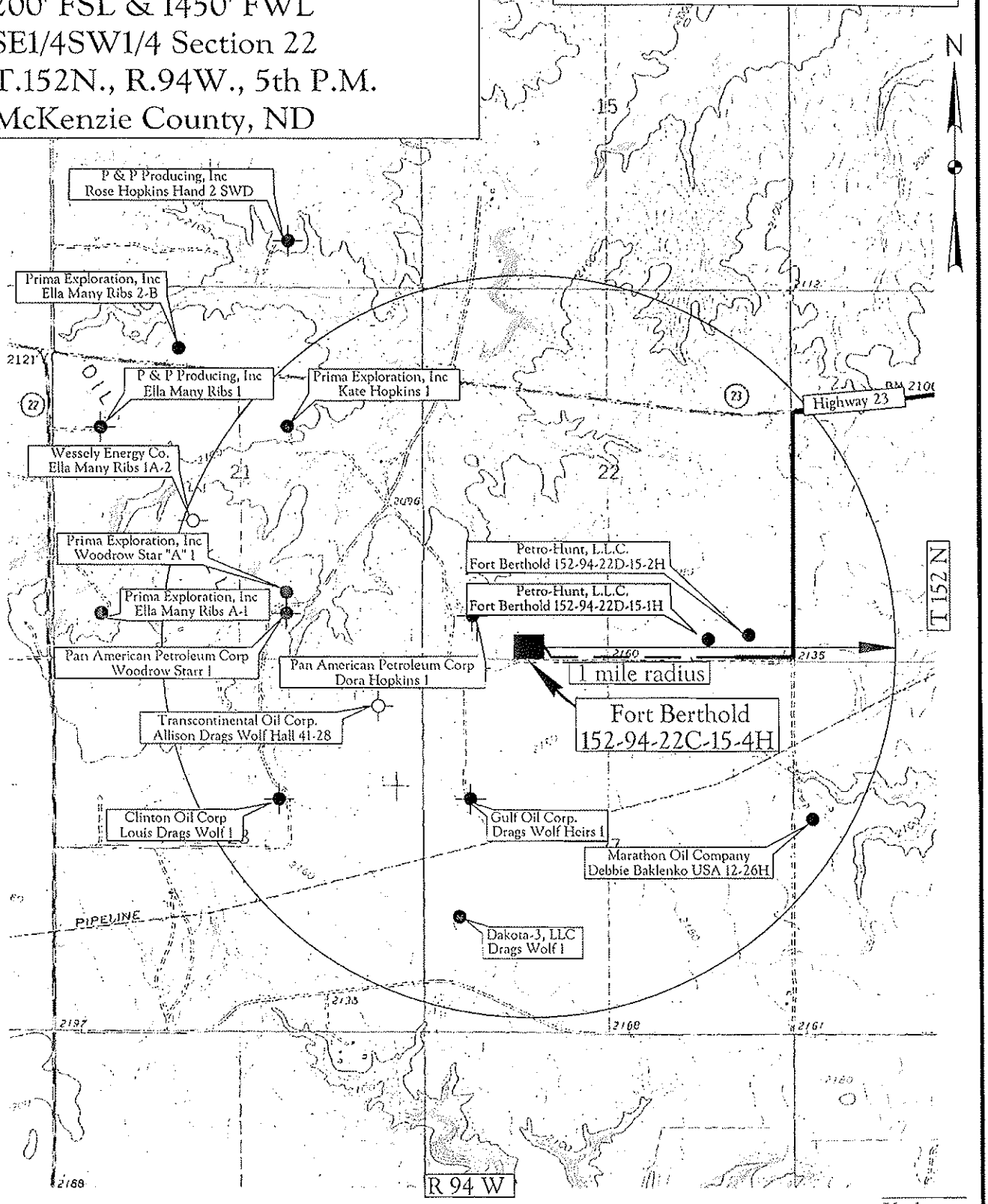


## Map "C"
One Mile Radius Map

## Legend
Existing Roads
Proposed Roads

Scale 1"=2000'

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# 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

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

# Appendix B

# Agency Scoping Materials

Kadrmas Lee & Jackson
Engineers Surveyors Planners

October 11, 2011

Re: **Petro Hunt, LLC**
**Five Proposed Oil and Gas Wells on Three Well Pads**
**Fort Berthold Reservation**
**McKenzie County, North Dakota**

On behalf of Petro Hunt, LLC, Kadrmas, Lee & Jackson, Inc. is preparing an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) for the Bureau of Indian Affairs (BIA) and the Bureau of Land Management (BLM). The proposed action includes recommendation by the BIA and approval by the BLM for the development, drilling and completion of five wells on three well pads on the Fort Berthold Reservation.

The Fort Berthold 152-94-15B-22-3H well pad would consist of one well head and would be located in the NW¼ of Section 15, Township 152 North, Range 94 West, 5th P.M. The Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H well pad would consist of three well heads and would be located in the N½ of Section 15, Township 152 North, Range 94 West, 5th P.M. The Fort Berthold 152-94-22C-15-4H well pad would consist of one well head and would be located in the SW¼ of Section 22, Township 152 North, Range 94 West, 5th P.M. ***Please refer to the enclosed Project Location Map***. Each well pad has been positioned to utilize existing roadways for access to the extent possible. Construction of the proposed well pads and access roads are scheduled to begin in late 2011 or early 2012.

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

Please provide your comments by **November 11, 2011**. We request your comments by that date to ensure that we will have ample time to review them and incorporate them into the EA.

If you would like further information regarding this project, please contact me at (701) 355-8726. Thank you for your cooperation.

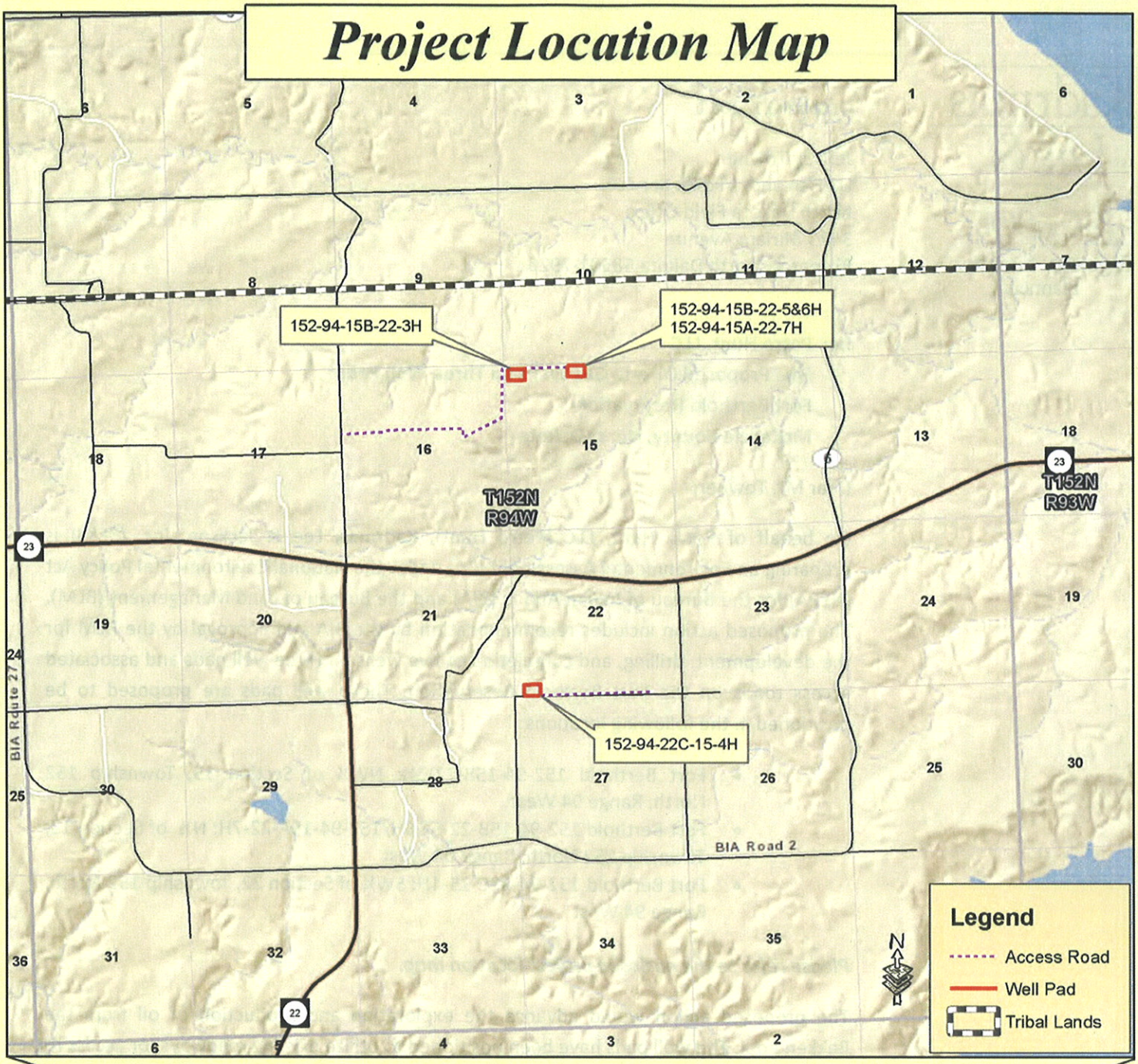
Sincerely,
**Kadrmas, Lee & Jackson, Inc.**

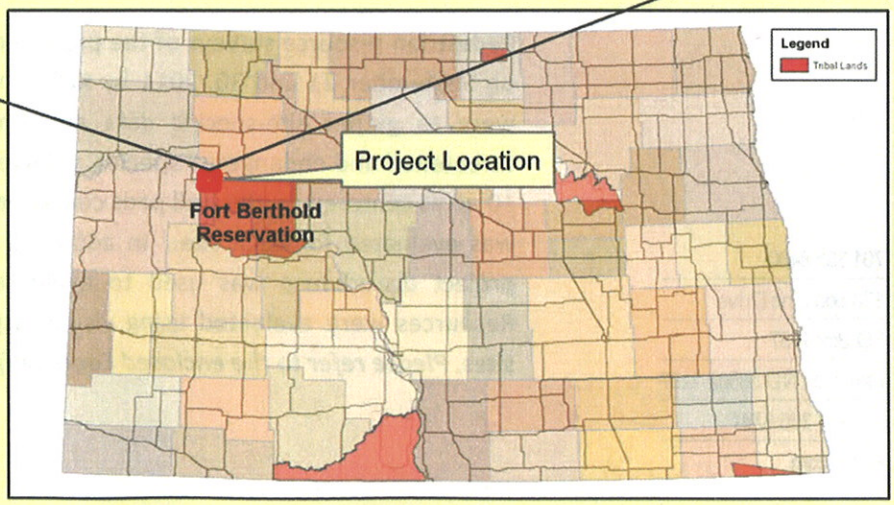
Grady Wolf
Environmental Planner

Enclosure(s): Project Location Map

701 355 8400
128 Soo Line Drive
PO Box 1157
Bismarck, ND 58502-1157
Fax 701 355 8781
kljeng.com

# Project Location Map




## Petro Hunt, LLC
## Proposed Oil Wells
## Location Map

Kadrmas Lee & Jackson
Engineers Surveyors Planners

Kadrmas
Lee &
Jackson
Engineers Surveyors
Planners

October 11, 2011

Jeffrey Towner
US Fish and Wildlife Service
North Dakota Field Office
3425 Miriam Avenue
Bismarck, North Dakota 58501-7926

**Re: Petro Hunt, LLC**
**Five Proposed Oil and Gas Wells on Three Well Pads**
**Fort Berthold Reservation**
**McKenzie County, North Dakota**

Dear Mr. Towner:

On behalf of Petro Hunt, LLC (Petro Hunt), 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 the Bureau of Land Management (BLM). The proposed action includes recommendation by the BIA and approval by the BLM for the development, drilling, and completion of five wells on three well pads and associated access roads on the Fort Berthold Reservation. These well pads are proposed to be positioned in the following locations:

- Fort Berthold 152-94-15B-22-3H: NW¼ of Section 15, Township 152 North, Range 94 West
- Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H: N½ of Section 15, Township 152 North, Range 94 West
- Fort Berthold 152-94-22C-15-4H: SW¼ of Section 22, Township 152 North, Range 94 West

***Please refer to the enclosed project location map.***

The proposed action would advance the exploration and production of oil from the Bakken Pool. The well pads have been positioned to utilize existing roadways for access to the extent possible. Construction of the proposed well pads and access roads are scheduled to begin in late 2011 or early 2012.

Pedestrian resource surveys of the proposed well pads and access roads were conducted on September 21 and 30, 2011 by KL&J and Petro Hunt. The purpose of these surveys were to gather site-specific data and photos with regards to botanical, biological, threatened and endangered species, wildlife, eagles and water resources. A study area of 10 acres centered on the well pads center points and a 200-foot wide access road corridor was evaluated for each site. In addition, a 0.50 mile wide buffer around all areas of project disturbance was used to evaluate the presence of eagles and eagle nests. Resources were evaluated using visual inspection and pedestrian transects across the sites. ***Please refer to the enclosed Eagle Buffer Map.***

701 355 8400
128 Soo Line Drive
PO Box 1157
Bismarck, ND 58502-1157
Fax 701 355 8781
kljeng.com

BIA-facilitated EA on-site assessments of the well pads and access roads were also conducted on September 21 and 30, 2011. The BIA Environmental Protection Specialist, as well as representatives from the Tribal Historic Preservation Office (THPO), Petro Hunt, and KL&J were present. During the assessments, construction suitability with respect to topography, stockpiling, drainage, erosion control, and other surface issues were considered. Well pad and access road locations were adjusted, as appropriate, to avoid conflicts with identified environmental areas of concern. Those present at the on-site assessments agreed that the chosen locations, along with the minimization measures Petro Hunt plans to implement, are positioned in areas which would minimize impacts to sensitive wildlife and botanical resources. BMPs and other commitments Petro Hunt has made to avoid, minimize, or mitigate impacts are listed at the end of this letter.

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

Whooping cranes use shallow, seasonally and semi-permanently flooded palustrine (marshy) wetlands for roosting, and various cropland and emergent wetlands for feeding. The proposed projects are located in the Central Flyway where 75 percent of confirmed whooping crane sightings have occurred. Due to the presence of cropland near the proposed Fort Berthold 152-94-15B-22-3H and 152-94-22C-15-4H well pad sites, the area may be used as potential stopover habitat. The proposed project may affect but is not likely to adversely affect whooping cranes or whooping crane habitat. If a whooping crane is sighted within one-mile of a well site or associated facilities while under construction, all work will cease within one-mile of that part of the project and the US Fish and Wildlife Service (USFWS) will be contacted immediately. In coordination with USFWS, work may resume after the bird(s) leave the area.

Suitable habitat for the interior least tern, pallid sturgeon and piping plover is largely associated with Lake Sakakawea and its shoreline. Potential habitat for these species exists approximately 2.3 miles southeast of the access road of the proposed Fort Berthold 152-94-22C-15-4H well pad, which is the nearest point to the proposed projects. The well pads and access roads are located on upland bluffs composed of grassland, with Lake Sakakawea and its shoreline located below the bluffs (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. USFWS determined Lake Sakakawea's shoreline to be critical habitat for the piping plover.

Storage tanks and the heater/treater would be surrounded by an impermeable berm that would act as secondary containment to guard against accidental release of fluids from the sites. The berm would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. An 18-inch high berm would be constructed around the pads to control runoff. In addition, a closed loop drilling system would be used to

eliminate cuttings pits on the 152-94-15B-22-5&6H and 152-94-15A-22-7H pad and the 152-94-15B-22-3H and 152-94-22C-15-4H well pads would utilized a semi closed loop cuttings pit to eliminate fluid in the pits. 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. However, due to the proximity of the proposed project to Lake Sakakawea (approximately 2.3 miles at the nearest point) the proposed project may affect but is not likely to adversely affect the interior least tern, pallid sturgeon and piping plover or their associated habitats.

The black-footed ferret historically could be found throughout the Rocky Mountains and Great Plains. In North Dakota, the black-footed ferret may potentially be present within prairie dog towns. However, they have not been confirmed in North Dakota for over 20 years and are presumed 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. Due to a lack of suitable habitat and known populations, the proposed project is anticipated to have no effect to 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 is located far from other known wolf populations and is positioned on actively grazed rangeland. No wolves or indications of wolves were observed during the field surveys. Due to a lack of preferred habitat characteristics and known populations, the proposed project is anticipated to have no effect to the gray wolf.

The preferred habitat for the Dakota skipper consists of undisturbed, flat, moist bluestem prairies and upland prairies with an abundance of wildflowers. The proposed sites are located on actively grazed rangeland with abundant wildflowers. Although grazing is evident, the project sites do contain suitable habitat for the Dakota skipper. Due to the presence of preferred habitat characteristics, the proposed project may impactthe Dakota skipper or its habitat.

The Sprague's pipit is a small songbird found in prairie areas throughout the Northern Great Plains. Preferred habitat includes rolling, upland mixed-grass prairie habitat with high plant species diversity. The Sprague's pipit breeds in habitat with minimal human disturbance. The proposed project areas consist of actively grazed rangeland which may provide potential habitat for the Sprague's pipit. No Sprague's pipits were observed during the field surveys. Due to the presence of preferred habitat characteristics, the proposed project may impactthe Sprague's pipit or its habitat.

All efforts will be made for construction activities to begin after July 15 and end prior to February 1, in order to avoid impacts to migratory birds during the breeding/nesting season. In the event that construction activity needs to take place within the nesting and breeding season, pre-construction surveys for migratory birds or their nests would be

conducted within five days prior to the initiation of construction activities; or mowing of the site prior to the nesting/breeding season would be completed.

**Botanical Resources**: The proposed Fort Berthold 152-94-15B-22-3H well pad consists of actively grazed rangeland. The proposed well pad site was dominated by native range species. The proposed access road consisted of cropland. No wetlands were observed in the study area; therefore, no wetland plant species were observed. Additionally, no noxious weeds were observed and no threatened or endangered plant species are listed for McKenzie County.

The proposed Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H well pad and access road areas consisted of native rangeland species. No wetlands were observed in the study area; therefore, no wetland plant species were observed. No noxious weeds were observed and no threatened or endangered plant species are listed for McKenzie County.

The proposed Fort Berthold 152-94-22C-15-4H well pad and access road areas consisted of native rangeland species. No wetlands were observed in the study area; therefore, no wetland plant species were observed. Additionally, no noxious weeds were observed and no threatened or endangered plant species are listed for McKenzie County.

**Biological Resources**: The project areas contains suitable habitat for mule deer, whitetail deer, sharp-tailed grouse, ring-necked pheasant, golden eagle, red tail hawk, bald eagle, badger, song birds, coyote, red fox, cottontail rabbit, wild turkey, jackrabbit and North American porcupine.

During drilling activities, the noise, movements and lights associated with having a drilling rig on-site are expected to deter wildlife from entering the area. Design considerations will be implemented to further protect against potential habitat degradation. Secondary containment measures would be used in the northwest corner of the Fort Berthold 152-94-22C-15-4H and secondary erosion control would be used in drainages east of the Fort Berthold 152-94-15B-22-3H site. An 18-inch high berm would be constructed around all well pads to control runoff. The storage tanks and heater/treater would be surrounded by an impermeable berm that would act as secondary containment to guard against possible spills. The berm would be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. BMPs to minimize wind and water erosion of soil resources would also be put into practice.

All efforts will be made for construction activities to begin after July 15 and end prior to February 1, in order to avoid impacts to migratory birds during the breeding/nesting season. In the event that a construction activity needs to take place within the nesting and breeding season, pre-construction surveys for migratory birds or their nests would be conducted within five days prior to the initiation of construction activities; or mowing of the site prior to nesting/breeding season may be completed in lieu of the pre-construction survey.

Additionally, all reasonable, prudent and effective measures to avoid the taking of migratory bird species will be implemented during the construction and operation phases.

These measures will include: the use of suitable mufflers on all internal combustion engines; certain compressor components to mitigate noise; only utilizing approved roadways; placing wire mesh or grate covers over barrels or buckets placed under valves and spigots to collect dripped oil; maintaining open pits and ponds that are free from oil, and netting cuttings pits with netting that has a maximum mesh size of 1.5 inches.

**Eagles:** A survey for eagle nests was conducted on September 21 and 30, 2011 and no eagle nests were detected within 0.5 miles of the project area. The project area was thoroughly searched and no eagles or eagle nests were observed. Dr. Anne Marguerite Coyle of Dickinson State University has completed focused research on golden eagles and maintains a database of golden eagle nest sightings. According to Dr. Coyle's information, the closest recorded golden eagle nest is located approximately 5.3 miles southeast of the closest site (Fort Berthold 152-94-22C-15-4H). If a bald or golden eagle or eagle nest is sighted within 0.5 miles of the project construction area, construction activities shall cease and the USFWS shall be notified for advice on how to proceed.

**Water Resources**: The proposed sites are located in the Antelope Creek State Wildlife Management Area Watershed. The Fort Berthold 152-94-15B-22-3H well pad would flow overland to the east/southeast for approximately one mile, then to the east/northeast for approximately 6.6 miles into Antelope Creek and then Lake Sakakawea, for a total drainage distance of approximately 7.6 miles. The Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H well pad drains from both the east and west sides of the pad: from the west approximately 450 feet to the southwest, then 0.6 miles to the southeast before flowing approximately 0.2 miles to the northeast and into the drainage from the east side of the pad; and from the east approximately 0.5 miles to the southeast. All drainage from the well pad would then flow approximately 6.4 miles into Antelope Creek and eventually Lake Sakakawea. The Fort Berthold 152-94-22C-15-4H site also drains from both the east and west sides of the pad. Drainage from the west side of the proposed pad flows to the north overland for approximately 1.2 miles. Drainage from the east side of the pad flows to the north overland for approximately 0.9 miles. All drainage from the pad then flows northeast approximately eight miles, draining into Antelope Creek and eventually Lake Sakakawea.

**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, straw wattles and/or fiber mats. Any woody vegetation removed during site construction would be chipped and incorporated into topsoil stockpiles or removed from the sites to an approved location. The alteration of drainages near the proposed well pad would be avoided. Culverts to maintain drainage along the access roads would also be installed where needed. Upon well completion, a portion of the well pads would be reclaimed to further avoid environmental areas of concern. A six month reclamation time frame would be adhered to for the proposed well sites. The tanks on the proposed sites would be painted shale color to blend into the existing landscape.

**Summary of Commitments to Avoid or Minimize Impacts:** In an effort to minimize the potential environmental effects associated with the proposed project, Petro Hunt will also implement the following measures into the development of these sites:

- A closed loop system would be used during drilling of the Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H. Drill cuttings would be hauled off site and disposed of in an approved manner.

- A semi-closed system with an on-site cuttings pit would be used during the drilling process for the Fort Berthold 152-94-15B-22-3H and Fort Berthold 152-94-22C-15-4H sites. Drill cuttings would be stabilized before being placed in the reinforced lined cuttings pit. The reinforced lining of the cuttings pit would have a minimum thickness of 20 mil to prevent seepage and contamination of underlying soil. Any minimal fluids remaining in the drill cuttings pit would be removed and disposed of in accordance with BLM and North Dakota Industrial Commission (NDIC) rules and regulations. All liquids from the drilling would be transported off-site. The drill cuttings pit would be reclaimed to BLM and NDIC standards immediately upon finishing completion operations.

- All efforts will be made for construction activities to begin after July 15 and end prior to February 1, in order to avoid impacts to migratory birds during the breeding/nesting season. In the event that a construction activity needs to take place within the nesting and breeding season, pre-construction surveys for migratory birds or their nests would be conducted within five days prior to the initiation of construction activities. Mowing the sites prior to the nesting/breeding season would prevent birds from nesting at the site.

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

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

- The storage tanks and heater/treater will be surrounded by an impermeable berm that will act as secondary containment to guard against possible spills. The berm will be sized to hold 100 percent of the capacity of the largest storage tank plus one full day's production. BMPs would be implemented to minimize wind and water erosion of soil resources.

- An 18-inch high berm would be constructed around the well pads to control runoff.

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

It is requested that any comments or information be forwarded to our office on or before **November 11, 2011**. 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) 355-8726. Thank you for your cooperation.

Sincerely,

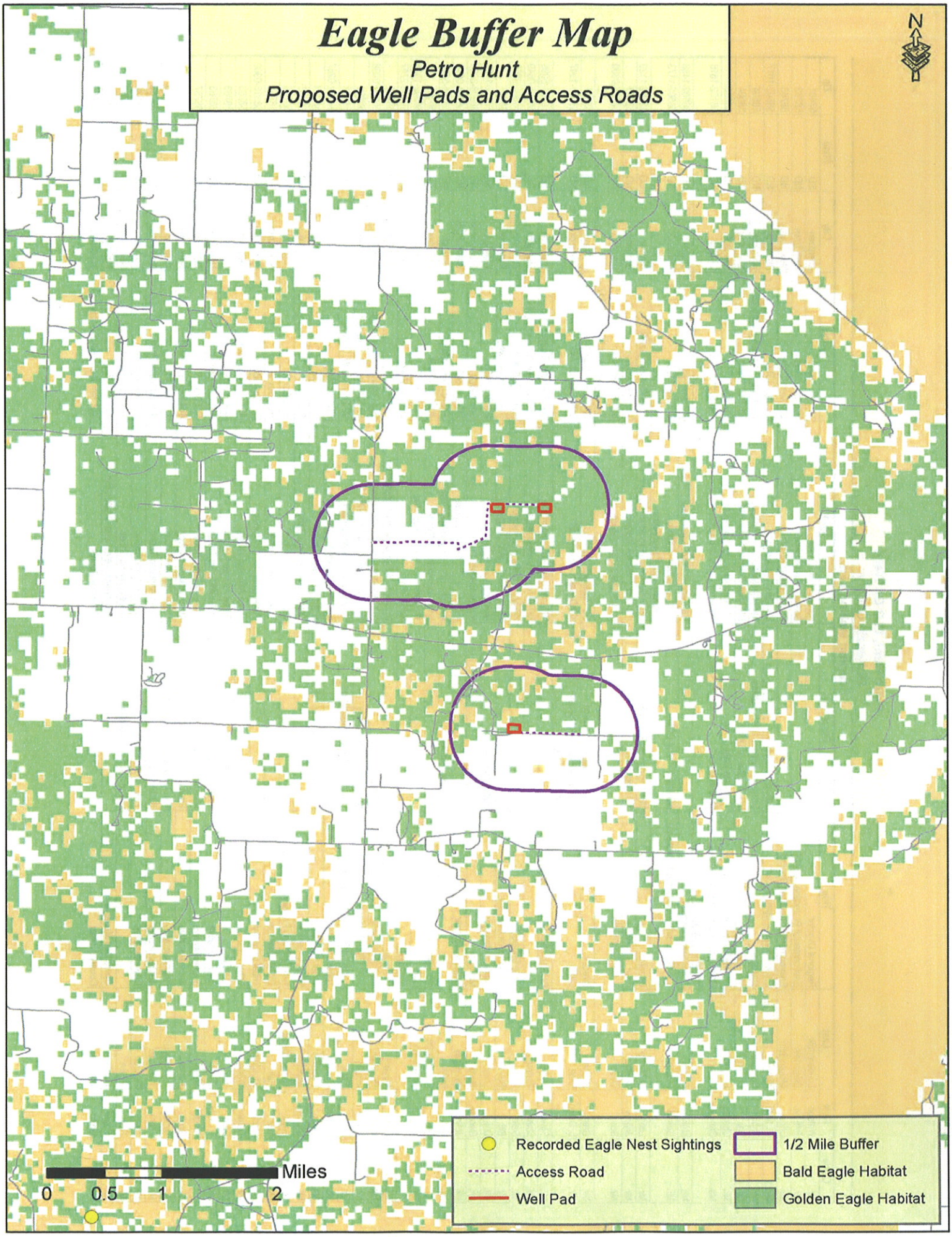
Kadrmas, Lee & Jackson, Inc.

Grady Wolf

Environmental Planner

Enclosure(s): Project Location Map; Eagle Buffer Map

Kadrmas Lee & Jackson
Engineers Surveyors Planners


Eagle Buffer Map
Petro Hunt
Proposed Well Pads and Access Roads
N
Recorded Eagle Nest Sightings
Access Road
Well Pad
1/2 Mile Buffer
Bald Eagle Habitat
Golden Eagle Habitat
Miles
0
0.5
1
2

# Petro Hunt, LLC Oil Wells
# McKenzie County
## Scoping Mailing List

| 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 | ND | 58763 |
| Mr. | Chris | McLaughlin | Environmental Protection Specialist | | Bureau of Indian Affairs | 202 Main Street | New Town | ND | 58763 |
| Mr. | Richard | Nelson | Chief, Resource Management | Dakotas Area Office | Bureau of Reclamation | PO Box 1017 | Bismarck | ND | 58502-1017 |
| Mr. | 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 |
| Ms. | Candace | Gorton | Chief, Env., Economics, & Cultural Resource Section | Omaha District | US Army Corps of Engineers | 106 S. 15th St. | Omaha | NE | 68102-1618 |
| Ms. | Mary | Podoll | State Conservationist | | US Department of Agriculture | PO Box 1458 | Bismarck | ND | 58502-1458 |
| Mr. | Gerald | Paulson | Director, Transmission Lines,Substations | ND Maintenance Office | US Department of Energy Western Area Power Admin. | PO Box 1173 | Bismarck | ND | 58502-1173 |
| Mr. | Larry | Svoboda | Director | NEPA Program, Region 8 | US Environment Protection Agency | 1595 Wynkoop Street | Denver | CO | 80202-1129 |
| Mr. | Jeffrey | Towner | Field Supervisor | ND Field Office | US Fish & Wildlife Service | 3425 Miriam Ave. | Bismarck | ND | 58501 |
| Mr. | Scott | Davis | Executive Director | | Indian Affairs Commission | 600 E. Blvd. Ave. 1st Floor, Judicial Wing, Rm 117 | Bismarck | ND | 58505-0300 |
| Mr. | Greg | Wiche | Director | Water Resources Division | 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. | Mark | Zimmerman | | | ND Parks & Recreation Dept. | 1600 E. Century Ave., Suite 3 | Bismarck | ND | 58503-0649 |
| Mr. | Dale | Frink | State Engineer | | ND State Water Commission | 900 E. Blvd. Ave. | Bismarck | ND | 58505-0850 |
| Mr. | Bill | Boyd | Construction Manager | | Midcontinent Cable Company | 719 Memorial Hwy | Bismarck | ND | 58501 |
| Mr. | Doug | Dixon | General Manager | Badlands Region | Montana Dakota Utilities | PO Box 1406 | Williston | ND | 58802-1406 |
| Mr. | George | Berg | Manager | | NoDak Electric Coop., Inc. | Box 13000 | Grand Forks | ND | 58208-3000 |
| Mr. | John | Skurupey | General Manager | | McKenzie Electric Cooperitive | PO Box 649 | Watford City | ND | 58854-0649 |
| Mr. | Ken | Miller | | Land Department | Northern Border Pipeline Company | 13710 FNB Parkway | Omaha | NE | 68154-5200 |
| Mr. | Ray | Christenson | Manager/CEO | | Southwest Water Authority | 4665 2nd St. W. | Dickinson | ND | 58601 |
| Mr. | David C. | Schelkoph | CEO | | West Plains Electric Coop., Inc. | PO Box 1038 | Dickinson | ND | 58602-1038 |
| | | | Manager | | Xcel Energy | PO Box 2747 | Fargo | ND | 58108-2747 |
| Mr. | Dale | Haugen | Manager | | Mountrail-Williams Electric Cooperative | 355 Main St | New Town | ND | 58763 |
| Mr. | Walt | Peterson | District Engineer | Williston District | ND Department of Transportation | 605 Dakota Parkway West | Williston | ND | 58802-0698 |
| Mr. | Lonny | Bagley | Field Office Manager | North Dakota Field Office | Bureau of Land Management | 99 23rd Ave W, Suite A | Dickinson | ND | 58601 |
| Mr. | Mike | Nash | Assistant Field Office Manager | Division on Mineral Resources | Bureau of Land Management | 99 23rd Ave W, Suite A | Dickinson | ND | 58601 |
| Mr. | Michael | 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. | 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. | Roger | Hovda | Operations Manager | | Reservation Telephone Cooperative | PO Box 68 | Parshall | ND | 58770-0068 |
| Ms. | Linda | Svihovec | County Auditor | | McKenzie County | 201 5th Street NW, PO Box 543 | Watford City | ND | 58854 |

| CTitle | First | Last | Title | Department | Agency | Address | City | State | Zip |
|---|---|---|---|---|---|---|---|---|---|
| Mr. | Dale | Patten | Chairman | County Commission | McKenzie County | 201 5th Street NW, PO Box 543 | Watford City | ND | 58854 |
| Mr. | Jeff | Herman | District Landman | | Petro Hunt, LLC | 400 East Broadway, Suite 414 | Bismarck | ND | 58502-0935 |
| Mr. | Mike | Lindsey | | | Petro Hunt, LLC | 401 East Broadway, Suite 414 | Bismarck | ND | 58502-0935 |

# Appendix C

# Agency Scoping Responses & Correspondence

**Petro Hunt, LLC**
**Drilling of Fort Berthold 152-94-15B-22-3H / Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H / Fort Berthold 152-94-22C-15-4H Oil & Gas Wells**

**List of Scoping Responses**

**Federal**
U.S. Department of the Army – Corps of Engineers, Garrison Dam/Lake Sakakawea Project
U.S. Department of the Army – Corps of Engineers, Omaha District
U.S. Department of the Army – Corps of Engineers, Omaha District, North Dakota Regulatory Office
U.S. Department of the Interior – Fish and Wildlife Service

**State**
North Dakota Department of Health
North Dakota Game and Fish Department

## Grady Wolf

**From:** Sorensen, Charles G NWO [Charles.G.Sorensen@usace.army.mil]
**Sent:** Tuesday, October 25, 2011 1:59 PM
**To:** grady.wolf@kljeng.com
**Cc:** Ames, Joel O NWO
**Subject:** Petro hunt LLC's Fort Berthold 152-94 15B-22-3H, Fort Berthold 152-94-15B-22-5& 6H/152-94-15A-22-7H, Fort Berthold152-94-22C-15-4H Well Pad locations. (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Thank you for letting the U.S. Army Corps of Engineers Garrison Dam/Lake Sakakawea Project comment on Petro hunt LLC's Fort Berthold 152-94 15B-22-3H, Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H, Fort Berthold152-94-22C-15-4H Well Pad locations. At this time the U.S. Army Corps of Engineers Garrison Dam/Lake Sakakawea Project request that Petro Hunt consideration and if possible the implementation of the following management practices during the exploration phase of those wells listed in the request letter

Due to the close proximity of the well location to major drainages and tributaries that direct their water runoff either through or into lands managed by the U.S. Army Corps of Engineers (USACE) there is a high risk that storm water runoff from the well locations will enter the Missouri River/Lake Sakakawea. As such the USACE would request that Petro hunt LLC's consider the construction/establishment of a impervious lined catch trench located on the down sloping side of the well pad to aide in containing any waste type fluids or materials from the well pad. Any fluids or solids that accumulate in the trench should be pumped out and disposed of properly.

As the proposed well sites are in close proximity to lands managed by the USACE, this agency is very concerned about the possibility for contamination of the Missouri River/Lake Sakakawea from possible oil well issues both during the exploration phase as well as the production phase of the well sites. As such the USACE would strongly recommend that a Closed Loop Drilling Method be used in the handling of all drilling fluids, as well as all solids, with all cuttings be removed from the well location and disposed of in an approved waste disposal site.

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

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

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

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

If possible, all construction activities should occur between August 15th and April 1st. If trees are present, the appropriate dates are August 15th - February 1st. By constructing

during these dates, disruptions to wildlife during the breeding season maybe kept to a minimum.

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

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

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

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

Classification: UNCLASSIFIED
Caveats: NONE

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

RECEIVED
NOV 01 2011

REPLY TO
ATTENTION OF

October 21, 2011

Planning, Programs, and Project Management Division

Kadrmas Lee & Jackson
Attention: Mr. Grady Wolf
128 Soo Line Drive
P.O. Box 1157
Bismarck, North Dakota 58502-1157

Dear Mr. Grady:

The U.S. Army Corps of Engineers, Omaha District (Corps) has reviewed your letter dated October 11, 2011, regarding the proposed development, drilling and completion of five oil and gas wells on three well pads located on the Fort Berthold Reservation in McKenzie County, North Dakota. The Corps offers the following comments:

The Corps is aware of recent reports that describe environmental impacts associated with the use of oil waste pits in North Dakota. Oil waste 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 requests the applicant consider using a closed loop drilling system. A 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 environmental assessment (EA) for oil and gas development on the Fort Berthold Reservation. The Corps requests QEP Energy 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.

Your plans should also 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.

If you have not already done so, it is recommended you consult with the U.S. Fish and Wildlife Service and the North Dakota Game and Fish Department regarding fish and wildlife resources. In addition, the North Dakota State Historic Preservation Office should be contacted for information and recommendations on potential cultural resources in the project area.

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Since the proposed project does not appear to be located within Corps owned or operated lands, we are providing no flood plain 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 flood plain 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

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 (https://www.nwo.usace.army.mil/html/od-r/district.htm) to determine if this project requires a 404 permit. For a detailed review of permit requirements, preliminary and final project plans should be sent to:

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

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

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

If you have any questions, please contact Mr. Shannon Sjolie of my staff at (402) 995-2887.

Sincerely,

Eric Laux
Acting Chief, Environmental Resources and Missouri River Recovery Program Plan Formulation Section

Copy Furnished:
CENWO-OD-R- ND/Cimarosti

**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

October 13, 2011

North Dakota Regulatory Office

RECEIVED
OCT 18 2011

Kadrmas, Lee and Jackson, Inc.
Attn: Grady Wolf, Environmental Planner
128 Soo Line Drive
PO Box 1157
Bismarck, North Dakota 58502-1157

Dear Mr. Wolf:

This is in response to your solicitation letter on behalf of **Petro Hunt LLC**, received on October 13, 2011 requesting Department of the Army (DA), United States Army Corps of Engineers (Corps) comments for the development of five oil and gas wells on three well pads within the Fort Berthold Indian Reservation. The proposed well pad and well locations are within McKenzie County, North Dakota.

| Well Pad | Surface Location | Number of Wells |
|---|---|---|
| **Fort Berthold 152-94-15B-22-3H** | **NW1/4 Section 15, Township 152 North, Range 94 West** | **1** |
| **Fort Berthold 152-94-15B-22-5&6/ 152-94-15A-22-7H** | **N1/2 Section 15, Township 152 North, Range 94 West** | **3** |
| **Fort Berthold 152-94-22C-15-4H** | **SW1/4 Section 22, Township 152 North, Range 94 West** | **1** |

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

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

Enclosed for your information is the fact sheet for Nationwide Permit 12, Utility Line Activities. Pipeline projects are already authorized by Nationwide Permit 12 **provided the utility line can be placed without any change to pre-construction contours and all other proposed construction activities and facilities are in compliance with the Nationwide's permit conditions and 401 Water Quality Certification is obtained.** Please note the pre-construction notification requirements on page 2 of the fact sheet. **If a project involves any one of the seven notification requirements, the project proponent must submit a DA application.** Furthermore, a project must also be in compliance with the "Regional Conditions for Nationwide Permits within the State of North Dakota", found on pages 12 and 13 of the fact sheet. [The following info is for activities on a reservation] Please be advised that the United

States Environmental Protection Agency (EPA), Region 8 has denied 401 Water Quality Certification for activities in perennial drainages and wetlands. Furthermore, EPA has placed conditions on activities in ephemeral and intermittent drainages. It is recommended you contact the U.S. Environmental Protection Agency, Region 8, Attn: Brent Truskowski, 1595 Wynkoop Street, Denver, Colorado 80202-1129 to review the conditions pursuant to Section 401 of the Clean Water Act prior to any construction.

Also enclosed for your information is the fact sheet for Nationwide Permit 14, Linear Transportation Projects. Road crossings are already authorized by Nationwide Permit 14 **provided the discharge does not cause the loss of greater than ½ acre of waters of the United States per crossing and all other proposed construction activities are in compliance with the Nationwide's permit conditions.** Please note the pre-construction notification requirements on the front page of the fact sheet. **If a project involves (1) the loss of waters of the United States exceeding 1/10 acre per crossing; or (2) there is a discharge in a special aquatic site, including wetlands, the project proponent must submit a DA application prior to the start of construction.** Please reference General Condition 27, Pre Construction Notification on page 8 of the fact sheet. Furthermore, a project must also be in compliance with the "Regional Conditions for Nationwide Permits within the State of North Dakota", found on pages 11 and 12 of the fact sheet. [The following is included for activities on a reservation] Enclosed is a copy of the United States Environmental Protection Agency, Region 8's; General Conditions for all Nationwide Permits and specific conditions for Nationwide Permit 14.

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

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

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

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

Sincerely,

Daniel E. Cimarosti

Daniel E. Cimarosti
Regulatory Program Manager
North Dakota

Enclosure
ENG Form 4345
Fact Sheet NWP 12 and 14
EPA 401 Conditions for Nationwide Permits
CF w/o encl
EPA Denver (Brent Truskowski)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

U.S. ARMY CORPS OF ENGINEERS

**APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT**

*(33 CFR 325)*

OMB APPROVAL NO. 0710-0003
EXPIRES: 31 AUGUST 2012

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

_____ _____
SIGNATURE OF APPLICANT DATE

**NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY**

12. PROJECT NAME OR TITLE (see instructions)

| 13. NAME OF WATERBODY, IF KNOWN (if applicable) | 14. PROJECT STREET ADDRESS (if applicable) |
|---|---|
| | Address |
| 15. LOCATION OF PROJECT | City - State- Zip- |
| 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<br>Amount in Cubic Yards | Type<br>Amount in Cubic Yards | Type<br>Amount in Cubic Yards |
|---|---|---|

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

Acres

or

Linear 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)

a. Address-

City - State - Zip -

b Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

26. List of Other Certificates 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 permit or permits to authorize the work described in this application. I certify that this 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.

FACT SHEET
NATIONWIDE PERMIT 12
(2007)

**UTILITY LINE ACTIVITIES**. Activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2 acre of waters of the United States.

**Utility lines**: This NWP authorizes the construction, maintenance, or repair of utility lines, including outfall and intake structures, and the associated excavation, backfill, or bedding for the utility lines, in all waters of the United States, provided there is no change in pre-construction contours. A "utility line" is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication. The term "utility line" does not include activities that drain a water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area.

Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain waters of the United States (e.g., backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.

**Utility line substations**: This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with a power line or utility line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not result in the loss of greater than 1/2 acre of waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities.

**Foundations for overhead utility line towers, poles, and anchors**: This NWP authorizes the construction or maintenance of foundations for overhead utility line towers, poles, and anchors in all waters of the United States, provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.

**Access roads**: This NWP authorizes the construction of access roads for the construction and maintenance of utility lines, including overhead power lines and utility line substations, in non-tidal waters of the United States, provided the total discharge from a single and complete project does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.

This NWP may authorize utility lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (See 33 CFR Part 322). Overhead utility lines constructed over section 10 waters and utility lines that are routed in or

under section 10 waters without a discharge of dredged or fill material require a section 10 permit.

This NWP also authorizes temporary structures, fills, and work necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

**Notification:** The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if any of the following criteria are met: (1) the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials. (Sections 10 and 404)

**Note 1:** Where the proposed utility line is constructed or installed in navigable waters of the United States (i.e., section 10 waters), copies of the pre-construction notification and NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation.

**Note 2:** Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work, accordance with the requirements for temporary fills.

**Note 3:** Pipes or pipelines used to transport gaseous, liquid, liquescent, or slurry substances over navigable waters of the United States are considered to be bridges, not utility lines, and may require a permit from the U.S Coast Guard pursuant to Section 9 of the Rivers and Harbors Act of 1899. However, any discharges of dredged or fill material into waters of the United States associated with such pipelines will require a section 404 permit (see NWP 15).

**General Conditions:** To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer.

1. **Navigation.** (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. **Aquatic Life Movements.** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

3. **Spawning Areas.** Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. **Migratory Bird Breeding Areas.** Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. **Shellfish Beds.** No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.

6. **Suitable Material.** No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. **Water Supply Intakes.** No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. **Adverse Effects From Impoundments.** If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. **Management of Water Flows.** To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. **Fills Within 100-Year Floodplains.** The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. **Equipment.** Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. **Soil Erosion and Sediment Controls.** Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

15. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

16. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

17. Endangered Species. (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical

habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at http://www.fws.gov/ and http://www.noaa.gov/fisheries.html respectively.

18. Historic Properties. (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

19. Designated Critical Resource Waters. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

20. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address

documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

21. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality. *Specifically in North Dakota, the North Dakota Department of Health has denied certification for projects under this Nationwide Permit proposed to cross all classified rivers, tributaries and lakes; individual certification for project in these waterways must be obtained by the project proponent prior to authorization under this Nationwide Permit. For utility line crossings of all other waters, the Department of Health has issued water quality certification provided the attached Construction and Environmental Disturbance Requirements are followed.*

22. Coastal Zone Management. *Not Applicable.*

23. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

24. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

25. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:
"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

(Transferee)

(Date)

26. Compliance Certification. Each permittee who received a NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

(a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;

(b) A statement that any required mitigation was completed in accordance with the permit conditions; and

(c) The signature of the permittee certifying the completion of the work and mitigation.

27. Pre-Construction Notification. *See attached pages.*

28. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project.

General Condition 27. Pre-Construction Notification.

(a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) Forty five calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);

(4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

(5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

(e) District Engineer's Decision: In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

# 2007 NATIONWIDE PERMITS
# REGIONAL CONDITIONS
# STATE OF NORTH DAKOTA
# OMAHA DISTRICT – CORPS OF ENGINEERS

The U.S. Army Corps of Engineers has adopted the following regional conditions for activities authorized by nationwide permits within the State of North Dakota. However, the pre-construction notification requirements defined below are not applicable to Nationwide Permit 47.

1. Wetlands Classified as Fens

All Nationwide Permits, with the exception of 3, 5, 20, 32, 38, 45, and 47, are revoked for use in fens in North Dakota. For nationwide permits 3, 5, 20, 32, 38, and 45 permittees must notify the Corps in accordance with General Condition 27 (Notification) prior to initiating any regulated activity impacting fens in North Dakota.

Fens are wetlands that develop where a relatively constant supply of ground water to the plant rooting zone maintains saturated conditions most of the time. The water chemistry of fens reflects the mineralogy of the surrounding and underlying soils and geological materials. The substrate is carbon-accumulating, ranging from muck to peat to carbonates. These wetlands may be acidic to alkaline, have pH ranging from 3.5 to 8.4 and support a range of vegetation types. Fens may occur on slopes, in depressions, or on flats (i.e., in different hydrogeomorphic classes; after: Brinson 1993).

2. Waters Adjacent to Natural Springs

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 27 (Notification) for regulated activities located within 100 feet of the water source in natural spring areas in North Dakota. For purposes of this condition, a spring source is defined as any location where there is artesian flow emanating from a distinct point at any time during the growing season. Springs do not include seeps and other groundwater discharge areas where there is no distinct point source.

3. Missouri River, including Lake Sakakawea and Lake Oahe within the State of North Dakota

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 27 (Notification) prior to initiating any regulated activity in the Missouri River, including Lake Sakakawea and Lake Oahe, within the State of North Dakota.

4. Historic Properties

That the permittee and/or the permittee's contractor, or any of the employees, subcontractors or other persons working in the performance of a contract(s) to complete the work authorized herein, shall cease work and report the discovery of any previously unknown historic or archeological remains to the North Dakota Regulatory Office. Notification shall be by telephone or fax within 24 hours of the discovery and in writing within 48 hours. Work shall not resume until the permittee is notified by the North Dakota Regulatory Office.

5. Spawning Condition

That no regulated activity within waters of the United States listed as Class III or higher on the 1978 Stream Evaluation Map for the State of North Dakota or on the North Dakota Game and Fish Department's website as a North Dakota Public Fishing Water shall occur between 15 April and 1 June. No regulated activity within the Red River of the North shall occur between 15 April and 1 July

## Additional Information

Permittees are reminded that General Condition No. 6 prohibits the use of unsuitable material. In addition, organic debris, some building waste, and materials excessive in fines are not suitable material.

Specific verbiage on prohibited materials and the 1978 Stream Evaluation Map for the State of North Dakota can be accessed on the North Dakota Regulatory Office's website at: https://www.nwo.usace.army.mil/html/od-rod/ndhome.htm

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, mush 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.

**FACT SHEET**
**NATIONWIDE PERMIT 14**
**(2007)**

**LINEAR TRANSPORTATION PROJECTS.** Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10 acre; or (2) there is a discharge in a special aquatic site, including wetlands. (Sections 10 and 404)

Note: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

**General Conditions:** To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer.

**1. Navigation.** (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. **Aquatic Life Movements.** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

3. **Spawning Areas.** Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. **Migratory Bird Breeding Areas.** Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. **Shellfish Beds**. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.

6. **Suitable Material.** No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. **Water Supply Intakes.** No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. **Adverse Effects From Impoundments.** If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. **Management of Water Flows.** To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. **Fills Within 100-Year Floodplains.** The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. **Equipment.** Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. **Soil Erosion and Sediment Controls.** Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

**13. Removal of Temporary Fills.** Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

**14. Proper Maintenance.** Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

**15. Wild and Scenic Rivers.** No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

**16. Tribal Rights.** No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

**17. Endangered Species.** (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical

habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at http://www.fws.gov/ and http://www.noaa.gov/fisheries.html respectively.

**18. Historic Properties.** (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

**19. Designated Critical Resource Waters.** Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

**20. Mitigation.** The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address

documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

**21. Water Quality.** Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality. *Specifically for North Dakota, the North Dakota Department of Health has issued water quality certification for projects under this Nationwide Permit provided the attached Construction and Environmental Disturbance Requirements are followed.*

**22. Coastal Zone Management.** *Not Applicable*

**23. Regional and Case-By-Case Conditions.** The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

**24. Use of Multiple Nationwide Permits.** The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

**25. Transfer of Nationwide Permit Verifications.** If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:
"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____

(Transferee)

(Date)

**26. Compliance Certification.** Each permittee who received a NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

(a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;

(b) A statement that any required mitigation was completed in accordance with the permit conditions; and

(c) The signature of the permittee certifying the completion of the work and mitigation.

**27. Pre-Construction Notification.** *See attached pages.*

**28. Single and Complete Project.** The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

**Further Information**

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

**General Condition 27. Pre-Construction Notification.**

(a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) Forty five calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330 5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);

(4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

(5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

(e) District Engineer's Decision: In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

# 2007 NATIONWIDE PERMITS
# REGIONAL CONDITIONS
# STATE OF NORTH DAKOTA
# OMAHA DISTRICT – CORPS OF ENGINEERS

The U.S Army Corps of Engineers has adopted the following regional conditions for activities authorized by nationwide permits within the State of North Dakota. However, the pre-construction notification requirements defined below are not applicable to Nationwide Permit 47.

**1. Wetlands Classified as Fens**

All Nationwide Permits, with the exception of 3, 5, 20, 32, 38, 45, and 47, are revoked for use in fens in North Dakota For nationwide permits 3, 5, 20, 32, 38, and 45 permittees must notify the Corps in accordance with General Condition 27 (Notification) prior to initiating any regulated activity impacting fens in North Dakota.

Fens are wetlands that develop where a relatively constant supply of ground water to the plant rooting zone maintains saturated conditions most of the time. The water chemistry of fens reflects the mineralogy of the surrounding and underlying soils and geological materials The substrate is carbon-accumulating, ranging from muck to peat to carbonates These wetlands may be acidic to alkaline, have pH ranging from 3.5 to 8 4 and support a range of vegetation types. Fens may occur on slopes, in depressions, or on flats (i.e., in different hydrogeomorphic classes, after: Brinson 1993).

**2. Waters Adjacent to Natural Springs**

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 27 (Notification) for regulated activities located within 100 feet of the water source in natural spring areas in North Dakota. For purposes of this condition, a spring source is defined as any location where there is artesian flow emanating from a distinct point at any time during the growing season Springs do not include seeps and other groundwater discharge areas where there is no distinct point source.

**3. Missouri River, including Lake Sakakawea and Lake Oahe within the State of North Dakota**

For all Nationwide Permits permittees must notify the Corps in accordance with General Condition No. 27 (Notification) prior to initiating any regulated activity in the Missouri River, including Lake Sakakawea and Lake Oahe, within the State of North Dakota.

**4. Historic Properties**

That the permittee and/or the permittee's contractor, or any of the employees, subcontractors or other persons working in the performance of a contract(s) to complete the work authorized herein, shall cease work and report the discovery of any previously unknown historic or archeological remains to the North Dakota Regulatory Office. Notification shall be by telephone or fax within 24 hours of the discovery and in writing within 48 hours. Work shall not resume until the permittee is notified by the North Dakota Regulatory Office.

**5. Spawning Condition**

That no regulated activity within waters of the United States listed as Class III or higher on the 1978 Stream Evaluation Map for the State of North Dakota or on the North Dakota Game and Fish Department's website as a North Dakota Public Fishing Water shall occur between 15 April and 1 June No regulated activity within the Red River of the North shall occur between 15 April and 1 July.

**Additional Information**

Permittees are reminded that General Condition No. 6 prohibits the use of unsuitable material. In addition, organic debris, some building waste, and materials excessive in fines are not suitable material.

Specific verbiage on prohibited materials and the 1978 Stream Evaluation Map for the State of North Dakota can be accessed on the North Dakota Regulatory Office's website at: https://www.nwo.usace.army.mil/html/od-rnd/ndhome.htm

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.

## Environmental Protection Agency, Region 8

## Water Quality Certification in Accordance with Section 401 of the Clean Water Act for the 2007 Nationwide Permits in Indian Country

May 11, 2007

These requirements apply to permitted activities occurring within "Indian country" as defined at 18 U.S.C. Section 1151, which includes lands located within formal Indian reservations as well as lands held in trust by the United States for Indian tribes and located outside the boundaries of formal Indian reservations. Please be aware that tribal trust lands located outside the boundaries of formal Indian reservations exist in Region 8.

### A. SPECIFIC NATIONWIDE PERMITS CWA Section 401 CERTIFICATION DENIED

USEPA Region 8 is denying CWA Section 401 certification on all waters for the following NWPs: # 16, # 17, # 21, # 33, # 34, # 44, # 45, # 46, # 47, # 49 and # 50. On NWPs that have been "denied" the EPA will review the proposed permit activity and issue a project-specific 401 Certification decision on each permit.

### B. GENERAL CONDITIONS FOR ALL NATIONWIDE PERMITS

1. Project proponent/contractor must have the following on-site:
   - a copy of the appropriate USEPA Regional 401 certification general and specific conditions contained in this certification;

   in addition, for NWP permits requiring a 401 certification application to USEPA:
   - the 401 certification application, and
   - EPA Region 8 CWA Section 401 certification document if applicable.

2. Certification is denied for any activity affecting fens and springs.
   *Note: EPA adopts the definitions of these aquatic resources as defined by the 2007 Regional Conditions, as defined by the published draft conditions.*

3. This certification does not authorize the placement or construction of septic/leach systems or other sewage/waste treatment plants in wetlands.

4. This certification does not authorize the construction of dams, except for stream restoration projects.

5. This certification does not authorize the construction of any portion of a facility for confined animal feeding operations, including, but not limited to, the construction of buildings, holding/detention and sewage lagoons, and/or livestock holding areas.

6. Wetland mitigation under these nationwide permits shall be completed prior to, or concurrent with, the project impacts. Wetland mitigation should be in-kind and on-site replacing native wetland plant communities lost from all project impacts. If the USACE

recommends a mitigation bank or in-lieu fee program and the permittee chooses to utilize the option of a mitigation bank or in-lieu fee program, the applicant must submit the name of the bank or program, and the number and type of credits to be purchased prior to project impacts.

7. For any general or specific nationwide permit conditions requiring notification in accordance with the Preconstruction Notification general condition #27 (72 Fed. Reg. 11092, 11195 (March 12, 2007)), "Agency Coordination" for project activities should include coordination with Native American Tribe or Tribes affected by such project activities.

8. Based on experience with invasive species, infestations of invasive plant species may result in increased erosion and/or pesticide applications, have the potential to reduce water quality, impact aquatic habitat, and impact designated water quality uses. This certification requires the use of certified weed-free hay/straw with any revegetation of project areas for activities authorized under these nationwide permits. This certification requires the use of seed that contain no noxious weed seed and meets certified seed quality. All seed must have a valid seed test within one year of the use date, from a seed analysis lab by a registered seed analyst (Association of Official Seed Analysts). The seed lab results shall show no more than 0.5 percent by weight of other weed seeds; and the seed lot shall contain no noxious, prohibited, or restricted weed seeds according to State seed laws in the respective State(s).

9. This certification requires monitoring for and control of invasive species during project construction if areas are disturbed and not immediately revegetated. This certificate requires monitoring for and immediate control of invasive species after project completion through at least one growing season. A maximum goal of less than 5% weed-species plants should be set, unless local, State, Tribal, or USACE rules, ordinances or permit conditions require more stringent monitoring and response.

10. Vegetation should be protected except where its removal is absolutely necessary for completion of the work. Applicant should revegetate disturbed soil in a manner that optimizes plant establishment for that specific site. Revegetation may include topsoil replacement, planting, seeding, fertilization, liming, and weed-free mulching as necessary. Applicant should use native material where appropriate and feasible. Where practical, stockpile weed-seed-free topsoil and replace it on disturbed areas. All cut and fill slopes that will not be protected with riprap should be revegetated with appropriate species to prevent erosion.

11. The following conditions apply when operating equipment or otherwise undertaking construction in a water of the U.S.

A. This certification requires all equipment to be inspected for oil, gas, diesel, anti-freeze, hydraulic fluid and other petroleum leaks. All such leaks will be properly repaired and equipment cleaned prior to being allowed on the project.

Leaks that occur after the equipment is moved to the project site will be fixed that same day or the next day or removed from the project area. The equipment is not allowed to continue operating once the leak is discovered.

B. Construction equipment should not be operated below the existing water surface except as follows:

a) Fording at one location is acceptable; however, vehicles should not push or pull material along bed or bank below the existing water level. Impacts from fording should be minimized.

b) Work below the waterline which is essential should be done in a manner to minimize impacts to the aquatic system and water quality.

C. All equipment that has been operated in waters of the US, with known invasive species infestation(s) is to be inspected and cleaned before entering waters of the U.S. for this permit. All equipment is to be inspected and cleaned after use.

12. Any temporary crossings, bridge supports, cofferdams or other structures that are necessary during the permit activity should be designed to handle high flows that can be anticipated during permit activity. All temporary structures should be completely removed from the waterbody at the conclusion of the permitted activity and the area restored to a natural appearance.

13. This certification does not authorize any unconfined discharge of liquid cement in waters of the United States. Grouting riprap must occur under dry conditions with no exposure of wet concrete to the waterbody.

14. All discharges must occur during the low flow or no flow period of the season

## C. ADDITIONAL CONDITIONS FOR SPECIFIC NATIONWIDE PERMITS

In addition to the general conditions for all Nationwide Permits, the following conditions are specific to each listed nationwide permit.

### Nationwide Permit 3. Maintenance Activities

A. For the repair of low water crossings, this certification is denied for discharges of any fill or dredged material that would result in an increase in land contour height beyond the original dimensions.

B. Silt and sediment removal associated with low water crossings shall be limited to a maximum of 50 linear feet.

C. Silt and sediment removal associated with bridge crossings shall be limited to a maximum of 100 linear feet.

### Nationwide Permit 4. Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities

This certification does not allow for the introduction of non-native flora or fauna.

### Nationwide Permit 7. Outfall Structures and Associated Intake Structures

For construction and maintenance activities:

A. Construction of the outfall structure shall be placed at the streambed elevation and, at a minimum; the pipeline should be oversized to prevent high-pressure discharge of stormwater.

B. Certification is denied for construction of the outfall structure in wetlands.

C. Controls shall be put in place to stabilize all areas of the bed and bank around and adjacent to the outfall structure and associated intake structures that may be affected by outfall or stream flows, respectively

D. This certification does not authorize structures for drainage activities that result in a loss of waters of the U.S , such as tile systems.

### Nationwide Permit 11. Temporary Recreational Structures

This certification does not allow for the introduction of non-native flora or fauna.

### Nationwide Permit 12. Utility Line Activities

A. Project proponent/contractor must have a copy of the 401 certification application and the EPA 2007 water-quality-certification-document on-site

B. Certification is denied for activities in perennial drainages and wetlands.

C. Certification is denied for all water intake structures.

D. Activities in ephemeral and intermittent drainages are certified with the following conditions:

a) Crossings must be placed as close to perpendicular to the watercourse as possible.

b) Affected streambanks must be sloped such that the stream bottom width is not reduced and bottom elevations are restored to original elevations.

c) Disturbed stream banks must be reconfigured to mimic a stable naturally vegetated portion of the same stream within ½ mile in either direction of the project and not reduce the bottom width of the stream. If a natural/native stream reach is not available within the adjacent reach, other natural portions of the drainage can serve as a reference condition.

E. USACE General Condition 20, Mitigation, (72 Fed. Reg. 11092, 11193-11194 (March 12, 2007)) requires permittees to avoid and minimize adverse effects to the maximum extent practicable on the project site. A statement or other evidence that General Condition 20 has been met should be submitted.

F. Applications for this NWP water quality 401 certification must include the following detailed information at a minimum and will serve as baseline certification conditions for the project.

a) Location and Wetland Map:
- Narrative describing both the location (i.e., Section, Township Range, and decimal Latitude/Longitude) of the proposed construction project, the affected waters/wetlands, and the type of utility line.
- An aerial photograph with wetland overlays must be provided with Ordinary High Water Mark delineated.

b) Waters of the U.S. Description:
- A description of the waterbody/wetlands including the dominant plant communities present in the wetlands or riparian areas
- On-site photographs of the site must be taken during the growing season to include a colored overlay line indicating the alignment of the pipeline across the waterbody/wetlands or other construction features.

c) Construction Description:
- A description of the methods by which the utility will be constructed on the site including (but not limited to) the trench size and depth, backfill materials (specifications), construction machinery to be used, cofferdam or road crossing specifications, and best

management practices to be implemented on-site (including invasives controls).

- Access roads must be constructed outside of waters /wetlands where alternatives are available.
- Proposed under drains (tile, french drains, etc.) must be described if proposed with the project.
- Details on pipeline corrosion protection methods must be provided.
- Where a positive gradient exits the wetlands such that drainage along the pipeline may occur, clay blocks, or another suitable method that will protect aquatic resources from inadvertent drainage, are required to prevent said wetland drainage.
- Site-specific cross-sectional drawings should be provided, including a drawing of the clay block or other method used to stop drainage.

d) Description of Impacts to Waters of the U.S.:

- A description of the amount (acreage and square feet) of disturbance/loss to waters of the U.S. (including wetlands) must be provided. Loss of waters includes both temporary and permanent impacts to wetlands resources from the construction project, including access roads.
- The length and width of the crossing and amount of impacts to the dominant plant communities must be provided
- All unavoidable temporary sidecasting of materials (dredge or fill material) in wetlands must be placed on landscaping fabric or a weed-free hay/straw layer to mark the existing wetlands elevation.

e) Mitigation and Restoration Plan:

- Where proposed construction of the utility results in the conversion of a wetland type (i.e., forested/shrub willow type) to an herbaceous wetland type (i.e., wet meadow type), mitigation of the shrub community must be accomplished on-site to restore designated uses.
- The top six to 12 inches must be backfilled with topsoil from the trench.
- Mitigation plans (including road design specifications to minimize adverse impacts to adjacent wetlands) for unavoidable impacts resulting from access roads must be provided.

Nationwide Permit 13, Bank Stabilization

A. For this certification to be valid, the use of root wads, tree trunks, planting of live vegetation, proper bank sloping or a combination thereof will be used as bank stabilization structures. Native plants shall be planted in all disturbed areas and artificial soil stabilizing material (e.g. mulch, matting, netting etc) shall be used to reduce soil erosion. These materials, to include all plants and plant seed

shall be on site or scheduled for delivery prior to or upon completion of the earth moving activities. Sediment control measures shall be maintained in good working order at all times.

*For the purpose of this condition, "proper sloping" is defined as configuring the disturbed bank to mimic a stable portion of the same stream within ½ mile in either direction of the project and not reduce the bottom width of the stream.*

B. If flow conditions dictate the use of hardened structures, only appropriately sized angular rock may be used. The use of soil cement, concrete, grouted riprap, etc. is NOT certified.

Nationwide Permit 14. Linear Transportation Projects

A. Stormwater resulting from both the construction and operation of these authorized projects (including runoff from bridge decks) must be routed into constructed runoff water quality control systems (e.g. sediment basins, wet ponds, etc.) in order to eliminate sediment and other pollutants prior to entry of stormwater into waters of the United States.

B. Affected streambanks must be sloped such that the steam bottom width is not reduced and bottom elevations are restored to original elevations.

C. Crossings must be placed as close to perpendicular to the watercourse as possible.

D. The upland and riparian areas adjacent to all sides of the crossing must be revegetated in all directions from the banks of the tributary with native vegetation that is common to the geographical area. Native plants shall be planted in all disturbed areas and artificial soil stabilizing material (e.g. mulch, matting, netting etc) shall be used to reduce soil erosion. These materials, to include all plants and plant seed shall be on site or scheduled for delivery prior to or upon completion of the earth moving activities.

Nationwide Permit 15. U.S. Coast Guard Approved Bridges

A. Stormwater resulting from both the construction and operation of these authorized projects (including runoff from bridge decks) must be routed into constructed runoff water quality control systems (e.g. sediment basins, wet ponds, etc.) in order to eliminate sediment and other pollutants prior to entry of stormwater into waters of the United States.

B. Affected streambanks must be sloped such that the steam bottom width is not reduced and bottom elevations are restored to original elevations.

C. Crossings must be placed as close to perpendicular to the watercourse as possible.

D. The upland and riparian areas adjacent to all sides of the crossing must be revegetated in all directions from the banks of the tributary with native vegetation that is common to the geographical area. Native plants shall be planted in all disturbed areas and artificial soil stabilizing material (e.g. mulch, matting, netting etc) shall be used to reduce soil erosion. These materials, to include all plants and plant seed shall be on site or scheduled for delivery prior to or upon completion of the earth moving activities.

E. Bridge decks should be designed such that they do not drain directly into the waterbody.

Nationwide Permit 16. Return Water From Upland Contained Disposal Areas.
Certification is denied.

Nationwide Permit 17. Hydropower Projects.
Certification is denied.

Nationwide Permit 19. Minor Dredging
A. Dredge or fill may not be placed on temporary islet, islands, sandbars, landmass or other area of sediment accumulation, within the banks of a stream, shore of lake, edge of wetland or other type of waterbody, unless the vegetation and geomorphology signify a long term stable configuration. (e.g. Areas of accumulation are not formed from temporary situations such as drought conditions or temporary upstream reservoir release conditions).

B. Dredge materials must be placed in an upland and controlled such that it cannot return to waters of the U.S.

Nationwide Permit 21. Surface Coal Mining Operations. Nationwide Permit 21. Surface Coal Mining Activities
Certification is denied.

Nationwide Permit 23. Approved Categorical Exclusions
This certification is valid only for Categorical Exclusions listed in RGL 05-07

Nationwide Permit 27. Aquatic Habitat Restoration, Establishment, and Enhancement Activities
A. This certification does not allow conversion of one habitat type to another (e.g. wetlands to open water, woody vegetation to herbaceous).

B. This certification does not allow for the introduction of non-native flora or fauna.

**Nationwide Permit 28. Modifications of Existing Marinas**

This certification does not allow for expansion.

**Nationwide Permit 29. Residential Developments**

A. Certification is denied for discharges into wetlands, intermittent or perennial drainages

B. Subdivisions not authorized under this certification.

C. USACE General Condition 20. Mitigation (72 Fed. Reg. 11092, 11193-11194 (March 12, 2007)) requires permittees to avoid and minimize adverse effects to the maximum extent practicable on the project site. Statement or other evidence that General Condition 20 has been met should be submitted.

**Nationwide Permit 30. Moist Soil Management for Wildlife**

This certification does not allow for the introduction of non-native flora or fauna

**Nationwide Permit 33. Temporary Construction, Access and Dewatering**

Certification is denied.

**Nationwide Permit 34. Cranberry Production Activities**

Certification is denied.

**Nationwide Permit 37. Emergency Watershed Protection and Rehabilitation**

A. In addition to the information specified in USACE General Condition 27 Preconstruction Notification (72 Fed. Reg. 11092, 11188 (March 12, 2007)), the notification to USEPA must include documentation that the work qualifies as an "emergency" situation and that immediate action will be taken if nationwide authorization is verified. In addition, notification must include:

a) A delineation of special aquatic sites;

b) Any spoil must be placed in an upland and contain [illegible] cannot return to waters of the U.S.; and

c) A delineation of riparian areas to be cleared and an analysis of alternatives to such clearing.

B. Certification is denied for discharges for which notification is submitted more than one year after the official conclusion of the emergency that caused the situation.

C. Certification is denied for channelization of streams or sloughs or for removal of silt beyond what was deposited by the emergency.

*Channelization is defined, for this purpose, as the placement of excess material in a manner that modifies the bank alignment, and subsequently the channel alignment, from its present condition.*

D. Certification is denied for a discharge of fill or dredged material into special aquatic sites if a practicable alternative that does not involve discharge into a special aquatic site is available. If discharge into a special aquatic site is unavoidable, discharge must be minimized.

E. The disturbing or clearing of riparian areas shall be minimized to enough space to provide equipment access.

F. Construction of temporary structures or works for the purpose of reducing or preventing flood damage is certified if the site is returned to pre-flood condition within 60 days following the emergency.

G. Repair of permanent structures damaged by floodwaters is certified to the extent that it returns the structure to pre-flood condition.

Nationwide Permit 38. Cleanup of Hazardous and Toxic Waste

For this certification to be valid, notification to USEPA and the Tribe is required

Nationwide Permit 39. Commercial and Institutional Developments

A. Certification is denied for discharges into wetlands, intermittent or perennial drainages.

B. Certification is denied for subdivisions

C. USACE General Condition 20. Mitigation, (72 Fed. Reg. 11092, 11193-11194 (March 12, 2007)) requires permittees to avoid and minimize adverse effects to the maximum extent practicable on the project site. Statement or other evidence that general condition 20 has been met should be submitted.

Nationwide Permit 40. Agricultural Activities

A. Certification is denied for the construction of new levees, ditches, or drainage activities.

B. Certification is denied for the construction of building pads causing the loss of greater than 1/10 acre of wetlands for both USDA program participants and non-participants.

C. Certification is denied for activities related to tile construction.

Nationwide Permit 41. Reshaping Existing Drainage Ditches

A. Clearing of riparian corridors must be limited to the minimum necessary for project construction. Clearing limits must be specified in the construction contract.

B. This certification does not authorize stream relocation projects.

Nationwide Permit 42. Recreation Facilities

A. Certification is denied for the construction of parking lots, golf course, golf course buildings, ponds and reservoirs, ski areas and ski infrastructures, race tracks, and amusement parks.

B. Certification is denied for discharges resulting in the loss of more than 100 linear feet of channel, streambank, and/or wetlands for a single and complete project.

C. Clearing of riparian corridors and wooded and scrub shrub areas must be limited to the minimum necessary for project construction. Clearing limits must be specified in the construction contract on a drawing and/or map, and in narrative format.

Nationwide Permit 43. Stormwater Management Facilities

Certification is denied for the construction of new stormwater management facilities.

Nationwide Permit 44. Mining Activities. Nationwide Permit 44. Mining Activities

Certification is denied

Nationwide Permit 45. Repair of Uplands Damaged by Discrete Events.

Certification is denied.

Nationwide Permit 46. Discharges in Ditches

Certification is denied.

Nationwide Permit 47. Pipeline Safety Program Designated Time Sensitive Inspections and Repairs

A. Certification is denied, unless there is imminent danger to human health or the health of the environment.

B. Notification and restoration should begin immediately after inspections and repairs are completed. After the fact, notification should be done as soon as possible and include documentation that the work done qualifies as an "emergency" situation and that immediate action was necessary

Nationwide Permit 49. Coal Remining Activities.

Certification is denied.

Nationwide Permit 50. Underground Coal Mining Activities

Certification is denied.

# APPLICATION CHECKLIST FOR COMPLETENESS
# 401 CERTIFICATIONS for USACE NWPs

1. Application date.
2. Applicant's full identity whether individual or corporate.
3. Applicant's full mailing address or addresses.
4. Signature of the legal applicant is required.
5. Telephone number and e-mail address (and FAX, if available) at which the applicant may be reached during normal business hours.
6. If the applicant is utilizing the services of a legal agent to apply for certification, items 2, 3, 4 and 5 will be also needed for this agent.
7. Full names and addresses of all property owners of the project.
8. Full names and addresses of all adjoining property owners to the project.
9. Overall project description and range of project. (This includes all phases of work.)
10. Purpose of the project (flood control, drainage improvement, erosion control, road construction, etc.).
11. Project dimensions (length, width, height) expressed in standard, commonly-used, units of measurement.
12. Site maps and engineering drawings for more complex projects are recommended. sketches may suffice for smaller or less complex projects. Maps or aerial photographs should be clear and readable. Aerial photographs should be marked with wetlands, waterbodies or high water mark and areas of activity marked.
13. Legal description of the project location (appropriate breakdown into Section(s), Township, Range and County sufficient to locate and define on topographic maps). The notification should also include locational information in decimal degree latitude and longitude.
14. General travel directions to the site.
15. Name or identity of the water body(s) that the project is expected to impact. If the stream is not permanent flow the applicant will need to include an evaluation by the Corps of Engineers that the water body is jurisdictional.
16. Specifically, state which NWP(s) the applicant is applying for from the USACE. Include measures of impact to waterbody (for example: acreage for surface water impacts, linear feet of bank, shoreline linear feet and acreage) for each NWP
17. A statement of the cubic yards of material or fill proposed to be placed below the ordinary high water mark within the watercourse, in a wetland, or other waterbody and a complete description as to the source and type of material or fill to be used
18. A complete description of all work initiated or completed prior to the application submission at this site and within the vicinity. If there has been recent work done by others, this should be noted also
19. As unavoidable losses to the aquatic resources (including streams and wetlands) must be mitigated, a detailed mitigation plan must be submitted where such losses will be incurred
20. Statement discussing the avoidance and minimization, a presumption of NWPs and required for individual permits.
21. Monitoring of site, including photograph of site from marked sites, photograph of site after work is complete
22. Complete copy of USACE application or Checklist (such as the PCN Checklist available from Southern Pacific Division), with supporting material.

# United States Department of the Interior

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

NOV - 1 2011

RECEIVED
NOV 02 2011

Mr. Grady Wolf, Environmental Planner
Kadrmas, Lee & Jackson
128 Soo Line Drive
PO Box 1157
Bismarck, North Dakota 58502-1157

Re: Petro-Hunt Five Proposed Wells on Three Pads, Fort Berthold Reservation, McKenzie County, North Dakota

Dear Mr. Wolf:

This is in response to your October 11, 2011, scoping letter and request for concurrence regarding five proposed oil and gas wells on three pads proposed to be drilled and completed by Petro-Hunt, LLC (Petro-Hunt) on the Fort Berthold Reservation, McKenzie County, North Dakota.

Specific locations for the proposed pads are:

**Fort Berthold 152-94-15B-22-3H (3H):** T. 152 N., R. 94 W., NW ¼ Section 15
**Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H(5&6H/7H):** T. 152 N., R. 94 W., N ½ Section 15
**Fort Berthold 152-94-22C-15-4H(4H):** T. 152 N., R. 94 W., SW ¼ Section 22

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

**Threatened and Endangered Species**

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

Your letter states that the 3H, 5&6H/7H and 4H proposed pads are located approximately 7.6, 7.8, and 8.9 stream-miles, respectively, from potential habitat for interior least tern, piping plover and pallid sturgeon. A setback distance of 1.0 stream-mile is believed to be adequate to contain most spills before product can reach the lake through draws and drainages. Additionally, Petro-Hunt has committed to the use of a closed-loop drilling system for 5&6H/7H. The Service believes that the absence of a reserve pit greatly reduces the potential of migration of fluids off the pad; additionally, the potential for leaching is minimized or eliminated, so risk to these species from contamination through drainage to the lake reduces the threat to an insignificant or discountable level. Therefore, the Service concurs with your "may affect, is not likely to adversely affect" determination for interior least tern, piping plover, pallid sturgeon and designated critical habitat for piping plover.

Your letter states that Petro-Hunt has committed to ceasing work on the proposed site if a whooping crane(s) is sighted within 1.0 mile of the project area and immediately contacting the Service. Work may resume in coordination with the Service after the bird(s) leaves. Additionally, per BIA requirements, all new power lines must be buried. Therefore, the Service concurs with your "may affect, is not likely to adversely affect" determination for whooping crane.

The Service acknowledges your no effect determination for black-footed ferret and gray wolf.

The Dakota skipper and Sprague's pipit are candidate species for listing under the ESA; therefore, an effects determination is not necessary for these species. No legal requirement exists to protect candidate species; however, it is within the spirit of the ESA to consider these species as having significant value and worth protecting. Although not required, Federal action agencies such as the BIA have the option of requesting a conference on any proposed action that may affect candidate species such as the Dakota skipper and Sprague's pipit.

**Migratory Birds**

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

- Construction will be completed outside of the migratory bird nesting season (Feb. 1-July 15). If construction cannot be completed outside of the migratory bird nesting season, Petro-Hunt will either:
    - Mow, maintain, or completely remove vegetation within the project area prior to and during the breeding season to deter migratory birds from nesting in the project area until construction is underway;

- If the project areas are not mowed and maintained as indicated above, pre-construction surveys for migratory birds and their nests will be conducted within 5 days prior to the initiation of construction activities. If birds or nests are discovered, the Service will be contacted for additional information on how to proceed.

**Bald and Golden Eagles**

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

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

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

Sincerely,

Jeffrey K. Towner

Jeffrey K. Towner
Field Supervisor
North Dakota Field Office

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

NORTH DAKOTA
DEPARTMENT of HEALTH

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

October 24, 2011

RECEIVED

Mr. Grady Wolf
Environmental Scientist
Kadrmas, Lee & Jackson, Inc.
P.O. Box 1157
Bismarck, ND 58502-1157

Re: Petro Hunt, LLC, Five Proposed Oil & Gas Wells on Three Well Pads
On the Fort Berthold Reservation, McKenzie County

Dear Mr. Wolf:

This department has reviewed the information concerning the above-referenced project submitted under date of October 11, 2011 with respect to possible environmental impacts.

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

1. Development of the production facilities and any access roads, 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. Aggregate to be used for road construction should not contain any erionite. Aggregate sources should be tested for erionite following guidelines found at www.ndhealth.gov/EHS/Erionite. For questions regarding erionite testing, please call Mark Dihle at 701-328-5188.

3. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent

spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.

4. Oil and gas related construction activities located within tribal boundaries 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.

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

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

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

Sincerely,

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

LDG:cc
Attach.
cc: Mark Dihle, Division of Air Quality

NORTH DAKOTA
DEPARTMENT of HEALTH

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

# Construction and Environmental Disturbance Requirements

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

## Soils

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

## Surface Waters

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

## Fill Material

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

"VARIETY IN HUNTING AND FISHING"

NORTH DAKOTA GAME AND FISH DEPARTMENT

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

RECEIVED
NOV 07 2011

November 4, 2011

Grady Wolf
Environmental Planner
Kadrmas, Lee & Jackson, Inc.
PO Box 1157
Bismarck, ND 58502-1157

Dear Mr. Wolf:

RE: Fort Berthold 152-94-15B-22-3H
Fort Berthold 152-94-15B-22-5&6H / 152-94-15A-22-7H
Fort Berthold 152-94-22C-15-4H

Petro Hunt, LLC is proposing five oil and gas well on three well pads on the Fort Berthold Reservation in McKenzie County, North Dakota.

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

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

Sincerely,

Greg Link
Chief
Conservation & Communication Division

js

# 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

TAKE PRIDE IN AMERICA

OCT 11 2011

IN REPLY REFER TO:
DESCRM
MC-208

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 six proposed oil well pads in McKenzie County, North Dakota. Approximately 191.3 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the areas depicted in the enclosed reports. One previously recorded archaeological site (32MZ2159) was revisited and two archaeological sites (32MZ2229, 32MZ2230) were located that may possess the quality of integrity and meet at least one of the criteria (36 CFR 60.4) for inclusion on the National Register of Historic Places. No properties were located which appear to qualify for protection under the American Indian Religious Freedom Act (42 USC 1996).

As the surface management agency, and as provided for in 36 CFR 800.5, we have reached a determination of **no historic properties affected** for these undertakings, as one of the well pad projects has been canceled and an access road has been rerouted to avoid the remaining archaeological site. The proposed undertakings, locations, and project dimensions are described in the following reports:

Macy, Jennifer N.

(2011a) Fort Berthold 152-94-15A-22-5H, Fort Berthold 152-94-15B-22-6H & Fort Berthold 152-94-15B-22-7H Triple Well Pad and Access Road: A Class III Cultural Resource Inventory, McKenzie County, North Dakota. KLJ Cultural Resources for Petro-Hunt, Denver. Ms. on file **(AAO-1884/FB/11)**

(2011b) Fort Berthold 152-94-13B-24-2H Well Pad: A Class III Cultural Resource Inventory, McKenzie County, North Dakota. KLJ Cultural Resources for Petro-Hunt, Denver. Ms. on file **(AAO-1884/FB/11)**

(2011c) Fort Berthold 152-93-19C-1H & Fort Berthold 152-93-19C-2H Dual Well Pad and Access Road: A Class III Cultural Resource Inventory, McKenzie County, North Dakota. KLJ Cultural Resources for Petro-Hunt, Denver. Ms. on file **(AAO-1884/FB/11)**

(2011d) Fort Berthold 152-94-11B-14-5H, Fort Berthold 152-94-11B-14-6H & Fort Berthold 152-94-11B-14-7H Triple Well Pad and Access Road: A Class III Cultural Resource Inventory, McKenzie County, North Dakota. KLJ Cultural Resources for Petro-Hunt, Bismarck. Ms. on file **(AAO-1884/FB/11)**

(2011e) Fort Berthold 152-94-14C-11-2H Well Pad Expansion: A Class III Cultural Resource Inventory, McKenzie County, North Dakota. KLJ Cultural Resources for Petro-Hunt, Denver. Ms. on file (**AAO-1620/FB/09**)

Mitchell, Mary
(2011) Fort Berthold 152-93-9B-10-7H: A Class III Cultural Resource Inventory, McKenzie County, North Dakota. KLJ Cultural Resources for Petro-Hunt, LLC, Bismarck. Ms. on file (**AAO-1884/FB/11**)

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

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

Sincerely,

ACTING Regional Director

Enclosures

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

# United States Department of the Interior

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

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
DESCRM
MC-208

NOV 16 2011

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

Dear Mr. Crows Breast:

We have considered the potential effects on cultural resources of two proposed oil well pads in McKenzie County, North Dakota. Approximately 42.6 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the areas depicted in the enclosed reports. No historic properties were located that appear to possess the quality of integrity and meet at least one of the criteria (36 CFR 60.4) for inclusion on the National Register of Historic Places. No properties were located which appear to qualify for protection under the American Indian Religious Freedom Act (42 USC 1996).

As the surface management agency, and as provided for in 36 CFR 800.5, we therefore have reached a determination of **no historic properties affected** for these undertakings. Catalogued as **BIA Case Number AAO-2015/FB/12**, the proposed undertakings, locations, and project dimensions are described in the following reports:

Macy, Jennifer N.
(2011a) Fort Berthold 152-94-15B-22-3H Well Pad and Access Road: A Class III Cultural Resource Inventory, McKenzie County, North Dakota. KLJ Cultural Resources for Petro-Hunt, Denver.

(2011b) Fort Berthold 152-94-22C-15-4H Well Pad and Access Road: A Class III Cultural Resource Inventory, McKenzie County, North Dakota. KLJ Cultural Resources for Petro-Hunt, Denver.

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,

Tim LaPointe

ACTING Regional Director

Enclosures

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

# Notice of Availability and Appeal Rights

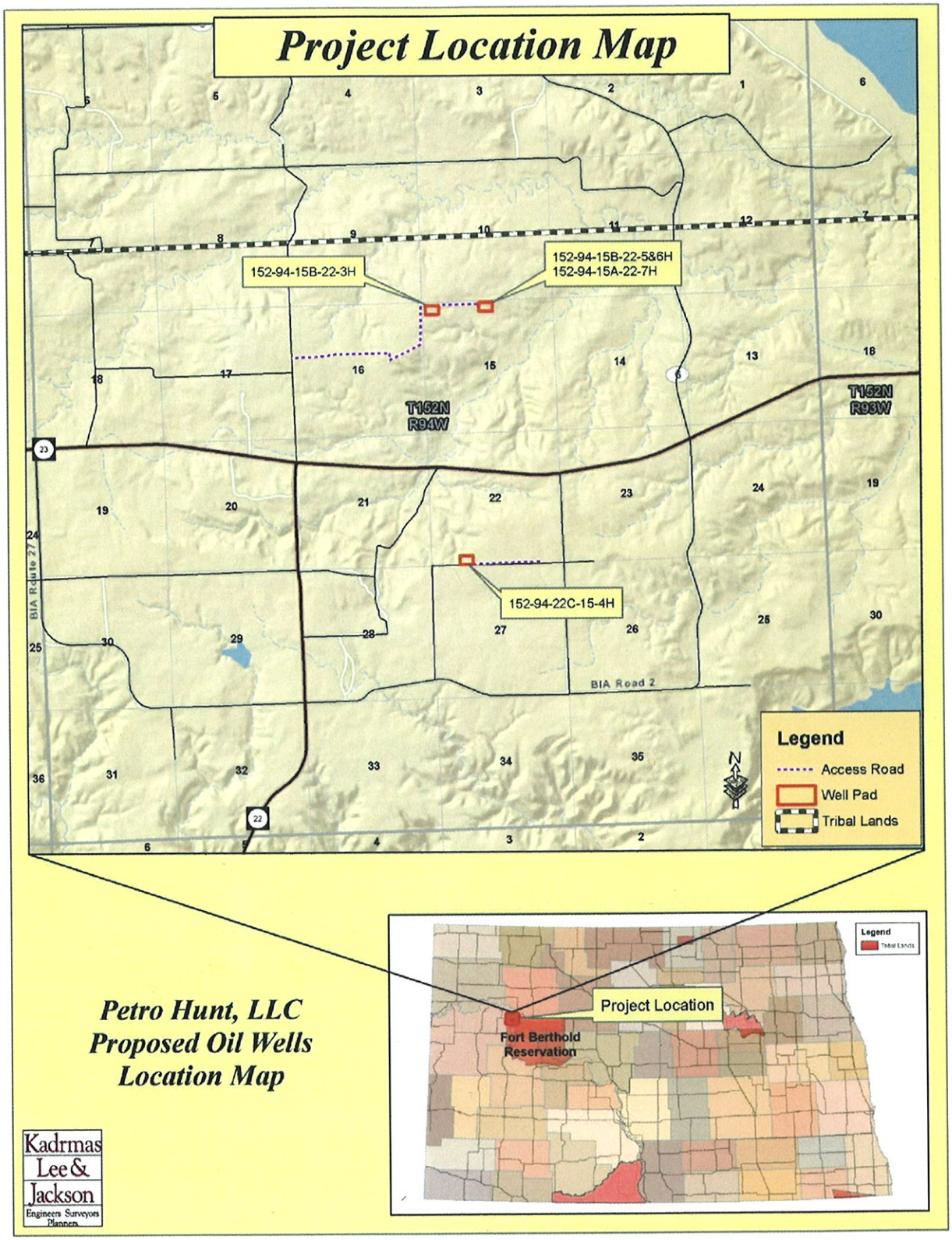
Petro-Hunt, LLC: Five Wells on Three Well Pads Consisting of Fort Berthold 152-94-15B-22-3H / Fort Berthold 152-94-15B-22-5&6H/152-94-15A-22-7H / Fort Berthold 152-94-22C-15-4H

**The Bureau of Indian Affairs (BIA) is planning to issue administrative approvals related to the drilling of five wells on three well pads on the Fort Berthold Reservation as shown on the attached map. Construction by Petro-Hunt 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 701-627-4707 for more information and/or copies of the EA and the Finding of No Significant Impact (FONSI).**

**The FONSI is only a finding on environmental impacts – it is not a decision to proceed with an action and *cannot* be appealed. BIA's decision to proceed with administrative actions *can* be appealed until May 1, 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 701-627-4707.**

**Project locations.**