



United States Department of the Interior

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



IN REPLY REFER TO:
DESCRM
MC-208

DEC 02 2011

MEMORANDUM

TO: Superintendent, Fort Berthold Agency

FROM: *Acting* Regional Director, Great Plains Region

SUBJECT: Environmental Assessment Addendum 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 for the expansion of the Mandaree 02-09H Well Pad (2 wells) and additional wells on the Mandaree 05-16H (1 well) and 12-07H well pads (1 well) on the Fort Berthold Reservation, an Environmental Assessment (EA) Addendum has been completed and a Finding of No Significant Impact (FONSI) has been issued.

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

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

Attachment

cc: Tex Hall, Chairman, Three Affiliated Tribes (with attachment)
Elgin Crows Breast, THPO (with attachment)
Derek Enderud, BLM, Dickinson, North Dakota (with attachment)
LB Myers, EOG Resources
John Shelman, US Army Corps of Engineers
Jeffrey Hunt, Fort Berthold Agency

**Finding of No Significant Impact
EOG Resources, Inc.**

**Addendum to Environmental Assessment to Authorize Land Use for
the Expansion of the Mandaree 02-09H Well Pad (2 wells) & Additional Wells on the
Mandaree 05-16H (1 well), & 12-07H Well Pads (1 well)**

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

The U.S. Bureau of Indian Affairs (BIA) has received a proposal for an Addendum to Environmental Assessment to Authorize Land Use for the Expansion of the Mandaree 02-09H Well Pad (2 wells) & Additional Wells on the Mandaree 05-16H (1 well), & 12-07H Well Pads (1 well) on the Fort Berthold Reservation. Associated federal actions by BIA include determinations of effect regarding cultural resources, approvals of leases, rights-of-way and easements, and a positive recommendation to the Bureau of Land Management regarding the Applications for Permit to Drill.

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

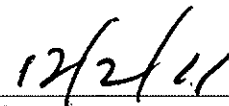
This determination is based on the following factors:

1. Agency and public involvement was solicited and environmental issues related to the proposal were identified.
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 alternative.
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 actions are 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 projects will improve the socio-economic condition of the affected Indian community.

Acting
Regional Director



Date



**ENVIRONMENTAL ASSESSMENT
Addendum**

United States Bureau of Indian Affairs

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



EOG Resources, Inc.

**Addendum to Environmental Assessment to Authorize Land Use for
the Expansion of the Mandaree 02-09H Well Pad (2 wells) & Additional Wells on the
Mandaree 05-16H (1 well), & 12-07H Well Pads (1 well)**

Fort Berthold Indian Reservation

December 2011

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

TABLE OF CONTENTS

	<u>Page</u>
.....	1
1. Purpose and Need for the Proposed Action.....	1
2. Authorities	1
3. Legal Land Description for Proposed Action.....	1
4. Scope of Work for Proposed Action.....	2
5. Surveys for Proposed Action.....	5
6. Potential Effects.....	6
7. Applicable NEPA Document(s).....	7
8. NEPA Adequacy Criteria.....	7

LIST OF FIGURES

Figure	Page
1 Map of the existing Mandaree 2-09H, Mandaree 05-16H, and Mandaree 12-07H well locations and the proposed Mandaree 15-07H, 103-1615H, 105-0910H, & 107-09H	Error! Bookmark not defined.

LIST OF APPENDICES

Appendix

- A Mandaree 2-09H, & 105-0910H, & 107-09H Well Pad Layout and Spacing Unit Plats
- B Mandaree 5-16H & 103-1615H Well Pad Layout and Spacing Unit Plats
- C Mandaree 12-07H & 15-07H Well Pad Layout and Spacing Unit Plats

1. Purpose and Need for the Proposed Action

EOG Resources, Inc. (EOG) proposes to drill up to four new oil and gas wells from three existing well pads in order to develop productive subsurface formations underlying oil and gas leases by EOG within the Fort Berthold Indian Reservation (Reservation). Assuming oil will be produced in paying quantities, production facilities would be installed at the referenced locations and commercial quantities of oil would be transported to market via trucks or pipelines. These developments have been proposed on lands held in trust by the United States in McKenzie County, North Dakota (Figure 1). The Bureau of Indian Affairs (BIA) is the surface management agency for potentially affected tribal lands and individual allotments. The BIA manages surface lands held in title by the tribe and tribal members and subsurface mineral rights associated with the surface ownership. The proposed wells would target specific areas of known oil reserves located in the Bakken or Three Forks formations.

The purpose of the proposed action is to authorize land use by EOG for construction activities associated with the pad expansion of the existing Mandaree 2-09H well pad. The proposed pad expansion is necessary in order to drill two additional wells (Mandaree 105-0910H & 107-09H) on the existing Mandaree 02-09H well pad. The proposed action also includes drilling a second well (Mandaree 103-1615H) on the existing Mandaree 05-16H well pad and drilling a second well (Mandaree 15-07H) on the existing Mandaree 12-07H well pad (Table 1).

2. Authorities

Oil and gas exploration and development activities are conducted under authority of the Indian Mineral Leasing Act of 1938 (25 United States Code [USC] 396a, et seq.), the Indian Mineral Development Act of 1982 (25 USC 2101, et seq.), and the Energy Policy Act of 2005 (42 USC 15801, et seq.).

3. Legal Land Description for Proposed Action

The Mandaree 2-09H pad is located approximately 3 northwest of Mandaree in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 09, Township (T) 149 North (N), Range (R) 94 West (W). The Mandaree 05-16H well pad is located 2 miles southwest of Mandaree, in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 16, T149N, R94W. The Mandaree 12-07H well pad is located 3.8 miles west of Mandaree, in the SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 07, T149N, R94W, 5th Prime Meridian (P.M.), McKenzie County, North Dakota (Figure 1). The proposed wells are listed in Table 1.

Table 1. Proposed Additional Wells.

Original Well Pad	Proposed Well	Surface Location	Bottom Hole Location
Mandaree #02-09H	Mandaree #105-0910H	NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 9, Township (T) 149 North (N), Range (R) 94 West (W); 408 feet FNL, 762 feet FWL	SE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 10, Township (T) 149 North (N), Range (R) 94 West (W); 200 feet FSL, 2400 feet FWL
Mandaree #02-09H	Mandaree #107-09H	NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 9, Township (T) 149 North (N), Range (R) 94 West (W); 458 feet FNL, 762 feet FWL	SE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 9, Township (T) 149 North (N), Range (R) 94 West (W); 200 feet FSL, 1800 feet FWL
Mandaree #12-07H	Mandaree #15-07H	SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 7, Township (T) 149 North (N), Range (R) 94 West (W); 560 feet FSL, 300 feet FEL	NW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 7, Township (T) 149 North (N), Range (R) 94 West (W); 200 feet FNL, 1800 feet FEL
Mandaree #05-16H	Mandaree #103-1615H	NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 16, Township (T) 149 North (N), Range (R) 94 West (W); 800 feet FNL, 760 feet FWL	SE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 15, Township (T) 149 North (N), Range (R) 94 West (W); 200 feet FSL, 2400 feet FWL

4. Scope of Work for Proposed Action

EOG proposes drilling a second well on the Mandaree 12-07H & Mandaree 5-16H well pads and expanding the existing Mandaree 2-09H well pad to accommodate drilling two additional wells. EOG also proposes to install underground utilities (electrical and fiber optic lines) to each well pad within the existing ROW as a result no new surface disturbance will occur as a part of the utilities installation.

Mandaree 12-07H & Mandaree 05-16H Well Pads

The existing Mandaree 12-07H & Mandaree 05-16H well pads will not be expanded and the additional well on each pad will be drilled within the confines of the previously disturbed and analyzed well pads.

Mandaree 2-09H Well Pad

The existing Mandaree 2-09H well pad is approximately 500 feet by 330 feet in size and totals approximately 4.3 acres. In order to drill two more wells on this location the existing well pad will be expanded approximately 60 feet to the south and will total approximately

*Addendum to Environmental Assessment to Authorize Land Use for the Expansion of the
Mandaree 02-09H Well Pad & Additional Wells on the Mandaree 05-16H & Mandaree 12-07H Well
Pads (November 2011)*

0.487 acres. The expanded well pad will now total approximately 4.5 acres. The original EA¹ described and analyzed 4.9 acres for the Mandaree 2-09H well pad however actual construction of the well pad only disturbed approximately 4.3 acres. As a result the total disturbance from the expanded pad still falls below the total amount originally analyzed in the EA. See Figure 1 and Appendix A for a project area map and detailed schematics of the proposed well pad expansion.

The pad expansion areas would be constructed to match the grade of the existing location and would be leveled by balancing cut and fill areas. Subsoil and the rock remaining from the new cuttings pit cut would be used to construct the location. Topsoil would be stored in a stockpile for use during reclamation. Diversion ditches or berms would be constructed, as needed, along the perimeter of the well pad to reduce potential erosion from on and off site runoff.

A temporary pit for drill cuttings would be constructed within the cut portion of the well pads; no drilling liquids would be stored in the pits. The pits would be constructed so as not to leak, break, or allow discharge and in a way that minimizes the accumulation of precipitation runoff into the pit. A pit liner would have permeability less than 10^{-7} centimeters per second and burst strength greater than or equal to 300 pounds per square inch (psi) or puncture strength greater than or equal to 160 psi and grab tensile strength greater than or equal to 150 psi. A liner would be resistant to deterioration by hydrocarbons and would not be installed directly on a rock surface. Where necessary, bedding materials, such as sand or geotextile fiber liner, would be installed to prevent contact with exposed rock.

Prior to drilling, the existing fences would be re-routed around the exterior of the expanded well pads to prevent ingress by livestock or wildlife as determined at pre-construction on-site meetings.

Site construction would follow design standards outlined in the Bureau of Land Management (BLM) Gold Book (BLM and U.S. Forest Service 2007²) and all other construction and drilling operations of the additional wells will follow the methods described in the referenced Environmental Assessment for the Bear Den 04-20H, 05-31H, & 07-17H wells.

Prior to drilling, the existing fences would be re-routed around the exterior of the expanded well pads to prevent ingress by livestock or wildlife as determined at pre-construction on-site meetings.

Multiple underground pipelines including natural gas, oil, and water gathering lines from wells would be installed in the existing access road ROW. Gathering lines would be connected to trunk lines approved under other NEPA documents. All pipelines are clearly

¹ US Department of the Interior FONSI EOG Resources, Inc. Proposed Nine Exploratory Wells: Mandaree 02-09H, Mandaree 04-15H, Mandaree 05-16H, Mandaree 06-20H, Mandaree 12-07H, Bear Den 08-21H, Clarks Creek 01-21H, Clarks Creek 03-08H, and Riverview 01-32H 1H (January 2010).

² Bureau of Land Management and U.S. Forest Service
2007 Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development.
BLM/WO/ST-06/021+3071/REV 07. Bureau of Land Management. Denver, Colorado. 84 pp.

marked following the U.S. Department of Transportation's (USDOT's) rules and regulations, 49 CFR Parts 192 and 195. Markers would be placed within 1,000 feet of one another, at all public road crossings, railroad crossings, creek crossings, fence crossings, and at all points of major direction change.

Gathering lines are designed and sized to prevent erosion—which is an internal pipe condition caused by excessive abrasion of fine particles in the pipeline system or by excessive velocity of the transported product—by a safety factor of approximately two. Based on these criteria, the oil and gas pipelines would be steel and 12 inches or less in diameter and the water pipelines would be Fiberspar and 6 inches or less in diameter. The gathering lines would be coated with between 14 and 16 millimeters of fusion bonded epoxy, which helps protect the pipelines against corrosive elements in the soil. Field joints are also protected by shrink sleeves. Specialty coatings are also used, as applicable, for underground fittings and bore crossings, to provide additional levels of protection from leakage or corrosion. The coating and shrink sleeves are inspected thoroughly at the time of installation, both visually and electronically.

To prevent potential erosion or rupturing of the pipeline within critical areas near Lake Sakakawea or in drainages, the placement and bore depth of gathering lines is designed based on soil types in the area and surface drainage area within the vicinity of the bore. Gathering lines will be bored underneath drainages at a minimum depth of 8 feet. Additionally, bore pipes will be coated with specialty abrasion-resistant coating that provides substantial protection on the off chance that large erosion or flooding events occur.

Pipelines are also equipped with check valves and manual valves between the trunk line and gathering line, or lateral line, which provide connections to help limit the volume of potential spills. A Spill Response Plan (Plan) for pipeline construction and operation activities has been developed and will be followed by EOG and the pipeline installation company. The Plan includes spill preventative measures and monitoring protocols, notification procedures, spill detection and on-scene spill mitigation procedures, response activities, contacts, training and drill procedures, and response plan review and update procedures. EOG and the pipeline installation company are committed to adhering to the Plan as well as the procedures and requirements set forth by federal law (49 CFR Part 194).

Following installation of the gathering lines, the lines will be cleaned and inspected via internal tools (e.g., cleaning pigs and smart pigs), which helps to identify issues in the pipes. Hydrostatic testing is conducted to ensure that there is no leakage of the pipe. A cathodic survey using test stations, rectifier pads, and other means designed by cathodic protection specialists is also conducted. Any stress or damage issues identified in the pipelines can be quickly identified and remedied prior to backfill. Throughout the life of the gathering lines, an appropriate amount of cathodic active current is placed on pipeline segments and monitored in accordance with the strict pipeline safety requirements set forth in the USDOT's rules and regulations. In order to assure the quality of the installation and the effectiveness of its corrosion control systems, pig launchers and receivers are also installed on the trunk lines and primary laterals to identify pipeline conditions both internally and externally, in order to maintain the integrity. Following trench backfilling and compaction, disturbed areas would be restored to the original land contour and the subsoil on the working side of the ROW and

other work areas would be ripped to alleviate compaction. Topsoil would be redistributed over the ROW and graded and erosion control measures would be installed as appropriate. Replaced topsoil would be left in a roughened condition to discourage erosion and additional stabilization techniques may be required on steeper slopes, in areas that have highly erodible soils, and in areas adjacent to, or within, drainages. No unnatural depressions would be left that would trap water or form ponds; the trench would be compacted at 1- to 2-foot lifts to avoid subsidence. In no instance would the ROW or expanded work areas be lower than the natural grade.

No reclamation work would be completed when soils are frozen or overly wet and no depressions would be left to trap water or form ponds. If construction is stopped before interim reclamation can be completed due to winter weather conditions, the topsoil will be respread over the ROW after the trench is backfilled and matting or straw will be placed over the all bare ground as a barrier to aid in the prevention of subsidence. If construction is planned for winter months, the trench will be partially filled with useable, non-frozen, backfill soil to the extent possible. The trench would be backfilled and the topsoil distributed as soon as practicable after the soil has defrosted. Topsoil piles would be covered to eliminate the potential for rill erosion and subsequent loss of soil during spring snow melt and precipitation events

Final reclamation would occur when the pipeline is decommissioned. All facilities would be removed and disturbed areas would be reclaimed. Work areas would be leveled or backfilled as necessary, scarified, recontoured, and seeded. It is economically and environmentally unfeasible to excavate and remove the decommissioned pipeline. Instead it would be purged with water of any natural gas remaining in the lines and abandoned in place.

5. Surveys for Proposed Action

SWCA Environmental Consultants (SWCA) conducted a cultural resource inventory of the Mandaree 05-16H and Mandaree 12-07H well pads and associated access roads using an intensive pedestrian methodology. Approximately 20.09 acres were inventoried for the Mandaree 05-16H well pad on September 22, 2009 (Higgins 2009³) and approximately 13.03 acres were inventoried for the Mandaree 12-07H well pad on September 23, 2009 (Higgins 2009⁴). No cultural resources were observed during the course of the inventory.

SWCA conducted natural resource surveys for threatened and endangered species, migratory birds, bald and golden eagles, and wetlands for the Mandaree 05-16H on September 22, 2009 and for the Mandaree 12-07H on September 23, 2009. Representatives from the BIA and Bureau of Land Management were present during the site visit. No protected species were observed during the survey.

SWCA Environmental Consultants (SWCA) conducted natural resource surveys for threatened and endangered species, migratory birds, bald and golden eagles, and wetlands on

³ Higgins, Courtney 2009. A Class I and Class III Cultural Resource Inventory of the EOG Resources, Inc. Mandaree 05-16H Well Pad and Access Road, Fort Berthold Indian Reservation, McKenzie County, North Dakota (November 17, 2009).

⁴ Higgins, Courtney 2009. A Class I and Class III Cultural Resource Inventory of the EOG Resources, Inc. Mandaree 12-07H Well Pad and Access Road, Fort Berthold Indian Reservation, McKenzie County, North Dakota (November 17, 2009).

June 16 and August 10, 2011. BIA Environmental Specialist, Jeff Desjarlais, and BLM Natural Resource Specialist, Dan Velder, approved the proposed area of well pad expansion. No protected species were observed during the survey. EOG proposes to mow the area of expansion for the Mandaree 02-09H well pad or conduct migratory bird surveys within 5 days of initiating construction if construction is to occur between February 1 and July 15th. Mowing would occur outside the February 1 to July 15 nesting season.

A cultural resource inventory of the Mandaree 02-09H well pad expansion was conducted by personnel of SWCA Environmental Consultants, using an intensive pedestrian methodology. Approximately 1.6 acres were inventoried on June 16, 2011 (Zietz and Baer 2011). Two archaeological sites were located that may possess the quality of integrity and meet at least one of the criteria (36 CFR 60.6) for inclusion on the National Register. As the lead federal agency, and as provided for in 36 CFR 800.5, on the basis of the information provided, BIA reached a determination of no historic properties affected for this undertaking, as the archaeological sites are outside the project Area of Potential Effect. This determination was communicated to the THPO on August 25, 2011; however the THPO did not respond within the allotted 30 day comment period.

SWCA Environmental Consultants (SWCA) conducted a cultural resource inventory of the original Mandaree 02-09H well pad and associated access roads using an intensive pedestrian methodology. Approximately 23.6 acres were inventoried on October 14 & 22, 2009 (Higgins 2009⁵) No cultural resources were observed during the course of the inventory

6. Potential Effects

Potential impacts to cultural resource sites would occur as a result of direct disturbance and/or the loss of sites eligible for the National Register of Historic Places. Further, potential impacts to natural resources may include the loss of native vegetation and wildlife habitats; soil removal and mixing; and erosion during construction. However, potential impacts as a result of the proposed action were mitigated via field survey and subsequent avoidance of any eligible cultural resource sites within the proposed pad expansion, implementing erosion control features, completing reclamation of the disturbed areas with native grasses and other appropriate native vegetation, and stockpiling and re-using topsoil for reclamation. The proposed action would maintain a single access and single pad for the four producing wells. Optimizing a multi-well pad design minimizes the overall land use impacts compared to the disturbance from multiple well pads and access roads.

Potential indirect impacts to natural resources include noise and other disturbances to wildlife during construction and the introduction of noxious weeds. Impacts would be mitigated through avoidance of any federally listed threatened or endangered species or wetlands, avoidance of nesting migratory birds, implementing best management practices to control the introduction of noxious weeds, and minimizing the length of time between construction and reclamation. These mitigation measures are consistent with the previously approved National

⁵ Higgins, Courtney 2009. A Class I and Class III Cultural Resource Inventory of the EOG Resources, Inc. Mandaree 05-16H Well Pad and Access Road, Fort Berthold Indian Reservation, McKenzie County, North Dakota (November 17, 2009).

Environmental Policy Act (NEPA) EA document for the Mandaree 02-09H, 05-16H, & 12-07H well pads, which received a Finding of No Significant Impact in January 2010.

Based on resource survey findings, the supplementary assessment of the potential impacts of the proposed action, and the mitigation measures committed to by EOG, no significant impacts to natural and cultural resources are anticipated.

7. Applicable NEPA Document(s)

Environmental Assessment: *EOG Resources, Inc. Proposed Nine Exploratory Wells: Mandaree 02-09H, Mandaree 04-15H, Mandaree 05-16H, Mandaree 06-20H, Mandaree 12-07H, Bear Den 08-21H, Clarks Creek 01-21H, Clarks Creek 03-08H, and Riverview 01-32H 1H (January 2010).*

8. NEPA Adequacy Criteria

This document has identified a previously prepared NEPA document, *EOG Resources, Inc. Proposed Nine Exploratory Wells: Mandaree 02-09H, Mandaree 04-15H, Mandaree 05-16H, Mandaree 06-20H, Mandaree 12-07H, Bear Den 08-21H, Clarks Creek 01-21H, Clarks Creek 03-08H, and Riverview 01-32H 1H (January 2010)*, which adequately describes the environmental consequences of the newly proposed action described herein, and meets the following NEPA Adequacy Criteria.

1. The proposed action is substantially the same action and at the site specifically analyzed in the existing NEPA document.
2. The range of alternatives is reasonable with respect to the current proposed action in the existing NEPA document, which appropriately considers and analyzes current environmental concerns, interests, and resource values.
3. The existing analysis and conclusions are adequate in the existing NEPA document. The analysis is still valid in light of new studies or resource assessment information.
4. The methodology and analytical approach used in the existing NEPA document continues to be appropriate for the proposed action.
5. The direct and indirect impacts of the proposed action are unchanged from those identified in the existing NEPA document.
6. The cumulative impacts that would result from implementation of the proposed action are unchanged from those analyzed in the existing NEPA document.
7. A 30-day comment period involving public input and interagency review was used in the development of the existing NEPA document.

Addendum to Environmental Assessment to Authorize Land Use for the Expansion of the Mandaree 02-09H Well Pad & Additional Wells on the Mandaree 05-16H & Mandaree 12-07H Well Pads (November 2011)

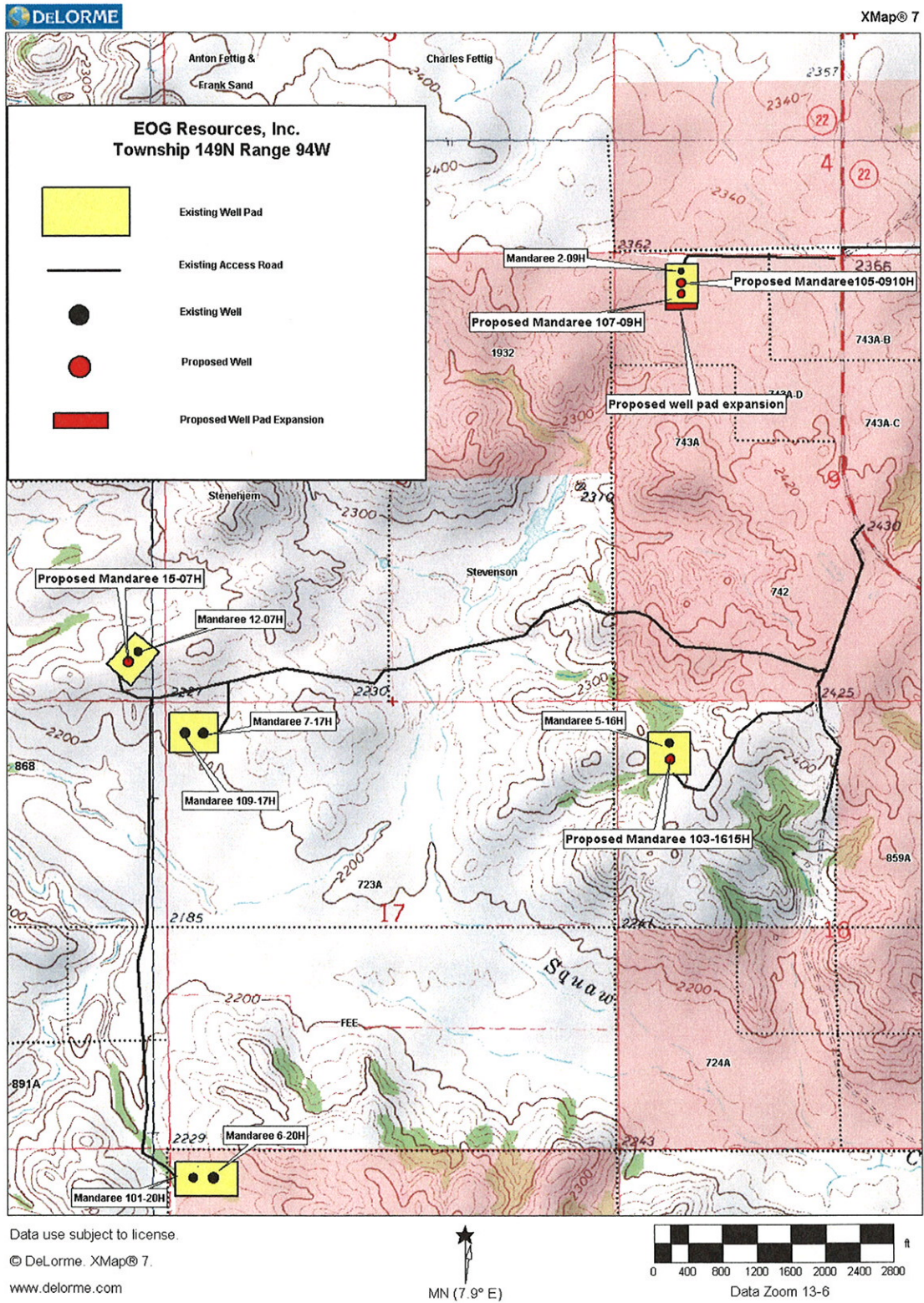


Figure 1. Mandaree 2-09H, Mandaree 5-16H, & Mandaree 12-07H well pad locations

Addendum to Environmental Assessment to Authorize Land Use for the Expansion of the Mandaree 02-09H Well Pad & Additional Wells on the Mandaree 05-16H & Mandaree 12-07H Well Pads (November 2011)



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



AUG 25 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 an oil well pad expansion project in McKenzie County, North Dakota. Approximately 1.6 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the area depicted in the enclosed report. Two new archaeological sites (32MZ2217, 32MZ2218) were located which 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 that appear to qualify for protection under the American Indian Religious Freedom Act (42 USC 1996).

As the surface management agency, and as provided for in 36 CFR 800.5, we have therefore reached a determination of **no historic properties affected** for this undertaking, as the archaeological sites are outside of the project area of potential effect. Catalogued as BIA Case Number AAO-1716/FB/10, the proposed undertaking, location, and project dimensions are described in the following report:

Zietz, Vanesa, and Sarah Baer
(2011) A Class I and Class III Cultural Resource Inventory of the EOG Mandaree #02-09H Well Pad Expansion to Accommodate the Construction of the Mandaree #105-0910H and #107-09H Wells, Fort Berthold Indian Reservation, McKenzie County, North Dakota. SWCA Environmental Consultants for EOG Resources, Inc., Denver, CO.

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

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

Sincerely,

Regional Director

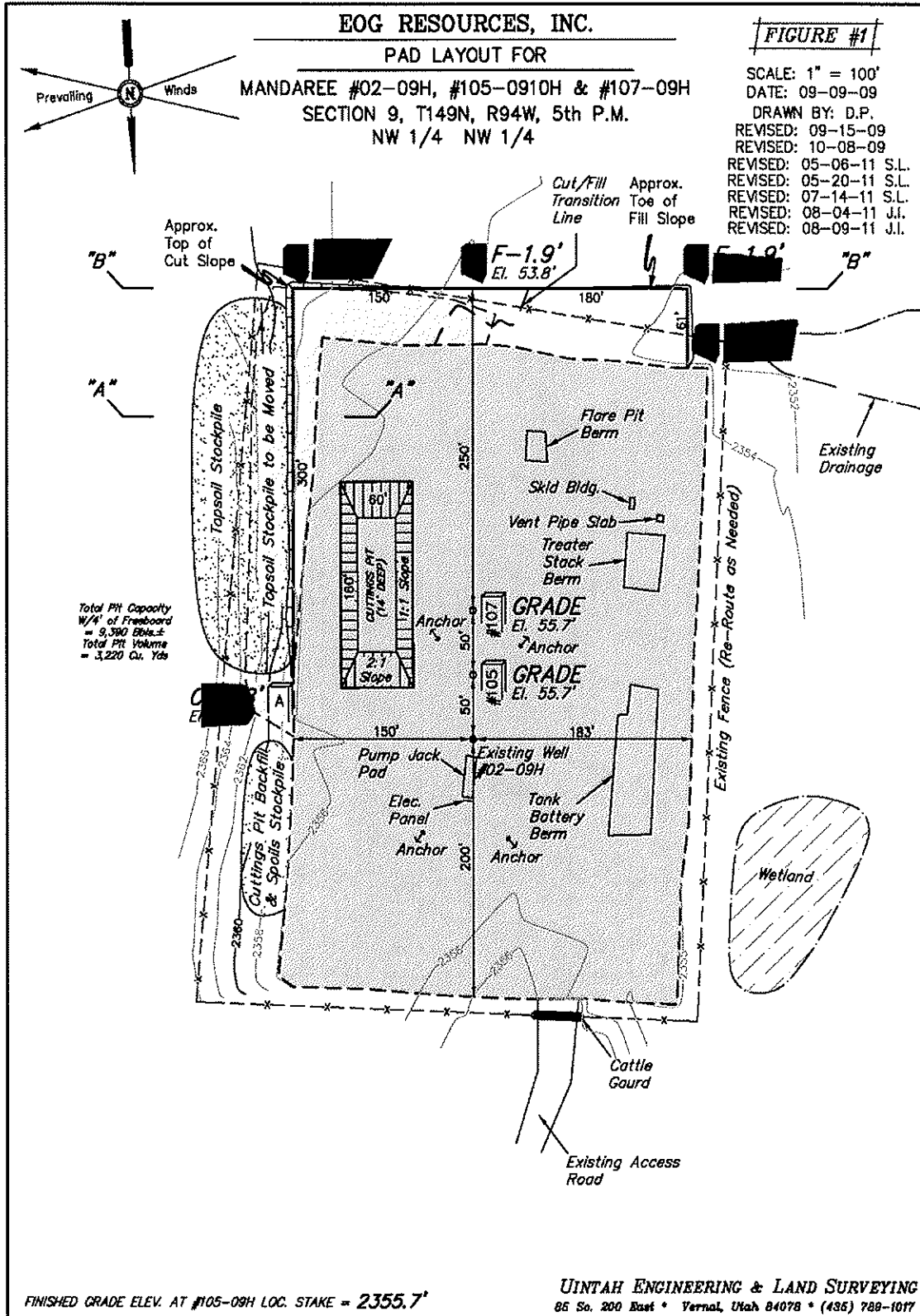
Enclosure

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

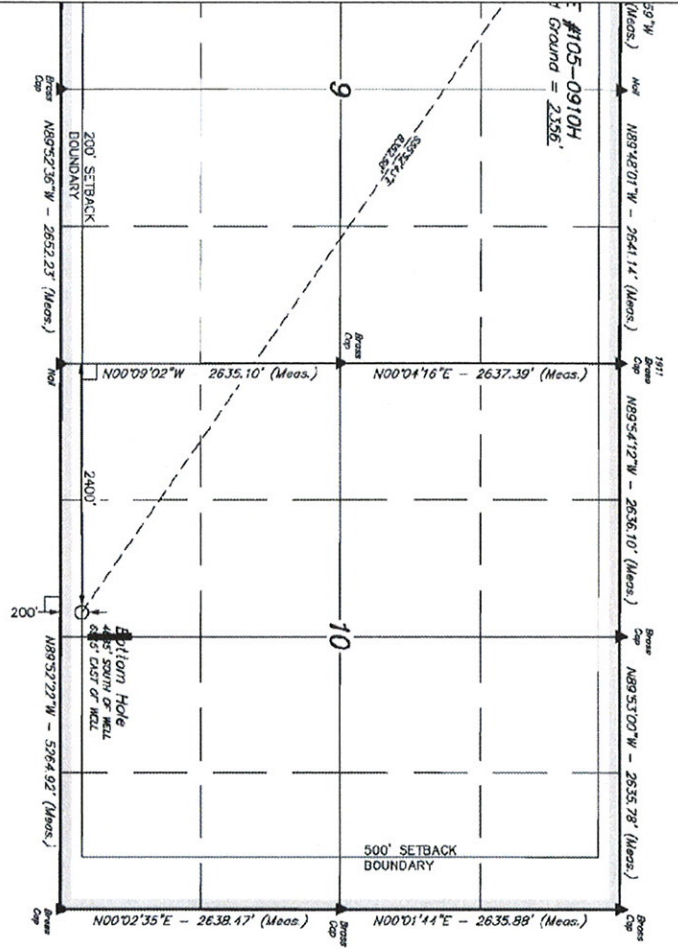
APPENDIX A

**Mandaree 02-09H, 105-0910H, & 107-09H
Well Pad Layout and Spacing Unit Plats**

Addendum to Environmental Assessment to Authorize Land Use for the Expansion of the Mandaree 02-09H Well Pad & Additional Wells on the Mandaree 05-16H & Mandaree 12-07H Well Pads (November 2011)



Addendum to Environmental Assessment to Authorize Land Use for the Expansion of the Mandaree 02-09H Well Pad & Additional Wells on the Mandaree 05-16H & Mandaree 12-07H Well Pads (November 2011)



NO 21 (TARGET BOTTOM HOLE)	LATITUDE = 47°43'56.81" (47.732445)	LONGITUDE = 102°41'44.82" (102.697200)
NO 27 (TARGET BOTTOM HOLE)	LATITUDE = 47°43'56.81" (47.732445)	LONGITUDE = 102°41'44.82" (102.697200)
NO 21 (SURFACE LOCATION)	LATITUDE = 47°44'42.06" (47.745017)	LONGITUDE = 102°41'44.82" (102.725339)
NO 27 (SURFACE LOCATION)	LATITUDE = 47°44'42.06" (47.745017)	LONGITUDE = 102°41'44.82" (102.725339)

UTAH ENGINEER
 86 SOUTH 200 EAST
 (435)
 SCALE 1" = 1000'
 PARTY G.R. D.F. S.L.
 WEATHER WARM

REV: 08.04.11 J.L.



I HEREBY CERTIFY THAT THE FOREGOING SURVEY WAS PERFORMED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF NORTH DAKOTA.



VERTICAL CO

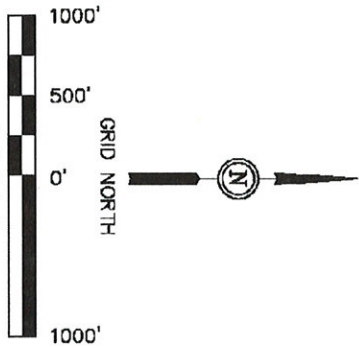
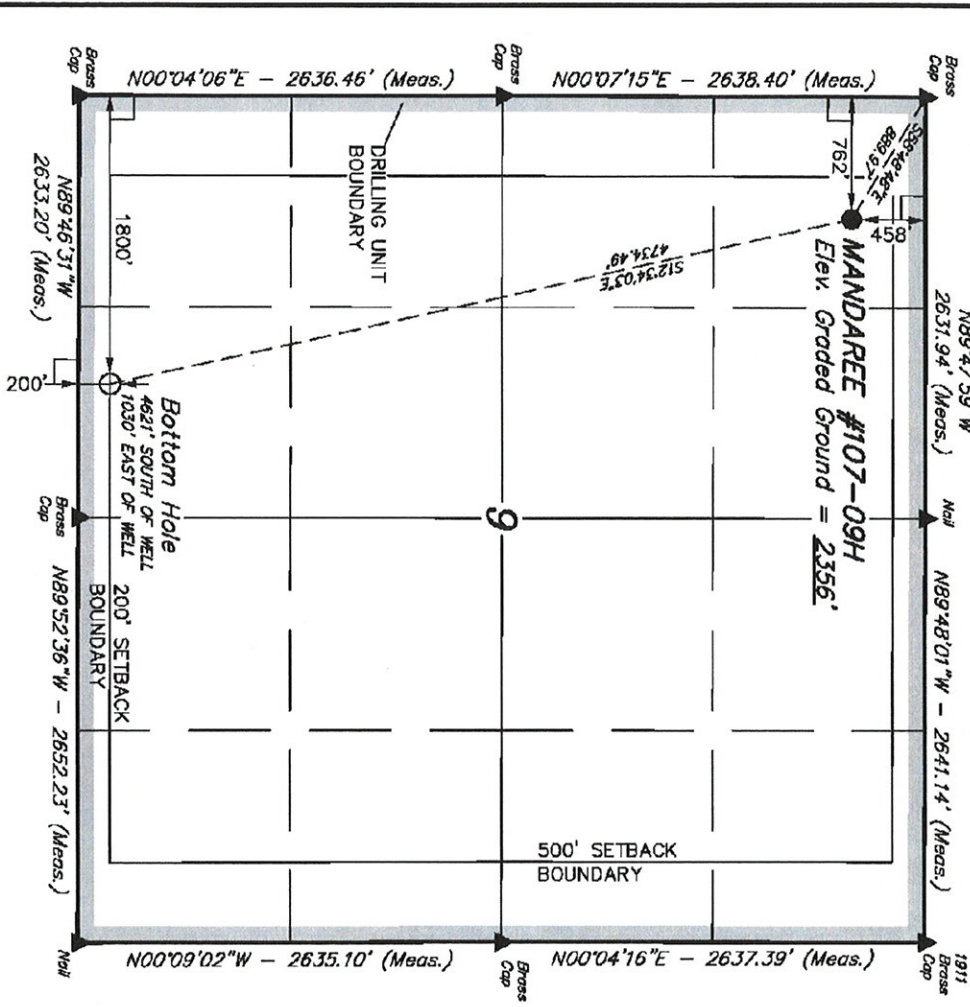
Addendum to Environmental Assessment to Authorize Land Use for the Expansion of the Mandaree 02-09H Well Pad & Additional Wells on the Mandaree 05-16H & Mandaree 12-07H Well Pads (November 2011)

WELL LOCATION PLAT T149N, R94W, 5th P.M.

EOG RESOURCES, INC.

Well location, MANDAREE #107-09H, located as shown in the NW 1/4 NW 1/4 of Section 9, T149N, R94W, 5th P.M., McKenzie County, North Dakota.

VERTICAL CONTROL DATUM: NAVD88



I HEREBY CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS WORK PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



Troy Jensen
REGISTERED LAND SURVEYOR
REGISTRATION NO. 4654
STATE OF NORTH DAKOTA

REVISED: 07-14-11 S.L.
REVISED: 05-09-11 S.L.
REVISED: 10-08-09
REVISED: 09-15-09

UNITAH ENGINEERING & LAND SURVEYING
85 SOUTH 200 EAST - VERNAL, UTAH 84078
(435) 789-1017

LEGEND:	
—	= 90° SYMBOL
●	= PROPOSED WELL HEAD.
▲	= SECTION CORNERS LOCATED.

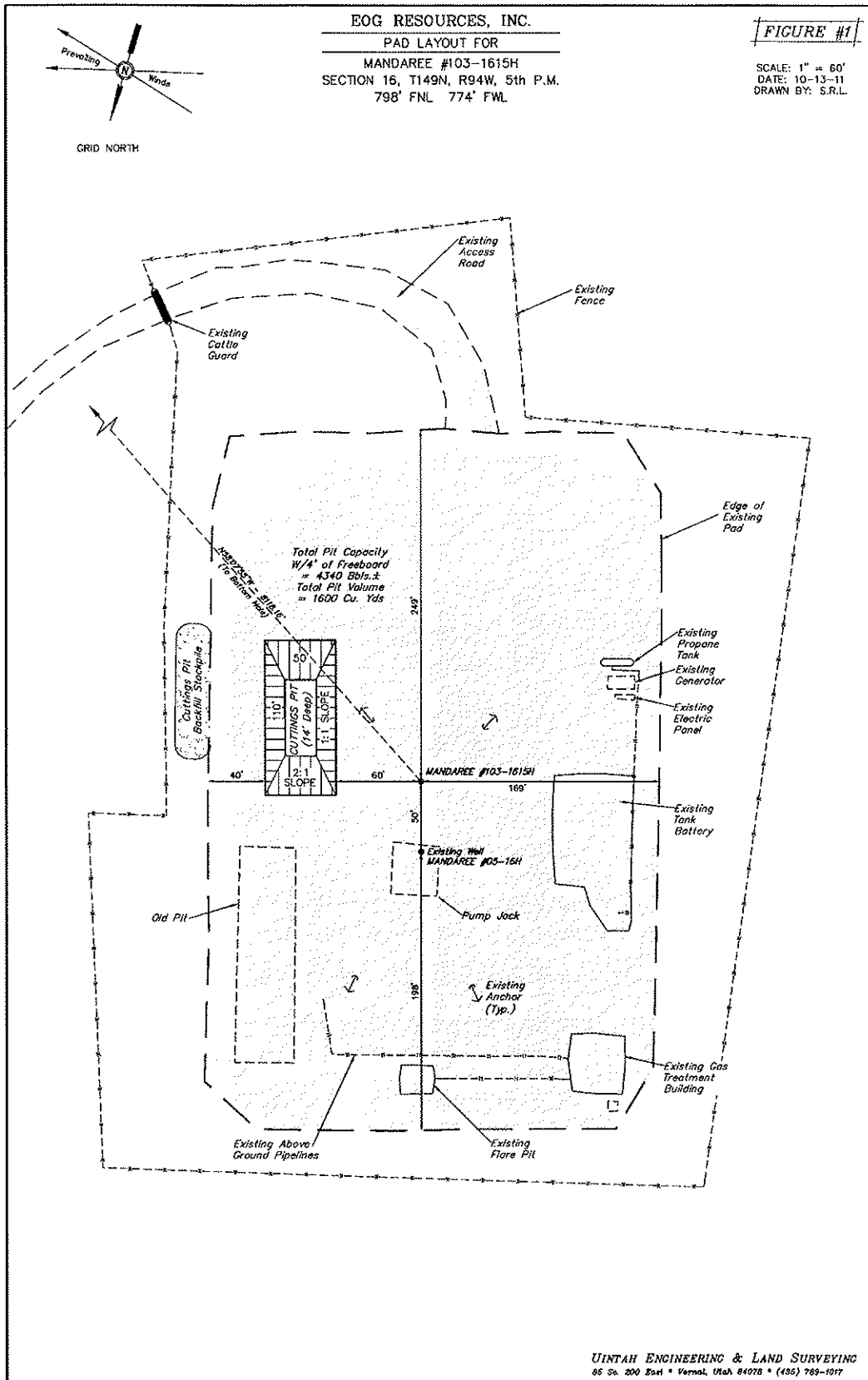
[derived from: N.G.S. O.P.U.S. solution REF. FRAME: NAD_83(CORR598)(EPOCH: 2002.0000)]	
NAD 83 (TARGET BOTTOM HOLE)	NAD 83 (SURFACE LOCATION)
LATITUDE = 47°43'56.94" (47.732483)	LATITUDE = 47°44'42.52" (47.745144)
LONGITUDE = 102°43'16.00" (102.721111)	LONGITUDE = 102°43'31.21" (102.725336)
NAD 27 (TARGET BOTTOM HOLE)	NAD 27 (SURFACE LOCATION)
LATITUDE = 47°43'56.89" (47.732469)	LATITUDE = 47°44'42.47" (47.745131)
LONGITUDE = 102°43'14.31" (102.720642)	LONGITUDE = 102°43'28.52" (102.724867)

SCALE	1" = 1000'	DATE SURVEYED:	08-28-09	DATE DRAWN:	09-09-09
PARTY	C.R. J.M. D.P.	REFERENCES	G.L.O. PLAT		
WEATHER	WARM	FILE	EOG RESOURCES, INC.		

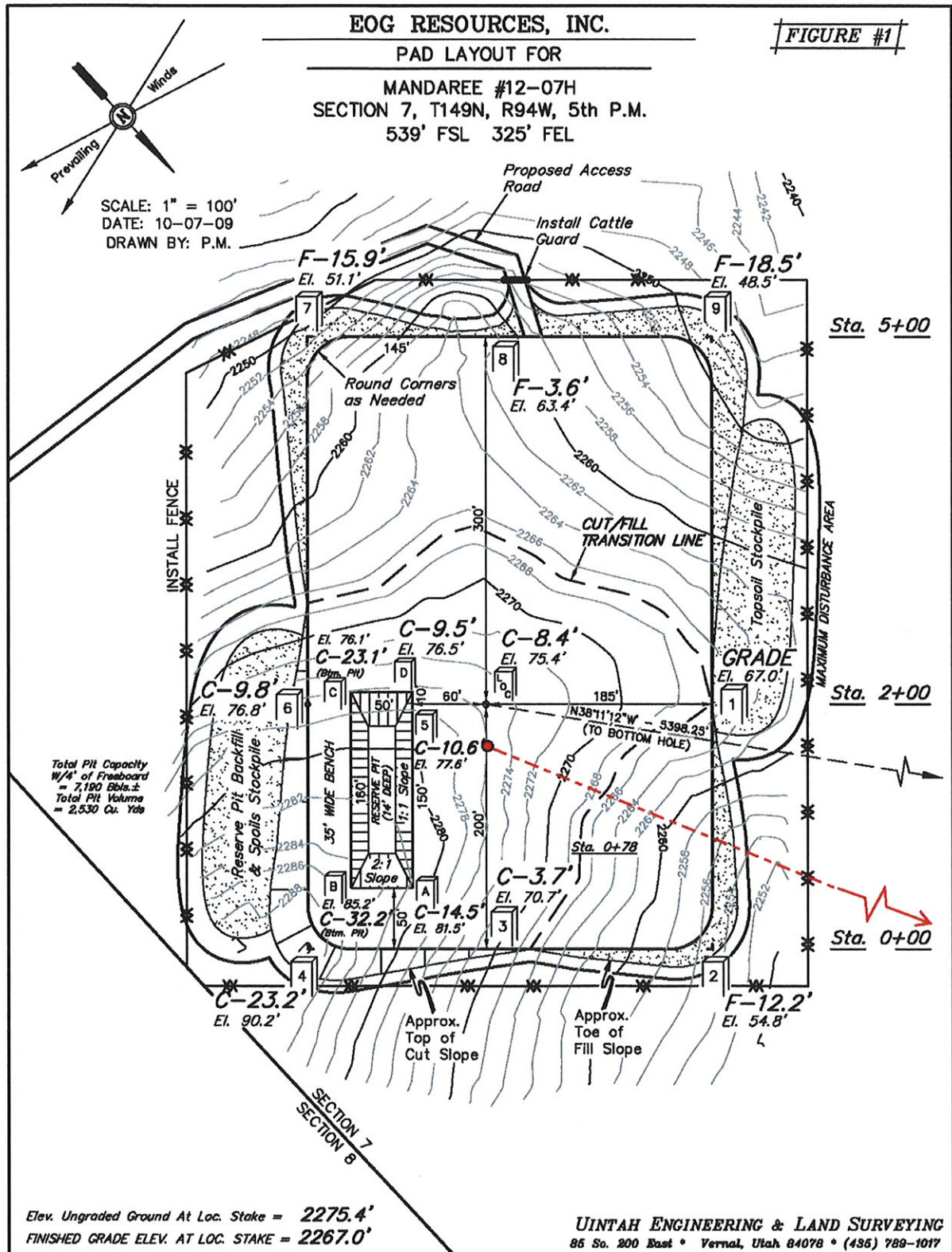
APPENDIX B

**Mandaree 05-16H & 103-1615H
Well Pad Layout and Spacing Unit Plats**

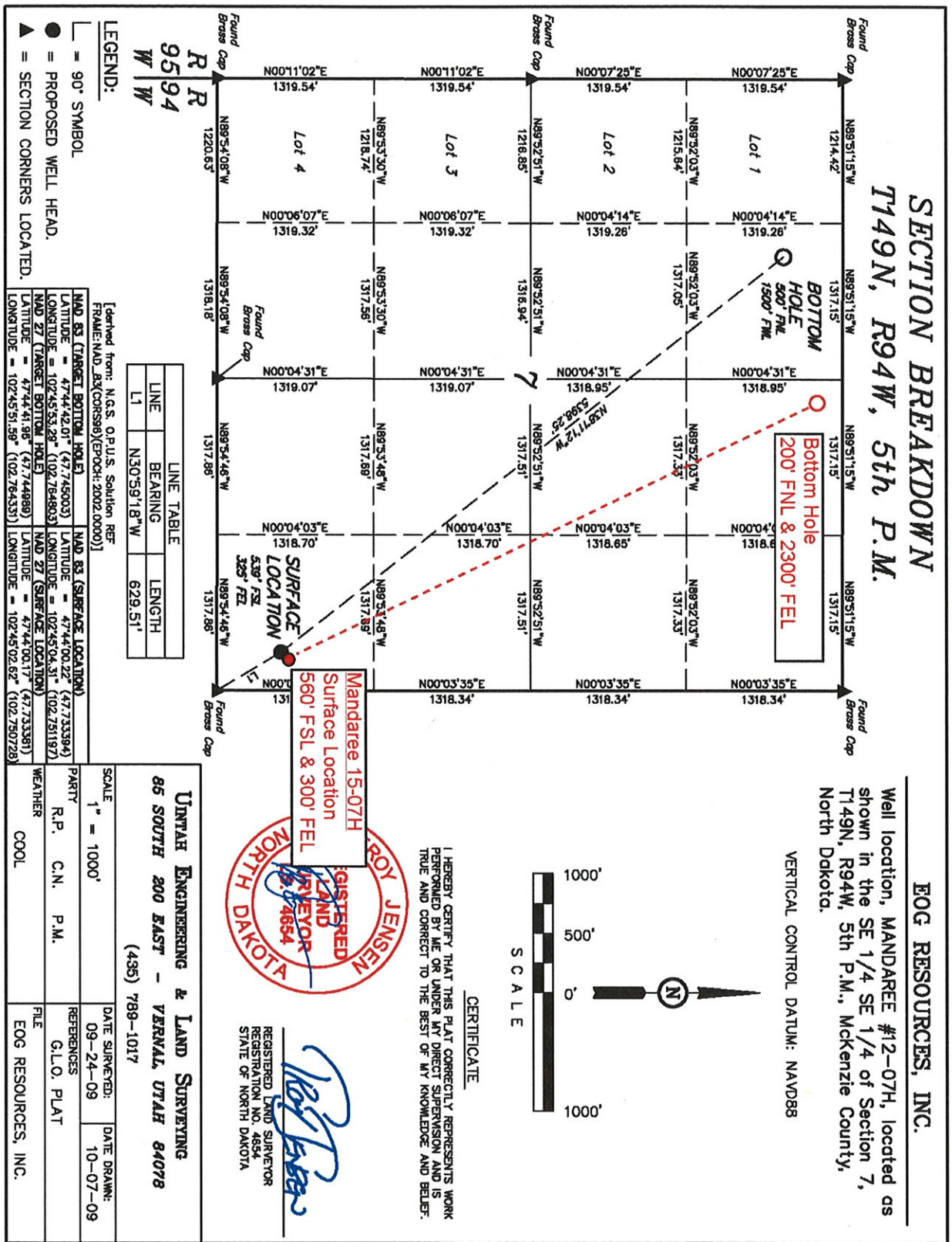
Addendum to Environmental Assessment to Authorize Land Use for the Expansion of the Mandaree 02-09H Well Pad & Additional Wells on the Mandaree 05-16H & Mandaree 12-07H Well Pads (November 2011)



Addendum to Environmental Assessment to Authorize Land Use for the Expansion of the Mandaree 02-09H Well Pad & Additional Wells on the Mandaree 05-16H & Mandaree 12-07H Well Pads (November 2011)



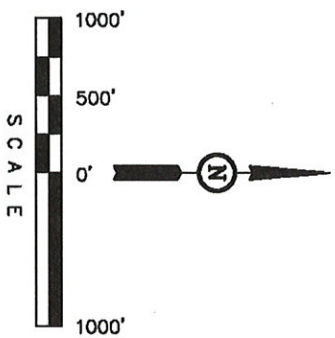
Addendum to Environmental Assessment to Authorize Land Use for the Expansion of the
Mandaree 02-09H Well Pad & Additional Wells on the Mandaree 05-16H & Mandaree 12-07H Well
Pads (November 2011)



EOG RESOURCES, INC.

Well location, MANDAREE #12-07H, located as shown in the SE 1/4 SE 1/4 of Section 7, T149N, R94W, 5th P.M., McKenzie County, North Dakota.

VERTICAL CONTROL DATUM: NAVD88



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 (435) 789-1017

SCALE	1" = 1000'	DATE SURVEYED:	09-24-09	DATE DRAWN:	10-07-09
PARTY	R.P. C.N. P.M.	REFERENCES	G.L.O. PLAT		
WEATHER	COOL	FILE	EOG RESOURCES, INC.		

[Derived from: N.G.S. O.P.U.S. Solution REF: FRAME: NAD 83 (CONSR83) (EPOCH: 2002.0000)]

NAME	COORDINATES
NAD 83 (TARRETT BOTTOM HOLE)	LATITUDE = 47°44'42.07" (47.745003) LONGITUDE = 102°45'53.29" (102.764803)
NAD 27 (TARRETT BOTTOM HOLE)	LATITUDE = 47°44'41.88" (47.744889) LONGITUDE = 102°45'51.59" (102.764331)
NAD 83 (SURFACE LOCATION)	LATITUDE = 47°44'00.22" (47.733384) LONGITUDE = 102°45'04.31" (102.751192)
NAD 27 (SURFACE LOCATION)	LATITUDE = 47°44'00.17" (47.733381) LONGITUDE = 102°45'02.82" (102.750722)

Notice of Availability and Appeal Rights

EOG: Addendum to Environmental Assessment to Authorize Land Use for
the Expansion of the Mandaree 02-09H Well Pad (2 wells) & Additional Wells on the
Mandaree 05-16H (1 well), & 12-07H Well Pads (1 well)

The Bureau of Indian Affairs (BIA) is planning to issue administrative approvals related to Addendum to Environmental Assessment to Authorize Land Use for the Expansion of the Mandaree 02-09H Well Pad (2 wells) & Additional Wells on the Mandaree 05-16H (1 well), & 12-07H Well Pads (1 well) as shown on the attached map. Construction by EOG is expected to begin in 2011.

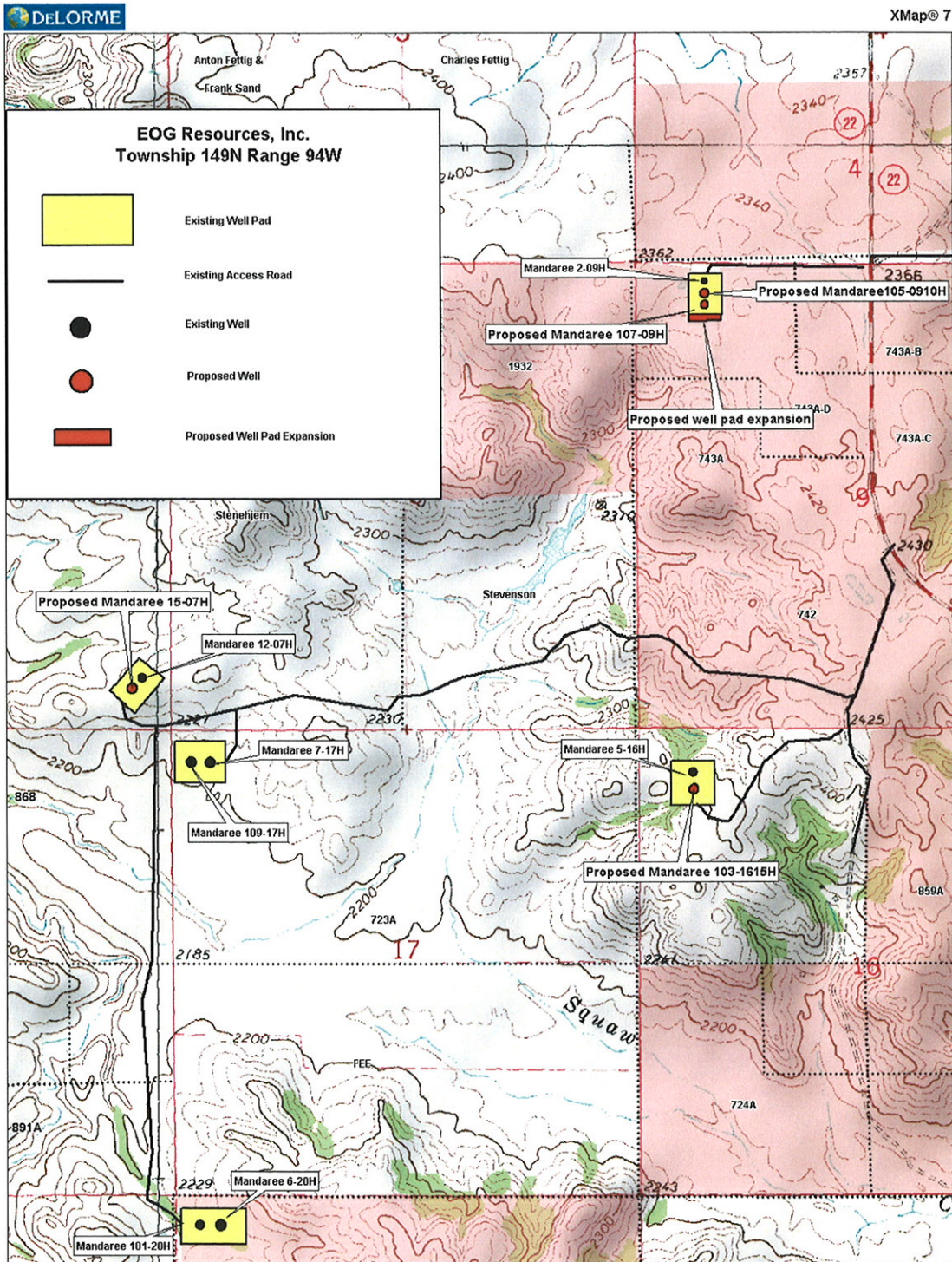
An environmental assessment (EA) determined that proposed activities will not cause significant impacts to the human environment. An environmental impact statement is not required. Contact Earl Silk, Superintendent at 701-627-4707 for more information and/or copies of the EA and the Finding of No Significant 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 December 31, 2011, by contacting:

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

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

Project locations.



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