

3RP-386

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Annual Groundwater
Remediation Reports
For Year 2008

April 2009



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2009 APR 15 AM 10 53

April 13, 2009

Mr. Glenn von Gonten
Hydrologist-Groundwater Remediation
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: Annual Groundwater Remediation Reports

Dear Mr. von Gonten,

XTO Energy Inc. (XTO) herein submits the Annual Groundwater Remediation Reports for year 2008, in accordance with the New Mexico Oil Conservation Division (NMOCD) approved Groundwater Management Plan (GMP). Enclosed are summary reports with analytical data, summary tables, site maps, topographic maps, potentiometric surface diagrams and recommendations/proposed actions for:

- Bruington Gas Com #1- 3RP106
- EJ Johnson C #1E- 3RP385
- Federal Gas Com #H1- 3RP110
- Frost, Jack B #2- 3RP416
- McCoy GC D #1E- 3RP414
- OH Randel #7- 3RP386
- PO Pipken #3E- 3RP409
- Rowland Gas Com #1- 3RP124
- Valdez A #1E- 3RP134

We have also enclosed an Annual Groundwater Report for three sites that meet the closure requirements outlined in the GMP. XTO respectfully requests closure of:

- Carson Gas Com #1E- 3RP315
- Snyder Gas Com #1A- 3RP126
- Sullivan Gas Com D #1- 3RP131

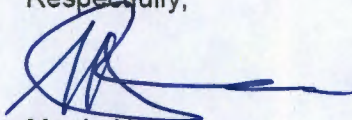
In previously submitted reports, fifteen sites met the closure requirements outlined in the GMP and XTO requested closure of those sites in 2006, 2007 and 2008. The reports for the below listed sites are being submitted again for your review.

Mr. Glen VonGonten
XTO Annual Groundwater Reports
2

- Abrams J #1- 3RP100
- Armenta Gas Com C #1E- 3RP394
- Baca Gas Com A #1A- 3RP104
- Bergin Gas Com #1E- 3RP105
- Garcia Gas Com B #1- 3RP111
- Haney Gas Com B #1E- 3RP113
- Hare Gas Com B #1- 3RP413
- Hare Gas Com B #1E- 3RP384
- Hare Gas Com I #1- 3RP412
- Masden Gas Com #1E- 3RP120
- McDaniel Gas Com B #1E- 3RP121
- Romero Gas Com A #1- 3RP123
- State Gas Com BS #1- 3RP127
- Stedje Gas Com #1- 3RP128
- Sullivan Frame A #1E- 3RP130

Thank you for your review of the reports. XTO looks forward to hearing from you regarding closure requests and proposed remedial actions. If you have any questions please do not hesitate to contact me at (505) 333-3100.

Respectfully,



Martin Nee
EH & S Manager
San Juan Division

cc: Mr. Brandon Powell, Environmental, NMOCD District III Office, Aztec, NM
Ms. Ashley Ager, Lodestar Services Inc.
File- San Juan Groundwater

OH Randel #7-
3RP306

XTO ENERGY INC.

ANNUAL GROUNDWATER REPORT

2008

O.H. RANDEL #7

3RP-386

**(D) SECTION 15 – T26N – R11W, NMPM
SAN JUAN COUNTY, NEW MEXICO**

PREPARED FOR:

**MR. GLENN VON GONTEN
NEW MEXICO OIL CONSERVATION DIVISION**

April 2009

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Attachment 2:	NNEPA Correspondence
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Attachment 4:	2008 Laboratory Reports

2008 XTO GROUNDWATER REPORT

OH RANDEL #7
3RP-386

SITE DETAILS

LEGALS - TWN: 28N
OCD HAZARD RANKING: 20
LATITUDE: 36.49194

RNG: 11W

SEC: 15
LAND TYPE: NAVAJO
LONGITUDE: 107.99572

INTRODUCTION

XTO Energy Inc. (XTO) acquired the OH Randel #7 well site from Amoco Production Company (Amoco) in January 1998. This is a gas producing well in the Basin Dakota and Gallegos Gallup formations and is currently active. This location is located near an irrigated field owned and operated by NAPI. A site map and topographic map are presented as Figures 1 and 2.

HISTORY

In March 2002 during equipment upgrades XTO encountered hydrocarbon impacted soil that was assumed to be an abandoned earthen separator pit (Attachment 1). Soil samples were collected and a groundwater monitoring well MW-1 was installed to determine impact to groundwater. Bore/Test Hole report is presented as Figure 3 representing drilling that occurred on site in March 2002. Groundwater was encountered at 16 feet below ground surface. After installation of the monitoring well, 3.84 inches of free phase product was discovered at a depth of 16.36 feet below ground surface. Additional monitoring wells (MW-2, MW-3, MW-4, MW-5 & MW-6) were installed near the source area; upgradient, downgradient and crossgradient of the source area. Figures 4-8 are presented for the monitoring wells installed in April 2002.

Phase separated hydrocarbons (PSH) were observed in monitoring wells MW-1, MW-2 and MW-6 during 2002-2004 sampling events. A total of approximately 22 gallons of product was recovered by hand bailing the PSH as of January 2006.

The 2005 annual groundwater report submitted to the OCD in January 2006 proposed excavation of soil impacted by the former separator pit and the installation of additional groundwater monitoring wells to further delineate hydrocarbon impact to groundwater.

XTO submitted a remediation work plan to the Navajo Nation EPA (NNEPA) in August 2006 (Attachment 2) and received approval in October 2006. The first phase of the work plan was excavation of the earthen separator pit to beneath the water table and backfilling with clean soil, which was completed in November 2006 (Attachment 3). Approximately 9,000 cubic yards of hydrocarbon impacted soil was removed and transported to an approved landfarm. No PSH was observed during the November 2006 excavation work. Monitoring wells MW-1, MW-2 and MW-6 were removed during the excavation. The US EPA Region 9 and NNEPA approved the closure of the excavation as described in the report. Following the excavation work, groundwater from monitoring wells MW-3, MW-4, and MW-5 revealed no detectable levels or trace concentrations of dissolved hydrocarbons.

2008 XTO GROUNDWATER REPORT

The 2006 annual groundwater report submitted to the OCD in February 2007 proposed installation of additional groundwater monitoring wells to the north and east of the former source area and quarterly sampling.

Monitoring wells MW-7 and MW-8 were installed to the north and the east of the former pit in May 2007. Figures 9-10 are presented for the monitoring wells installed in May 2007. It appeared that groundwater impact throughout the excavated area had been adequately delineated with the exception of the far northwest edge (MW-7). XTO proposed to evaluate other potential sources of groundwater impact in this area and screen appropriate remediation methods for MW-7.

The 2007 annual groundwater report submitted to the OCD in February 2008 proposed discontinuing sampling of MW-3, MW-4, and MW-5 and semi-annual sampling of MW-7 and MW-8.

A summary of laboratory results from historical and current groundwater monitoring is presented as Table 1. Copies of the laboratory data sheets and associated quality assurance/quality control data for 2008 are presented as Attachment 4.

METHODOLOGY

Monitoring wells MW-7 and MW-8 were sampled semi-annually during 2008 for benzene, toluene, ethyl benzene and total xylenes (BTEX).

Water Level Measurements

Static groundwater level monitoring includes recording depth to groundwater measurements with a Keck oil/water interface probe. The interface probe is decontaminated with Alconox™ soap and rinsed with de-ionized water prior to each measurement. These data are recorded as Depth to Water (DTW) and Total Depth (TD) in feet on Table 1.

Groundwater Sampling

Prior to sampling at monitoring wells, depth to groundwater and total depth of wells is measured with a Keck oil/water interface probe. Presence of any free-phase crude oil is also investigated using the interface probe. The interface probe is decontaminated with Alconox™ soap and rinsed with de-ionized water prior to each measurement. The volume of water in the wells is calculated, and a minimum of three casing volumes of water is purged from each well using a disposable bailer or a permanent decontaminated PVC bailer. As water is extracted, pH, electric conductivity and temperature are monitored. Wells are purged until these properties stabilize, indicating that the purge water is representative of aquifer conditions. Stabilization is defined as three consecutive stable readings for each water property (± 0.4 units for pH, ± 10 percent for electric conductivity and $\pm 2^\circ$ C for temperature). All purge water is disposed of into tanks on site.

Once each monitoring well is properly purged, groundwater samples are collected by filling at least two 40-milliliter (ml) glass vials. The pre-cleaned and pre-preserved (with hydrochloric acid or mercuric chloride) vials are filled and capped with no air inside to prevent degradation of the sample. Samples are labeled with the date and time of collection, well designation, project name, collector's name and parameters to be analyzed. They are immediately sealed and packed on ice. The samples are shipped to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico in a sealed

2008 XTO GROUNDWATER REPORT

cooler via bus before designated holding times expire. Proper chain-of-custody (COC) procedures are followed with logs documenting the date and time sampled, sample number, type of sample, sampler's name, preservative used, analyses required and sampler's signature.

Groundwater Contour Maps

Top of casing well elevations are surveyed using a surveyor's level; and groundwater elevations obtained from monitoring wells during site visits are used to draft groundwater contour maps. Contours are inferred based on groundwater elevations obtained and observation of physical characteristics at the site (topography, proximity to irrigation ditches, etc.).

RESULTS

Laboratory results from MW-7 indicate BTEX levels in excess of New Mexico Water Quality Control Commission (WQCC) standards. BTEX levels in MW-8 are non-detect or below WQCC standards. All laboratory analytical results are presented in Table 1. Laboratory reports are presented in Attachment 4.

Field data collected during site monitoring activities indicate the groundwater surface is relatively flat trending primarily toward the southwest. Groundwater at this site may be influenced by irrigation of a field adjacent to the location. Additionally, it is possible the groundwater at this site is a shallow water table created by irrigation water from this field. Slight increases in the groundwater flow rate exhibit a more easterly flow which is attributed to the seasonal irrigation of the adjacent field. Groundwater flow remained fairly consistent during 2008 site monitoring activities. Figures 11-12 illustrate the estimated groundwater gradients for 2008.

CONCLUSIONS

Based on the laboratory results from 2008 MW-7 needs further remediation and further delineation.

RECOMMENDATIONS

Install additional groundwater monitoring well directly upgradient of MW-7.

Install additional groundwater monitoring well in between MW-1 and MW-7.

Addition of chemical oxygenate in MW-7 to enhance biodegradation of the hydrocarbon in groundwater.

Begin quarterly sampling of monitoring wells.

Monitor wells for further treatment requirements.

Following OCD approval for closure, all monitoring well locations will be abandoned in accordance with the monitoring well abandonment plan.

TABLE 1

XTO ENERGY INC. GROUNDWATER LAB RESULTS

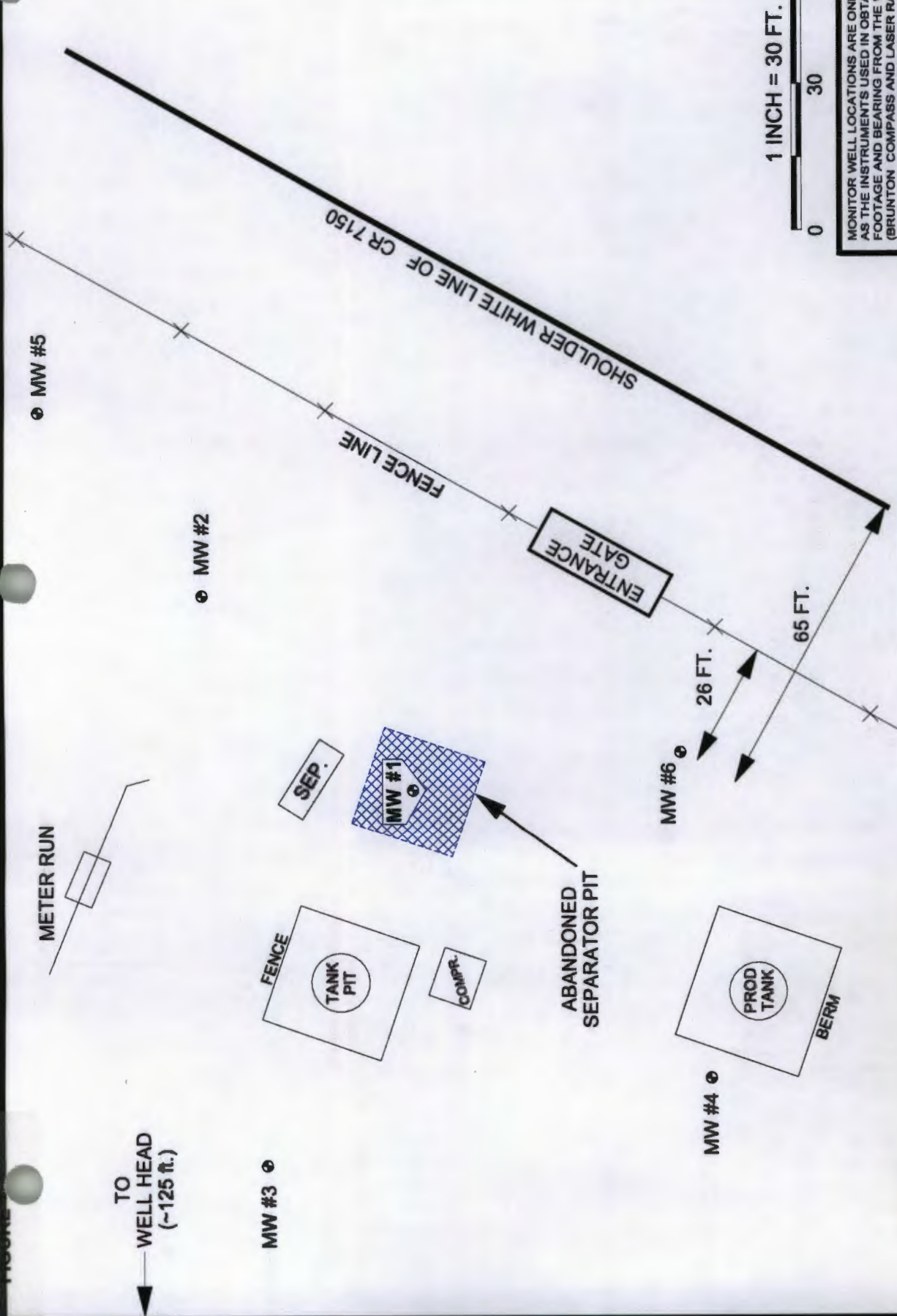
O.H. RANDEL #7- SEP. PIT
UNIT D, SEC. 15, T26N, R11W

Sample Date	Monitor Well No.	DTW (ft)	TD (ft)	Product (ft)	Benzene ug/L	Toluene ug/L	Ethyl Benzene ug/L	Total Xylene ug/L
22-Apr-02	MW#1	16.63	22.22	0.33	NA	NA	NA	NA
24-Apr-02				0.58	NA	NA	NA	NA
27-Aug-02		16.49		0.30	NA	NA	NA	NA
08-Oct-02		16.16		0.37	NA	NA	NA	NA
23-May-03		16.04		0.31	NA	NA	NA	NA
28-May-03		15.99		0.18	NA	NA	NA	NA
06-Jun-03		16.04		0.11	NA	NA	NA	NA
18-Jun-03		16.04		0.07	NA	NA	NA	NA
26-Jun-03		17.93		0.08	NA	NA	NA	NA
31-Jul-03		16.19		0.01	NA	NA	NA	NA
29-Aug-03		16.29		-	NA	NA	NA	NA
21-Jun-04		17.09		0.81	NA	NA	NA	NA
22-Apr-02	MW #2	18.32	24.60	-	NA	NA	NA	NA
24-Apr-02		18.38		0.03	NA	NA	NA	NA
27-Aug-02		19.86		0.94	NA	NA	NA	NA
08-Oct-02		18.02		0.52	NA	NA	NA	NA
23-May-03		17.83		0.53	NA	NA	NA	NA
28-May-03		17.78		0.16	NA	NA	NA	NA
06-Jun-03		17.83		0.12	NA	NA	NA	NA
18-Jun-03		17.88		0.09	NA	NA	NA	NA
26-Jun-03		16.09		0.04	NA	NA	NA	NA
31-Jul-03		15.86		-	NA	NA	NA	NA
29-Aug-03		15.99		-	NA	NA	NA	NA
21-Jun-04		16.83		0.73	NA	NA	NA	NA
22-Apr-02	MW #3	16.26	22.50		NA	NA	NA	NA
24-Apr-02		16.25			24	2.4	0.58	200
27-Aug-02		15.28			9.4	ND	ND	150
08-Oct-02		14.74			NA	NA	NA	NA
03-Mar-03		15.17			5.5	ND	ND	43
18-Jun-03		15.16			6.1	0.97	ND	43
29-Aug-03		15.39			3.2	0.53	ND	24
05-Dec-06		13.85	23.85		ND	ND	ND	ND
08-Mar-07		13.40	23.40		ND	ND	ND	3.8
17-May-07					ND	ND	ND	ND
09-Aug-07		12.37	23.40		ND	ND	ND	ND
27-Nov-07		12.70	23.40		ND	ND	ND	ND
22-Apr-02	MW #4	16.63	23.50		NA	NA	NA	NA
24-Apr-02		16.66			ND	0.59	ND	2.1
27-Aug-02		16.47			1.3	ND	ND	3.5
08-Oct-02		16.03			NA	NA	NA	NA
03-Mar-03		15.94			4.2	ND	ND	5
18-Jun-03		16.03			6.2	ND	ND	4.5
29-Aug-03		16.29			8.3	ND	ND	4.3
05-Dec-06		13.75	22.44		ND	ND	ND	ND
08-Mar-07		12.55	22.44		ND	ND	ND	ND
17-May-07					ND	ND	ND	ND
09-Aug-07		12.59	22.44		ND	ND	ND	ND
27-Nov-07		12.65	22.44		ND	ND	ND	ND
22-Apr-02	MW #5	19.11	25.00		NA	NA	NA	NA
24-Apr-02		19.14			510	0.64	8.9	240
08-Oct-02		19.10			NA	NA	NA	NA

XTO ENERGY INC. GROUNDWATER LAB RESULTS

**O.H. RANDEL #7- SEP. PIT
UNIT D, SEC. 15, T26N, R11W**

Sample Date	Monitor Well No.	DTW (ft)	TD (ft)	Product (ft)	Benzene ug/L	Toluene ug/L	Ethyl Benzene ug/L	Total Xylene ug/L
18-Jun-03		18.86			1,100	20	ND	660
21-Jun-04		19.64			2,000	ND	ND	260
28-Jun-05		17.30			1,100	15	ND	160
05-Dec-06		18.65	26.14		37	ND	ND	4.1
08-Mar-07		18.15	26.14		ND	ND	ND	ND
17-May-07					ND	ND	ND	ND
27-Nov-07		18.63	26.14		3.0	1.0	ND	ND
22-Apr-02	MW #6	18.31	25.00		NA	NA	NA	NA
24-Apr-02		18.32			6,100	4,800	920	6,800
27-Aug-02		NA		0.47	NA	NA	NA	NA
08-Oct-02		18.13		1.29	NA	NA	NA	NA
23-May-03		17.95		1.33	NA	NA	NA	NA
28-May-03		17.90		1.22	NA	NA	NA	NA
06-Jun-03		18.00		1.20	NA	NA	NA	NA
18-Jun-03		18.02		1.24	NA	NA	NA	NA
26-Jun-03		18.10		1.22	NA	NA	NA	NA
31-Jul-03		19.13		1.36	NA	NA	NA	NA
29-Aug-03		18.34		1.46	NA	NA	NA	NA
21-Jun-04		18.95		1.17	NA	NA	NA	NA
17-May-07	MW #7				8500	17000	980	16000
09-Aug-07		14.72	32.07		9800	11000	770	12000
27-Nov-07		14.91	32.07		12000	9000	940	13000
12-May-08		15.12	32.07		7900	11000	830	12000
07-Nov-08		15.82	32.07		12000	16000	1100	17000
17-May-07	MW #8				ND	1.9	ND	3.7
09-Aug-07		18.94	32.45		ND	ND	ND	ND
27-Nov-07		19.20	32.45		21	ND	ND	ND
12-May-08		19.97	32.45		1.4	ND	ND	ND
07-Nov-08		19.55	32.45		1.2	ND	ND	ND
NMWQCC GROUNDWATER STANDARDS					10	750	750	620



1 INCH = 30 FT.

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

SITE MAP 06/05	PROJECT: GW INVESTIGAT. DRAWN BY: NJV FILENAME: 10-17-05-SM.SKF REVISED: 10/17/05 NJV	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	XTO ENERGY INC. O.H. RANDEL #7 NW/4 NW/4 SEC. 15, T26N, R11W, NMPM SAN JUAN COUNTY, NEW MEXICO
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FIGURE 2

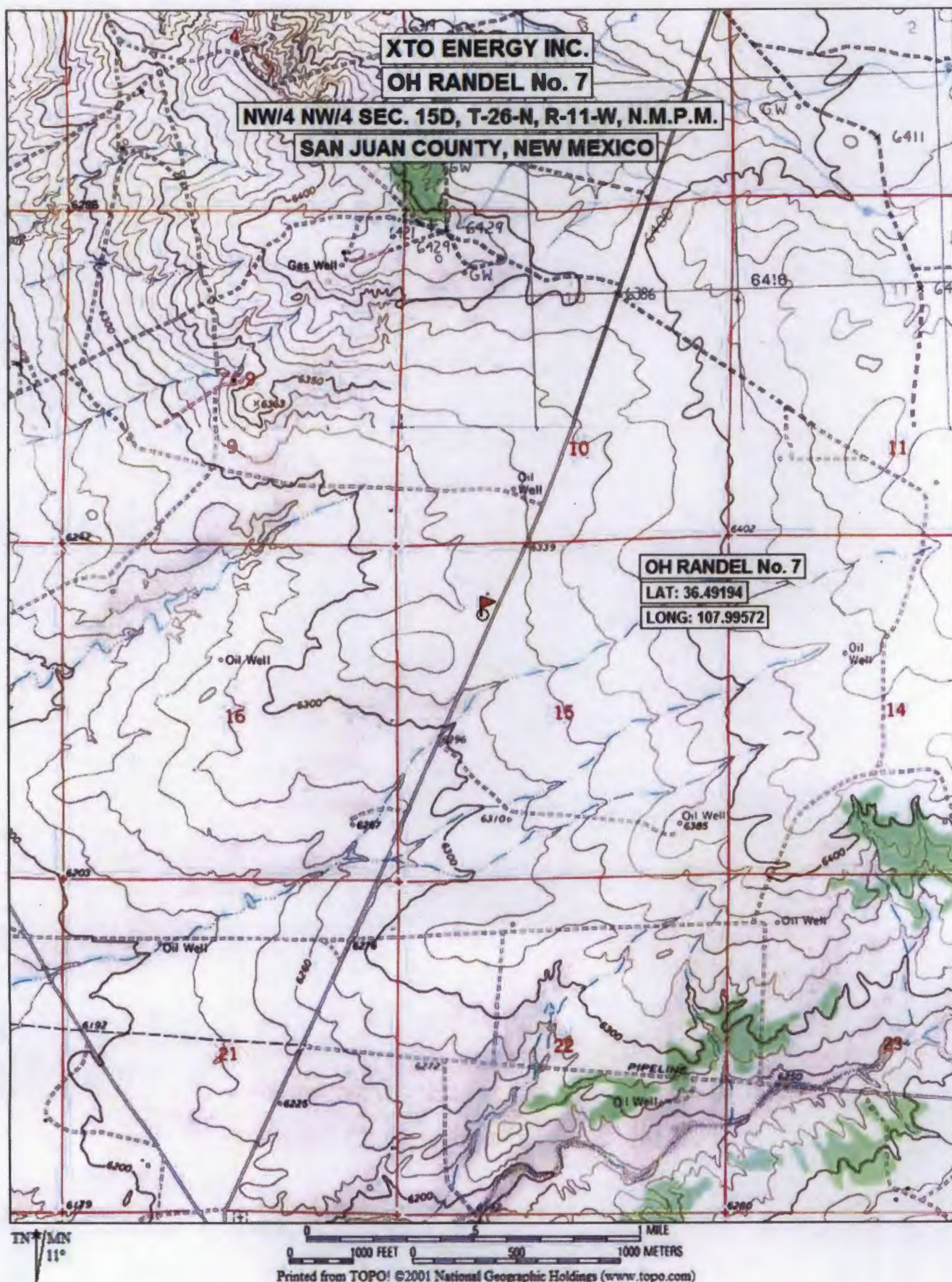


FIGURE 3

BLAGG ENGINEERING, INC.

P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

CLIENT: **XTO ENERGY INC.**
LOCATION NAME: **RANDEL, O.H. #7 - SEP. PIT, UNIT D, SEC. 15, T26N, R11W**
CONTRACTOR: **BLAGG ENGINEERING, INC.**
EQUIPMENT USED: **MOBILE DRILL RIG (EARTHPROBE)**
BORING LOCATION: **240 FT., S76.5E FEET FROM WELL HEAD.**

BORING #..... **BH - 1**
MW #..... **1**
PAGE #..... **1**
DATE STARTED **3/22/02**
DATE FINISHED **3/22/02**
OPERATOR..... **JCB**
PREPARED BY **NJV**

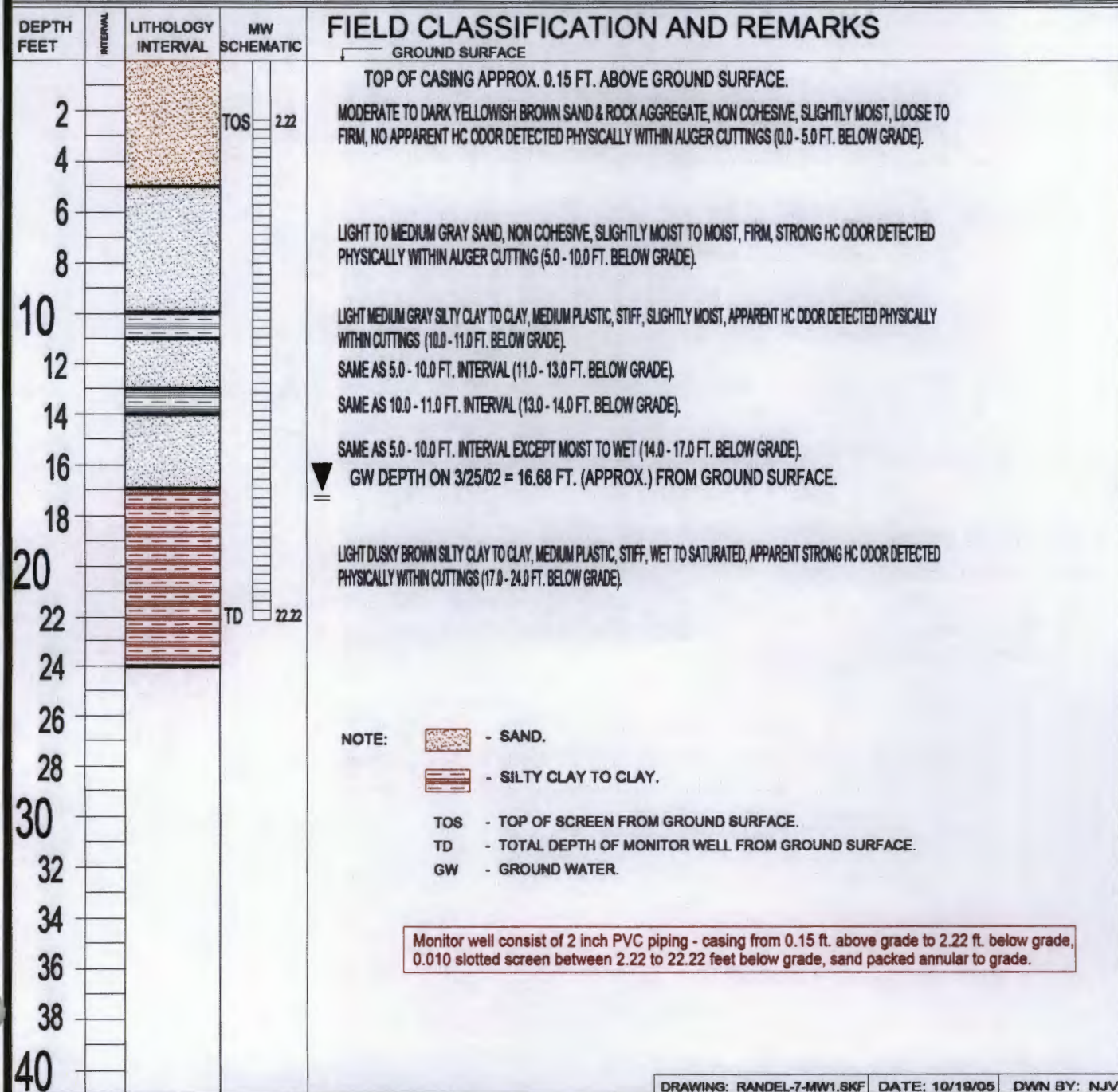


FIGURE 4

BLAGG ENGINEERING, INC.

P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

CLIENT: **XTO ENERGY INC.**
LOCATION NAME: **RANDEL, O.H. #7 - SEP. PIT, UNIT D, SEC. 15, T26N, R11W**
CONTRACTOR: **BLAGG ENGINEERING, INC.**
EQUIPMENT USED: **MOBILE DRILL RIG (EARTHPROBE)**
BORING LOCATION: **274 FT., S87.5E FEET FROM WELL HEAD.**

BORING #..... **BH - 2**
MW #..... **2**
PAGE #..... **2**
DATE STARTED **4/09/02**
DATE FINISHED **4/09/02**
OPERATOR..... **JCB**
PREPARED BY **NJV**

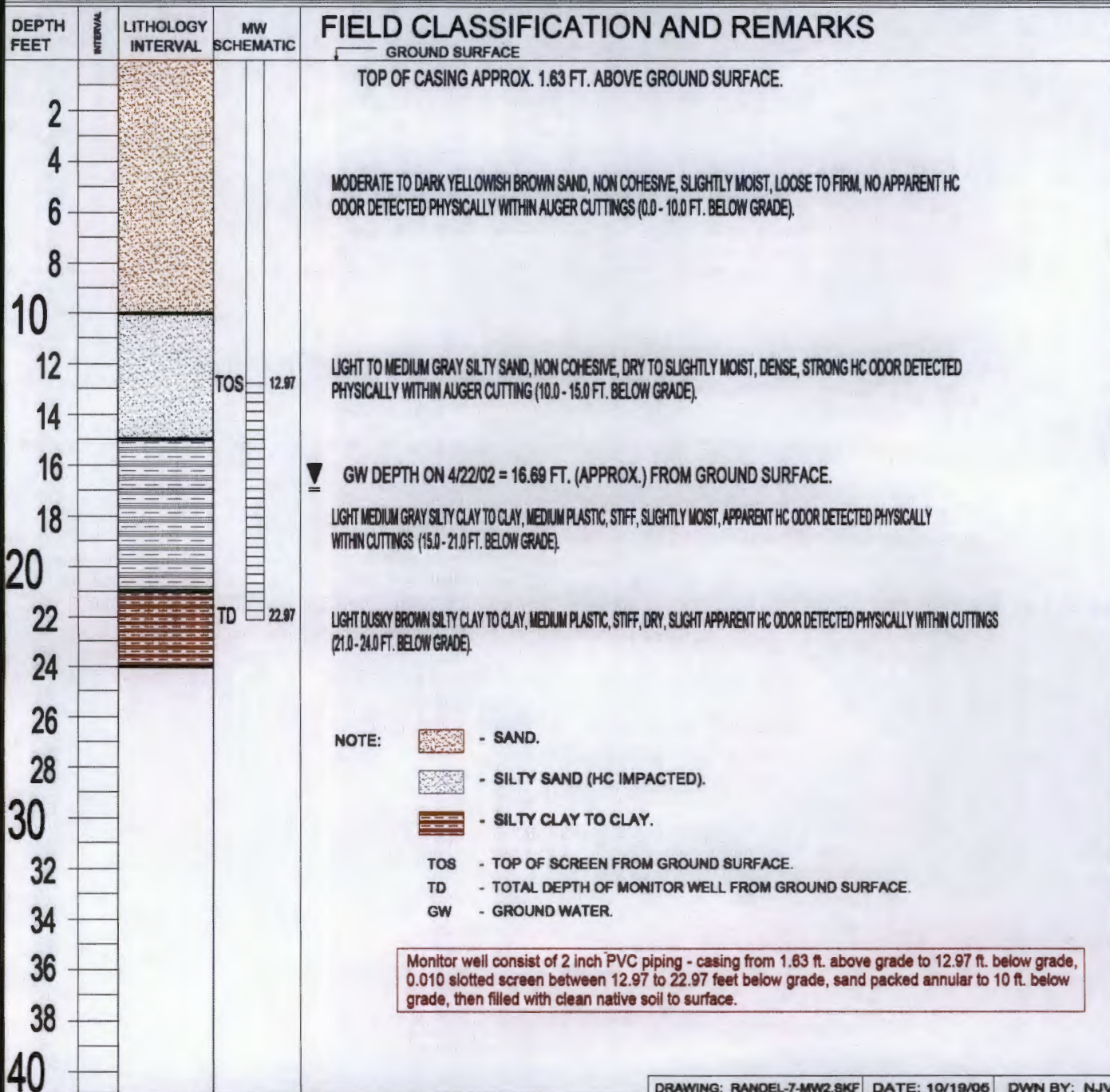


FIGURE 5

BLAGG ENGINEERING, INC.

P.O. BOX 87
BLOOMFIELD, NM 87413

(505) 632-1199

BORE / TEST HOLE REPORT

CLIENT: **XTO ENERGY INC.**
LOCATION NAME: **RANDEL, O.H. #7 - SEP. PIT, UNIT D, SEC. 15, T26N, R11W**
CONTRACTOR: **BLAGG ENGINEERING, INC.**
EQUIPMENT USED: **MOBILE DRILL RIG (EARTHPROBE)**
BORING LOCATION: **158 FT., S80.5E FEET FROM WELL HEAD.**

BORING #..... **BH - 3**
MW #..... **3**
PAGE #..... **3**
DATE STARTED **4/09/02**
DATE FINISHED **4/09/02**
OPERATOR..... **JCB**
PREPARED BY **NJV**

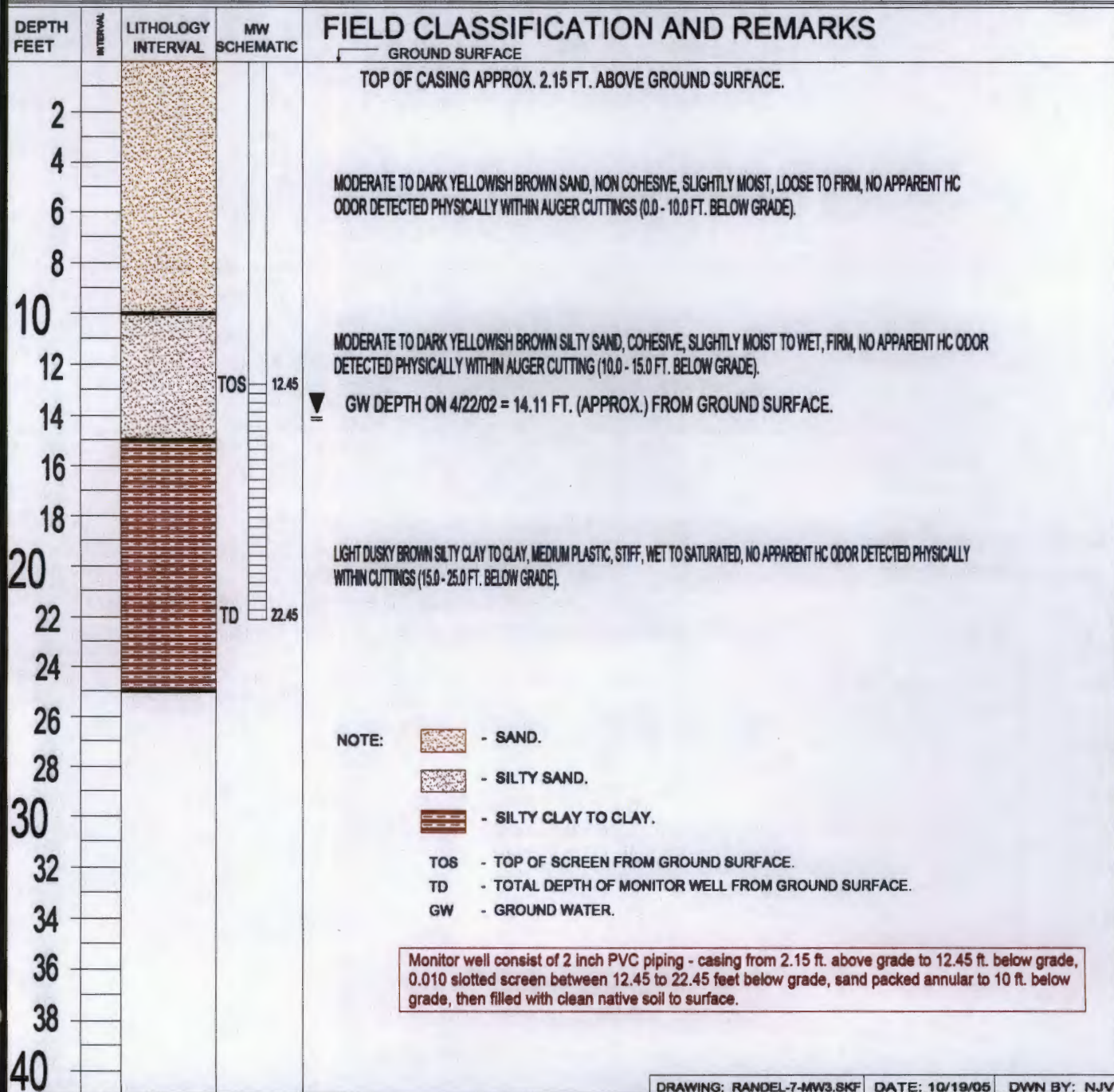


FIGURE 6

BLAGG ENGINEERING, INC.

P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

CLIENT: **XTO ENERGY INC.**
LOCATION NAME: **RANDEL, O.H. #7 - SEP. PIT, UNIT D, SEC. 15, T26N, R11W**
CONTRACTOR: **BLAGG ENGINEERING, INC.**
EQUIPMENT USED: **MOBILE DRILL RIG (EARTHPROBE)**
BORING LOCATION: **210 FT., S56E FEET FROM WELL HEAD.**

BORING #..... **BH - 4**
MW #..... **4**
PAGE #..... **4**
DATE STARTED **4/09/02**
DATE FINISHED **4/09/02**
OPERATOR..... **JCB**
PREPARED BY **NJV**

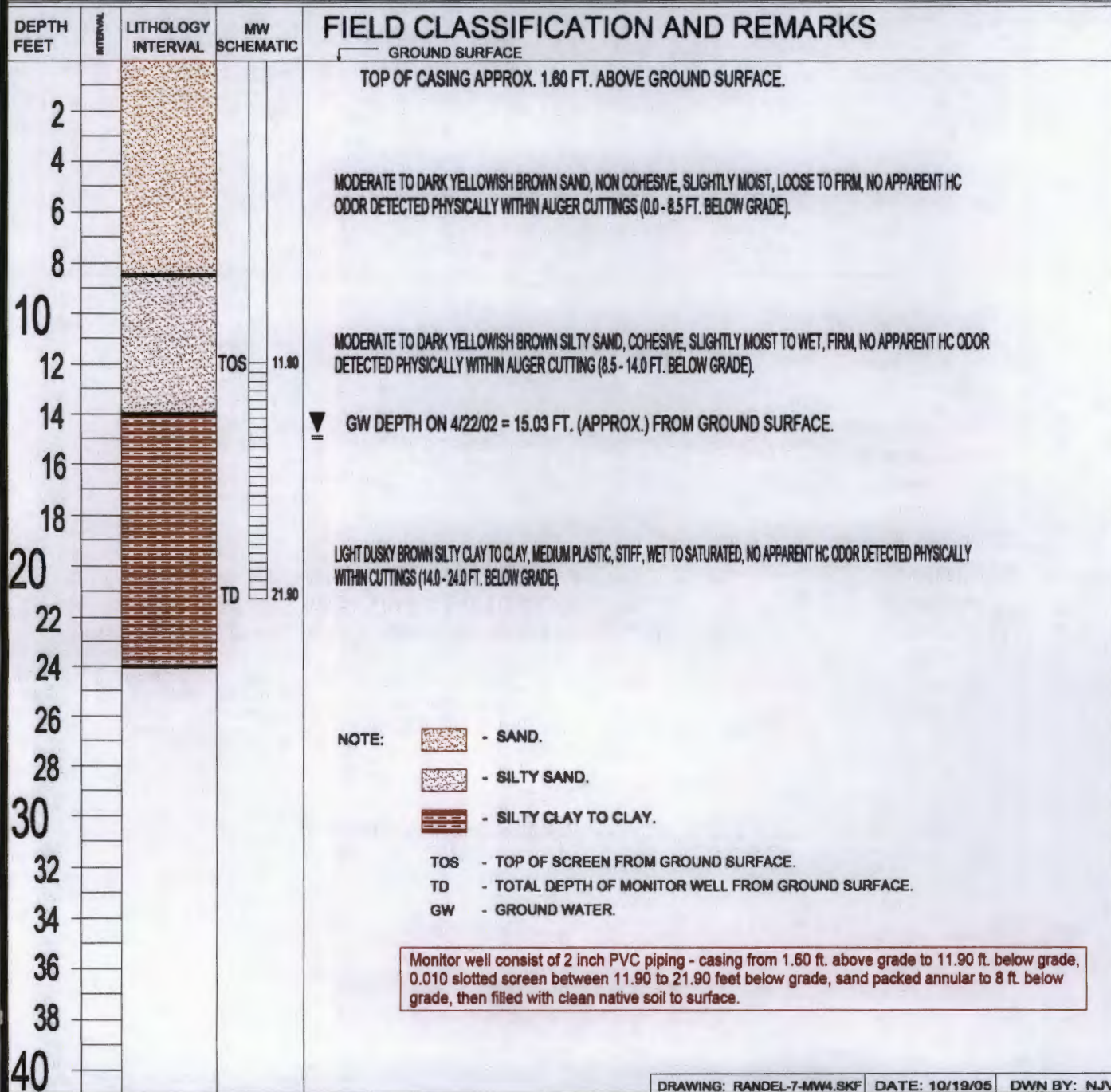


FIGURE 7

BLAGG ENGINEERING, INC.

P.O. BOX 87
BLOOMFIELD, NM 87413

(505) 632-1199

BORE / TEST HOLE REPORT

CLIENT: XTO ENERGY INC.
LOCATION NAME: RANDEL, O.H. #7 - SEP. PIT, UNIT D, SEC. 15, T26N, R11W
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION: 312 FT., N86E FEET FROM WELL HEAD.

BORING #..... BH - 5
MW #..... 5
PAGE #..... 5
DATE STARTED 4/19/02
DATE FINISHED 4/19/02
OPERATOR..... JCB
PREPARED BY NJV

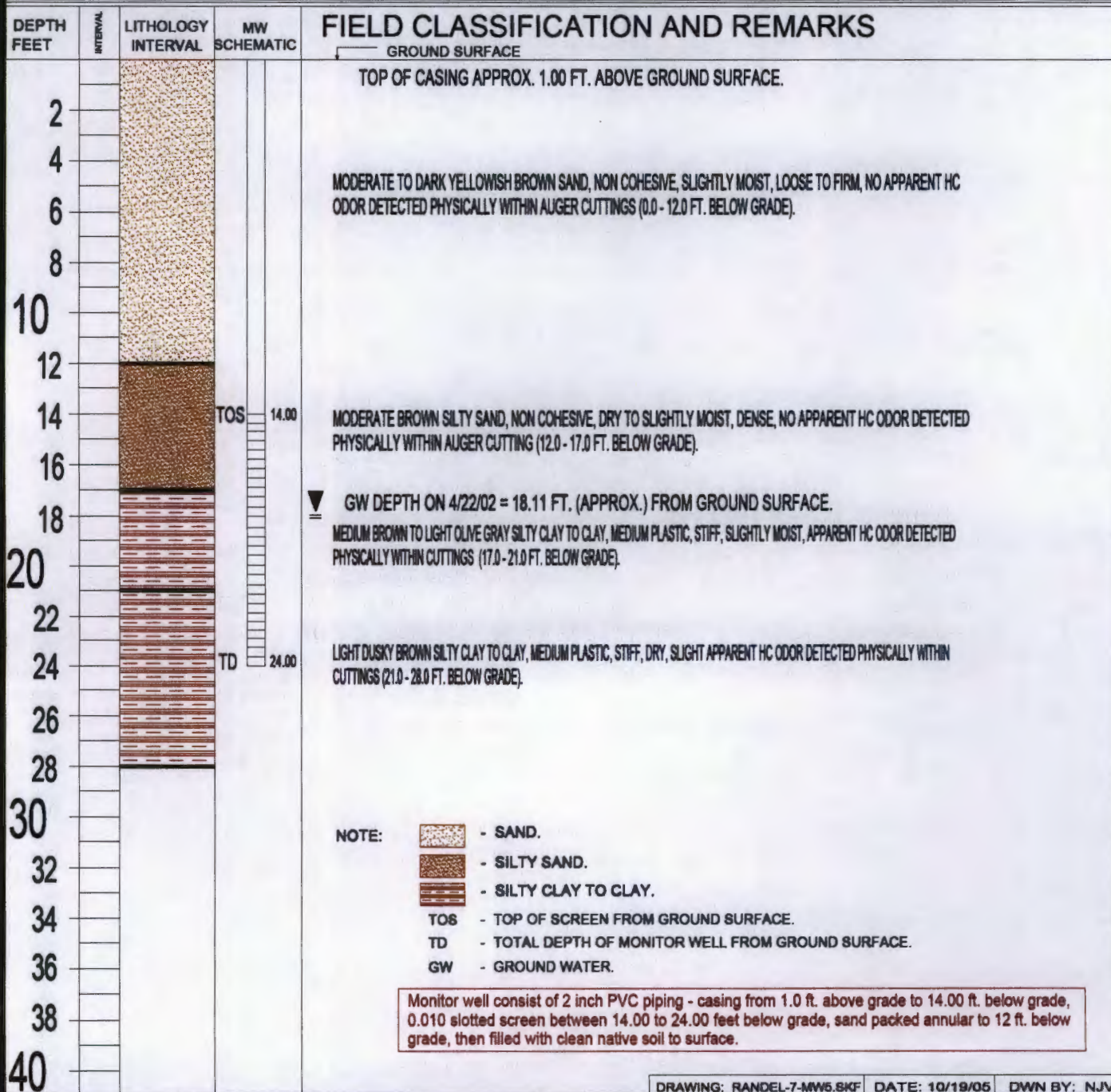


FIGURE 8

BLAGG ENGINEERING, INC.

P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

CLIENT: XTO ENERGY INC.
LOCATION NAME: RANDEL, O.H. #7 - SEP. PIT, UNIT D, SEC. 15, T26N, R11W
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION: 266 FT., S65.5E FEET FROM WELL HEAD.

BORING #..... BH - 6
MW #..... 6
PAGE #..... 6
DATE STARTED 4/19/02
DATE FINISHED 4/19/02
OPERATOR..... JCB
PREPARED BY NJV

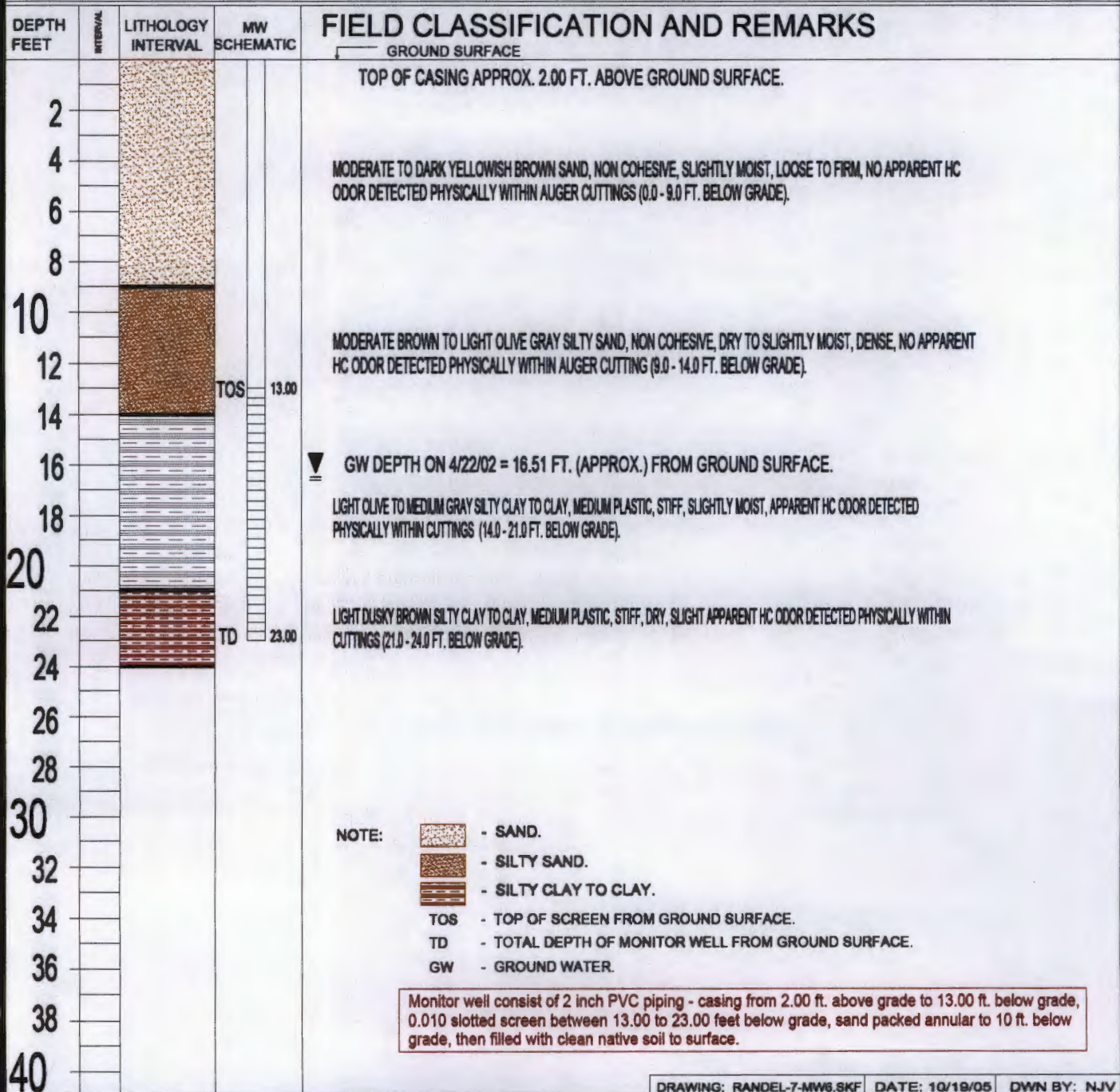


FIGURE 9

RECORD OF SUBSURFACE EXPLORATION

LodeStar Services
P.O. Box 4465
Durango, CO 81302
303-917-6288

Borehole #: 1
Well #: MW-7
Page: 1 of 2

Project Number: _____
Project Name: XTO Ground Water
Project Location: OH Randel #7

Borehole Location: 36° 29.508' N, 107° 59.720' W
GWL Depth: 19'
Drilled By: Enviro-Drill
Well Logged By: Ashley Ager
Date Started: 05/01/07
Date Completed: 05/01/07

Drilling Method: Hollow Stem Auger
Air Monitoring Method: PID

Depth (feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description	Air Monitoring	Drilling Conditions
0	1	0-5'	cuttings	brown, unconsolidated, poorly sorted sand and gravel, damp	0	Easy
5	2	5-7'	split spoon	brown, unconsolidated, poorly sorted sand and gravel, damp	0	Easy
10	3	10-12	split spoon	10-10.5: brown, unconsolidated, poorly sorted sand and gravel, damp 10.5-12: whitish-brown medium sand, well sorted, unconsolidated, dry	0 0	Easy
15	4	15-17	split spoon	15-15.5: reddish brown coarse sand, poorly sorted, damp 15.5-16.5: brown clay with white chalkish material on top 16.5-17: reddish brown silty sand, coarse, poorly sorted, damp	7.2 0 0	Easy
20						

Comments: _____

Geologist Signature: Ashley L. Ager

RECORD OF SUBSURFACE EXPLORATION

LodeStar Services
P.O. Box 4465
Durango, CO 81302
303-917-6288

Borehole #: 1
Well #: MW-7
Page: 2 of 2

Project Number: _____
Project Name: XTO Ground Water
Project Location: OH Randel #7

Borehole Location: 36° 29.522' N, 107° 59.736' W
GWL Depth: 16.5
Drilled By: Enviro-Drill
Well Logged By: Ashley Ager
Date Started: 05/01/07
Date Completed: 05/01/07

Drilling Method: Hollow Stem Auger
Air Monitoring Method: PID

Depth (feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description	Air Monitoring	Drilling Conditions
20	5	20-22	split spoon	20-20.4: reddish brown, coarse sand, poorly sorted, damp 20.4-20.8: gray coarse sand, moist, poorly sorted 20.8-21: saturated gray coarse sand, poorly sorted 21-22: reddish gray clay	1.3 1.0 0.5 0	Easy
25	6	25-16	split spoon	Variegated reddish brown clay, dry	0	Easy
30	7	30-32	split spoon	Variegated reddish brown clay, dry	0	Easy
35						
40						

Comments: Very thin saturated layer at approximately 20'. Stiff clay is present below that.
Wet layer probably represents a small perched aquifer atop the clay.

Geologist Signature: Ashley L. Ager

FIGURE 10

RECORD OF SUBSURFACE EXPLORATION

LodeStar Services
P.O. Box 4465
Durango, CO 81302
303-817-8288

Borehole #: 1
Well #: MW-8
Page: 1 of 2

Project Number: _____
Project Name: XTO Ground Water
Project Location: OH Randel #7

Borehole Location: 36° 29.522' N, 107° 59.736' W
GWL Depth: 16.5
Drilled By: Enviro-Drill
Well Logged By: Ashley Ager
Date Started: 05/01/07
Date Completed: 05/01/07

Drilling Method: Hollow Stem Auger
Air Monitoring Method: PID

Depth (feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description	Air Monitoring	Drilling Conditions
0	1	0-5'	cuttings	brown, unconsolidated, poorly sorted sand and gravel, damp	0	Easy
5	2	5-7'	split spoon	brown, unconsolidated, poorly sorted sand and gravel, damp	0	Easy
10	3	10-11.8	split spoon	brown, unconsolidated, poorly sorted sand and gravel, damp	0	Easy
15	4	15-16.9	split spoon	15-15.8: brown, unconsolidated, poorly sorted sand and gravel 15.8-16.4: moist, grayish brown sandy silt 16.4-16.9: coarse, poorly sorted, grayish brown sand, wet, some HC odor	0 52.8 319	Easy Easy Easy
20						

Comments:

Geologist Signature: Ashley L. Ager

RECORD OF SUBSURFACE EXPLORATION

LodeStar Services
P.O. Box 4465
Durango, CO 81302
303-917-6288

Borehole #: 1
Well #: MW-8
Page: 2 of 2

Project Number: _____
Project Name: XTO Ground Water
Project Location: OH Randel #7

Borehole Location: 38° 29.522' N, 107° 59.736' W
GWL Depth: 18.5
Drilled By: Enviro-Drill
Well Logged By: Ashley Ager
Date Started: 05/01/07
Date Completed: 05/01/07

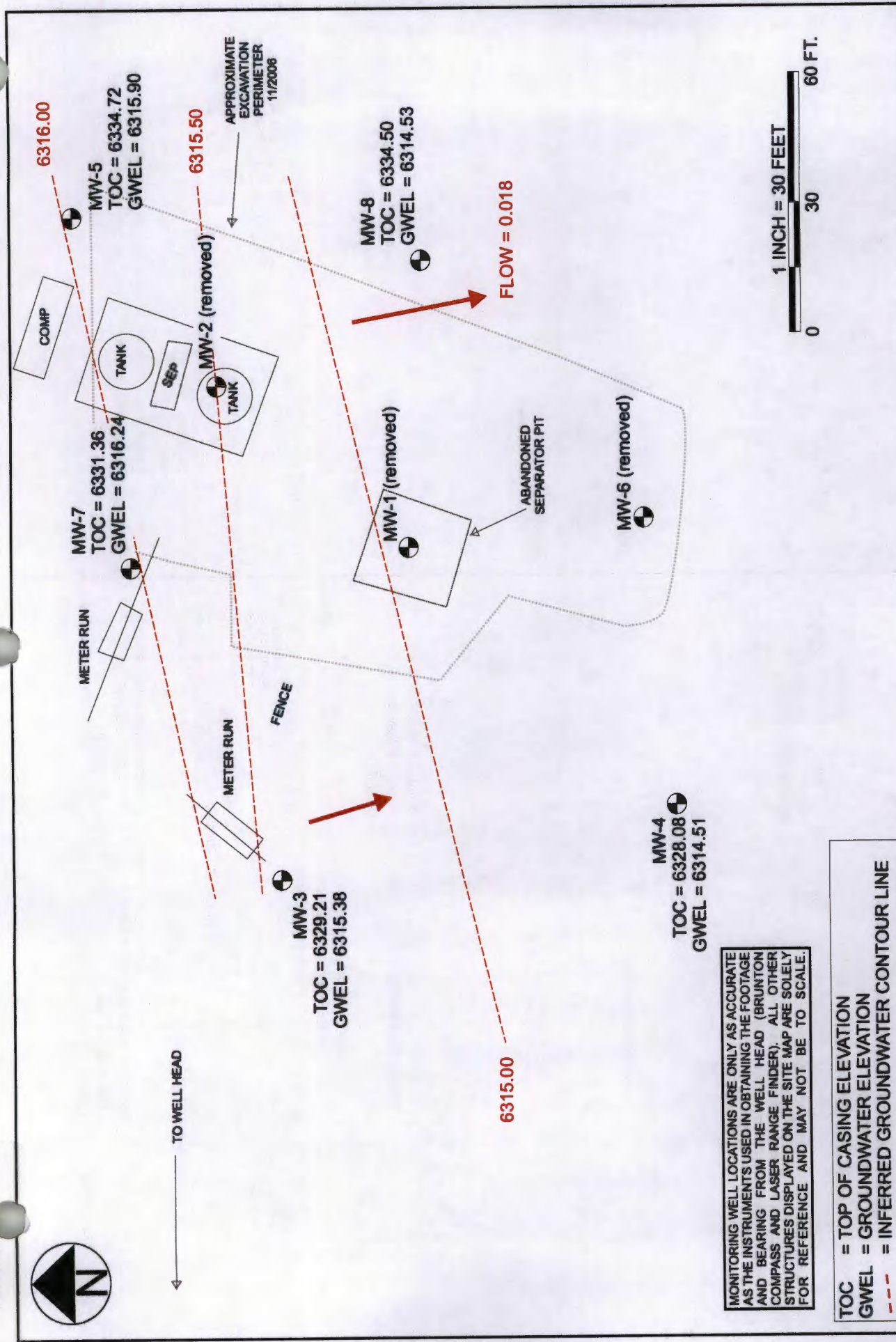
Drilling Method: Hollow Stem Auger
Air Monitoring Method: PID

Depth (feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description	Air Monitoring	Drilling Conditions
20	5	20-21.8	split spoon	20-20.4: reddish brown sand, coarse, poorly sorted, some gravel content, moist 20.4-21.8: variegated reddish gray stiff clay, moist	78.9 0.2	Easy Easy
25	6	25-27	split spoon	Variegated reddish brown clay wet at top, dry at bottom	0	Easy
30	7	30-32	split spoon	30-30.7: variegated reddish brown clay 30.7-31.8: greenish gray silty sand, coarse, poorly sorted, consolidated, dry	0 0	Steady
35						
40						

Comments: Very thin saturated layer at approximately 16.5'. Stiff clay is present below that.
Wet layer probably represents a small perched aquifer atop the clay.

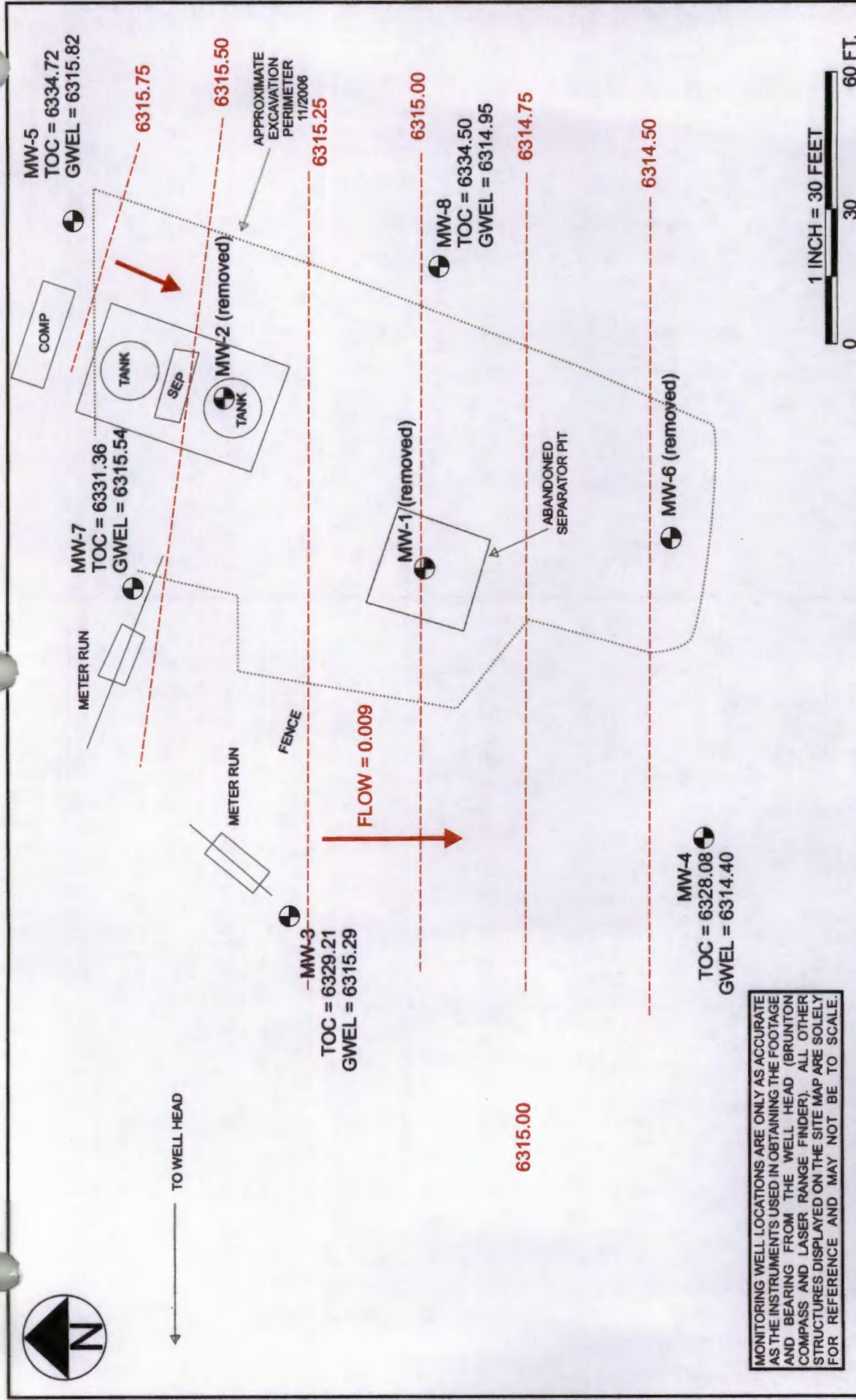
Geologist Signature: Ashley L. Ager

FIGURE 44



Lodestar Services, Inc PO Box 3861 Farmington, NM 87499	OH RANDEL #7 NW/4 NW/4 SEC. 15, T26N, R11W SAN JUAN COUNTY, NEW MEXICO	PROJECT: XTO GROUND WATER DRAWN BY: ALA REVISED: 05/13/08	GROUNDWATER GRADIENT MAP 05/12/08
---	--	---	--

FIGURE 12



MONITORING WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

TOC = TOP OF CASING ELEVATION
GWEL = GROUNDWATER ELEVATION
--- = INFERRED GROUNDWATER CONTOUR LINE

Lodestar Services, Inc
PO Box 3861
Farmington, NM 87499

OH RANDEL #7
NW/4 NW/4 SEC. 15, T26N, R11W
SAN JUAN COUNTY, NEW MEXICO

PROJECT: XTO GROUND WATER
DRAWN BY: ALA
REVISED: 11/30/08

GROUNDWATER GRADIENT MAP
11/07/08

ATTACHMENT 1

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Road, Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-144

June 1, 2004

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505For drilling and production facilities, submit to
appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe
office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☒ No ☐Type of action: Registration of a pit or below-grade tank ☐ Closure of a pit or below-grade tank ☒

Operator: XTO ENERGY INC. Telephone: (505)-324-1090 e-mail address: _____
 Address: 2700 FARMINGTON AVE.. BLDG. K. SUITE 1. FARMINGTON. NM 87401
 Facility or well name: O. H. RANDEL #7 API #: 30-045- 24749 U/L or Qtr/Qtr D Sec 15 T 26N R 11W
 County: SAN JUAN Latitude 36.49193 Longitude 107.99632 NAD: 1927 ☐ 1983 ☒ Surface Owner Federal ☒ State ☐ Private ☐ Indian ☐

Pit Type: Drilling ☐ Production ☒ Disposal ☐ SEPARATOR Workover ☐ Emergency ☐ Lined ☐ Unlined ☒ Liner type: Synthetic ☐ Thickness _____ mil Clay ☐ Pit Volume _____ bbl		Below-grade tank Volume: _____ bbl Type of fluid: _____ Construction material: _____ Double-walled, with leak detection? Yes ☒ If not, explain why not. _____	
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet	(20 points)	20
	50 feet or more, but less than 100 feet	(10 points)	
	100 feet or more	(0 points)	
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes	(20 points)	0
	No	(0 points)	
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet	(20 points)	0
	200 feet or more, but less than 1000 feet	(10 points)	
	1000 feet or more	(0 points)	
Ranking Score (Total Points)		20	

If this is a pit closure: (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if you are burying in place) onsite ☒ offsite ☐ If offsite, name of facility _____. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☒ Yes ☐ If yes, show depth below ground surface _____ ft. and attach sample results. (5)

Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments	PIT LOCATED APPROXIMATELY 239 FT. S75E FROM WELL HEAD.
PIT EXCAVATION: WIDTH	N/Aft., LENGTH N/Aft., DEPTH N/Aft.
PIT REMEDIATION: CLOSE AS IS:	☒ LANDFARM: ☐ COMPOST: ☐ STOCKPILE: ☐ OTHER ☐ (explain)
Cubic yards:	N/A

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐, or an alternative OCD-approved plan ☒.

Date: 11/18/05

Printed Name/Title Jeff Blagg - P.E. # 11607 Signature Jeff C Blagg

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:

Printed Name/Title _____ Signature _____ Date: _____

3004524749

36.49193/107.99632

CLIENT: <u>XTO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: _____ C.O.C. NO: <u>9776</u>
--------------------	--	--

FIELD REPORT: PIT CLOSURE VERIFICATION		PAGE No: <u>1</u> of <u>1</u>
--	--	-------------------------------

LOCATION: NAME: <u>O.H. RANDEL</u> WELL #: <u>7</u> TYPE: <u>ABAN. SEP.</u> QUAD/UNIT: <u>D</u> SEC: <u>15</u> TWP: <u>26N</u> RNG: <u>11W</u> PM: <u>NM</u> CNTY: <u>SJ</u> ST: <u>NM</u> QTR/FOOTAGE: <u>1150'N/1150'W</u> NW/NEW CONTRACTOR: _____	DATE STARTED: <u>3/12/02</u> DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST: <u>NV</u>
---	---

EXCAVATION APPROX. <u>NA</u> FT. x <u>NA</u> FT. x <u>NA</u> FT. DEEP. CUBIC YARDAGE: <u>NA</u>
DISPOSAL FACILITY: <u>ON-SITE</u> REMEDIATION METHOD: _____
LAND USE: <u>RANGE - BLM</u> LEASE: _____ FORMATION: <u>DK</u>

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY <u>239</u> FT. <u>S75E</u> FROM WELLHEAD.
DEPTH TO GROUNDWATER: <u>>100'</u> NEAREST WATER SOURCE: <u>>1000'</u> NEAREST SURFACE WATER: <u>>1000'</u>
NMOC D RANKING SCORE: <u>0</u> NMOC D TPH CLOSURE STD: <u>5000</u> PPM

SOIL AND EXCAVATION DESCRIPTION: SOIL TYPE: <u>SAND</u> / SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER _____ SOIL COLOR: <u>MED. GRAY</u> COHESION (ALL OTHERS): <u>NON COHESIVE</u> / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE CONSISTENCY (NON COHESIVE SOILS): <u>LOOSE</u> / <u>FIRM</u> / DENSE / VERY DENSE PLASTICITY (CLAYS): <u>NON PLASTIC</u> / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC DENSITY (COHESIVE CLAYS & SILTS): <u>SOFT</u> / FIRM / STIFF / VERY STIFF / HARD MOISTURE: <u>DRY</u> / SLIGHTLY MOIST / <u>MOIST</u> / WET / SATURATED / SUPER SATURATED DISCOLORATION/STAINING OBSERVED: <u>YES</u> / NO EXPLANATION - <u>GET. 4-6' BELOW GRADE</u> HC ODOR DETECTED: <u>YES</u> / NO EXPLANATION - <u>MED. GRAY SAND (STRANGE)</u> SAMPLE TYPE: <u>GRAB</u> / COMPOSITE - # OF PTS. <u>-</u> ADDITIONAL COMMENTS: <u>CONDUCTED SAMPLING WITH HAND SHOVEL.</u>	OVM CALIB. READ: <u>52.7</u> ppm OVM CALIB. GAS = <u>100</u> ppm RF = <u>0.52</u> TIME: <u>11:48</u> am/pm DATE: <u>3/12/02</u>
--	---

FIELD 418.1 CALCULATIONS							
SAMP. TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm

SCALE 0 FT

PIT PERIMETER 4N

P.D. = PIT DEPRESSION; B.G. = BELOW GRADE
T.H. = TEST HOLE; ~ = APPROX.; B = BELOW

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ 6'	1,015
2 @	
3 @	
4 @	
5 @	

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME
1 @ 6'	TPH (3015)	1130
"	BTEX (8215)	"

TRAVEL NOTES: CALLOUT: <u>3/12/02-MORN.</u> ONSITE: <u>3/12/02-MORN.</u>
--

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

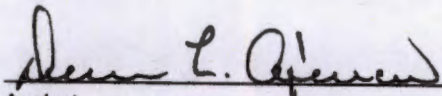
Client:	Blagg / XTO Energy	Project #:	94034-010
Sample ID:	1 @ 6'	Date Reported:	03-14-02
Laboratory Number:	22253	Date Sampled:	03-12-02
Chain of Custody No:	9796	Date Received:	03-12-02
Sample Matrix:	Soil	Date Extracted:	03-14-02
Preservative:	Cool	Date Analyzed:	03-14-02
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

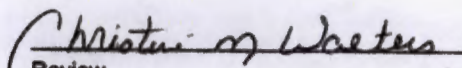
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1,750	0.2
Diesel Range (C10 - C28)	15.5	0.1
Total Petroleum Hydrocarbons	1,770	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: O.H. Randel #7 Abandoned Separator Pit Grab Sample.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / XTO Energy	Project #:	94034-010
Sample ID:	1 @ 6'	Date Reported:	03-14-02
Laboratory Number:	22253	Date Sampled:	03-12-02
Chain of Custody:	9796	Date Received:	03-12-02
Sample Matrix:	Soil	Date Analyzed:	03-14-02
Preservative:	Cool	Date Extracted:	03-14-02
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	3,000	1.8
Toluene	1,180	1.7
Ethylbenzene	835	1.5
p,m-Xylene	1,550	2.2
o-Xylene	1,220	1.0
Total BTEX	7,790	

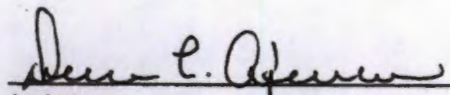
ND - Parameter not detected at the stated detection limit.

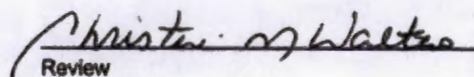
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	95 %
	1,4-difluorobenzene	95 %
	Bromochlorobenzene	95 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: O.H. Randel #7 Abandoned Separator Pit Grab Sample.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	03-14-TPH QA/QC	Date Reported:	03-14-02
Laboratory Number:	22234	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	03-14-02
Condition:	N/A	Analysis Requested:	TPH

Parameter	Sample Date	Lab ID	Sample ID	Concentration	Range
Gasoline Range C5 - C10	01-07-02	2.5028E-002	2.5003E-002	0.10%	0 - 15%
Diesel Range C10 - C28	01-07-02	1.2696E-002	1.2671E-002	0.20%	0 - 15%

Parameter	Concentration	Range
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

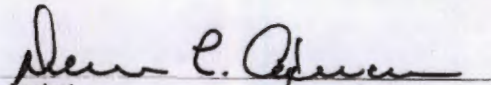
Parameter	Concentration	Range
Gasoline Range C5 - C10	ND	0.0%
Diesel Range C10 - C28	ND	0.0%

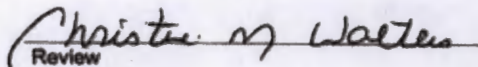
Parameter	Concentration	Range
Gasoline Range C5 - C10	ND	250
Diesel Range C10 - C28	ND	250

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: QA/QC for samples 22234 -22239, 22253 and 22272.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	03-14-BTEX QA/QC	Date Reported:	03-14-02
Laboratory Number:	22234	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	03-14-02
Condition:	N/A	Analysis:	BTEX

ANALYSIS RESULTS (ug/Kg)

Benzene	6.9839E-002	7.0049E-002	0.3%	ND	0.2
Toluene	5.0724E-002	5.0825E-002	0.2%	ND	0.2
Ethylbenzene	8.2086E-002	8.2333E-002	0.3%	ND	0.2
p,m-Xylene	7.1064E-002	7.1278E-002	0.3%	ND	0.2
o-Xylene	6.2861E-002	6.2787E-002	0.2%	ND	0.1

DUPLICATE CONC. (ug/Kg)

Sample	Duplicate	Diff	Accept Range	Lab Error Limit
Benzene	ND	ND	0.0%	0 - 30%
Toluene	ND	ND	0.0%	0 - 30%
Ethylbenzene	ND	ND	0.0%	0 - 30%
p,m-Xylene	ND	ND	0.0%	0 - 30%
o-Xylene	ND	ND	0.0%	0 - 30%

SPike CONC. (ug/Kg)

Sample	Spiked Conc.	Spiked Conc.	Recovery	Accept Range
Benzene	ND	50.0	49.8	99.6%
Toluene	ND	50.0	49.8	99.6%
Ethylbenzene	ND	50.0	49.8	99.6%
p,m-Xylene	ND	100	99.5	99.5%
o-Xylene	ND	50.0	49.8	99.6%

ND - Parameter not detected at the stated detection limit.

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for sample 22234 - 22239, 22253 and 22272.

Heather E. O'Brien
Analyst

Christine M. Whetters
Review

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413
Phone: (505)632-1199 Fax: (505)632-3903

April 17, 2002

Mr. Roger Anderson
Chief of Environmental Bureau
State of New Mexico Oil Conservation Division (NMOCD)
1220 St. Francis Drive
Santa Fe, New Mexico 87505

**RE: Groundwater Impact
XTO Energy, Inc.**

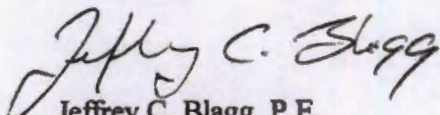
**O.H. Randel # 7 Well site
Legal Description: Unit D, Sec. 15, T26N, R11W
San Juan County, New Mexico**

Dear Mr. Anderson:

Physical observation of groundwater after monitor well construction was completed on March 22, 2002 at the above referenced well site indicates approximately 0.32 ft. or 3.84 inches of free phase product. The monitor well is located within an abandoned separator pit area. XTO Energy will adhere to its NMOCD approved groundwater management plan during further assessment of the apparent hydrocarbon contamination encountered. Depth to free phase product in the monitor well was approximately 16.36 ft. below the ground surface.

If you have any questions concerning this information, please do not hesitate to contact Nelson Velez or myself at (505) 632-1199. Thank you for your cooperation.

Respectfully submitted,
Blagg Engineering, Inc.


Jeffrey C. Blagg, P.E.
President

cc: Denny Foust, Environmental Geologist, NMOCD, Aztec, NM
Terry Matthews, Production Superintendent, XTO Energy, Inc., Farmington, NM
Nina Hutton, Environmental & Safety Manager, XTO Energy, Inc., Ft. Worth, TX

NJV/njv

RANDEL-7.LTR

**Lodestar Services, Inc.**

P.O. Box 3861, Farmington, NM 87499-3861, 505-334-2791

August 15, 2006

Mr. Steve Austin
Navajo Nation EPA
PO Box 1999
Shiprock, NM 87420

CERTIFIED MAIL: 7004 1160 0007 4952 1517**RE: OH Randel #7**

Dear Mr. Austin,

XTO Energy Inc. (XTO) has contracted Lodestar Services, Incorporated (Lodestar) to oversee groundwater monitoring and remedial activities at the OH Randel #7 natural gas production well. It has come to our attention that the well is located on land regulated by the Navajo Nation Environmental Protection Agency (NNEPA). Previous regulatory correspondence has been with the New Mexico Oil Conservation Division (NMOCD). An annual comprehensive report was submitted to the NMOCD in January 2006 and is included for your review.

The OH Randel #7 is located in Unit D of Section 16 of Township 26N, Range 11W, and includes a former oil-water-separator pit that may have affected shallow groundwater. Six groundwater monitoring wells were previously installed on the site to investigate groundwater quality. One of the wells, MW-6, contains free-phase hydrocarbons. Previously MW-1 and MW-2 contained free-phase hydrocarbons. MW-1 is located in the center of the former pit. MW-2 is directly adjacent to the pit, and MW-6 is located down gradient of the pit. The annual report included herein has several groundwater contour maps provided by Blagg Engineering that indicate varying groundwater flow directions. Navajo Agricultural Products Incorporated (NAPI) conducts irrigation adjacent to the site and may influence groundwater flow direction.

The following steps are proposed remove impacted soil and free-phase hydrocarbons:

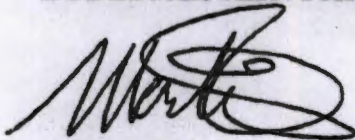
1. Excavate affected soil associated with historical operations from the former pit. Impacted soil will be disposed at a local land farm permitted by the NMOCD. Soil headspace gas will be monitored with a photo-ionization detector (PID) to determine extent of impacted soil during excavation according to the NMOCD Guidelines for headspace analysis. Soil above 10 milligrams per kilogram (mg/kg) benzene, 50 mg/kg total benzene, toluene, ethylbenzene, and xylenes (BTEX), and 100 mg/kg total petroleum hydrocarbons will be removed. Laboratory analyses of composite samples collected from the sidewalls of the excavation will be used to document that impacted soil has been removed.
2. Erect temporary fencing around the excavated site and remove impacted water and free-phase hydrocarbons from the pit.

Mr. Steve Austin
August 15, 2006
Page 2 of 2

3. Once the free-phase hydrocarbons have been removed, backfill the excavation site with clean soil.
4. Replace groundwater-monitoring wells as necessary.
5. Install additional down gradient monitoring wells as necessary to characterize impacted groundwater.
6. Remove free phase hydrocarbons from groundwater, then sample groundwater-monitoring wells for benzene, toluene, ethylbenzene and total xylenes (BTEX) on a quarterly basis to monitor progress at the site.

Following completion of the above tasks, XTO will provide a letter report describing onsite activities and analytical results. XTO wishes to complete this work as soon as practical and will contact you to schedule activities. Should you have any questions or require additional information, please do not hesitate to contact Lisa Winn of XTO at (505) 324-1090 or you can call me at (505) 334 2791.

Sincerely,
LODESTAR SERVICES, INC



Martin Nee

Cc: Lisa Winn, XTO, w/o enclosures
Kim Champlin, XTO, w/o enclosures
Ashley Ager, LSI, w/o enclosures
Glenn Von Gonten, NMOCD
File

Attachments: Annual Report

cc Mr Jim Walker USEPA



Lodestar Services, Inc.

P.O. Box 3861, Farmington, NM 87499-3861, 505-334-2791

 Lodestar Services, Incorporated

PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

January 29, 2007

Mr. William Freeman
Navajo Nation Environmental Protection Agency
PO Box 1999
Shiprock, NM 87420

RE: Report of Excavation and Sampling at OH Randel #7

Dear Mr. Freeman:

XTO Energy Inc. (XTO) operates the OH Randel #7 natural gas production well located in Unit D of Section 16 of Township 26N, Range 11W, San Juan County, New Mexico. A former oil-water-separator pit may have impacted soil and shallow groundwater at the site. On August 15, 2006, XTO submitted a work plan to the Navajo Nation Environmental Protection Agency (NNEPA) describing planned remedial activities to investigate and remove impacted soil. XTO contracted Lodestar Services, Incorporated (Lodestar) to direct excavation activities according to the August 15 work plan. Core Oilfield Services completed the excavation, backfilling, and transportation of impacted soil to Envirotech Inc.'s land farm. Clean backfill was purchased from Moss Excavation's gravel pit located on highway 550 in Bloomfield, NM.

On November 13-27, 2006, a geologist from Lodestar was present during excavation of impacted soil at the OH Randel #7. During excavation, field screening according to the New Mexico Oil Conservation Division's (NMOCD) guidelines for headspace analysis was conducted to determine extent of impacted soil by collecting samples from the sidewalls and floor of the excavated pit. Following headspace screening and excavation, composite samples from the sidewalls and floor of the excavation were collected for laboratory analysis. Samples were collected where field screening indicated the highest concentrations of hydrocarbons. Compositing included placing four aliquots of soil from a given wall or floor into a one-gallon plastic bag. The soil within the bag was thoroughly mixed before filling a four-ounce glass jar. The sample was immediately placed on ice, and maintained under strict chain-of-custody until delivered to Envirotech Laboratories in Farmington, NM. Envirotech Laboratories analyzed the samples for benzene, toluene, ethylbenzene, and xylenes (BTEX) and total petroleum hydrocarbons (TPH) by United States Environmental Protection Agency (USEPA) methods 8021 and 8015, respectively. The results of sample analyses are as follows:

	GRO (ppm)	DRO (ppm)	TPH (ppm)	Benzene (ppb)	Toluene (ppb)	Ethyl benzene (ppb)	P&M Xylenes (ppb)	O Xylenes (ppb)	Total BTEX (ppb)
NMOCD Standard			100	10,000					50,000
North Excavation North Wall	2.6	3.6	6.2	2.2	20.3	39.1	374	64.8	500
North Excavation East Wall	1080	266	1350	518	3230	3290	9590	3610	20240

Mr. William Freeman
January 29, 2007
Page 2 of 2

	GRO (ppm)	DRO (ppm)	TPH (ppm)	Benzene (ppb)	Toluene (ppb)	Ethyl benzene (ppb)	P&M Xylenes (ppb)	O Xylenes (ppb)	Total BTEX (ppb)
NMOCD Standard			100	10,000					50,000
North Excavation West Wall	8.0	ND	8.0	2.0	746	889	2170	979	4790
North Excavation Floor	3.6	ND	3.6	10.5	65.9	119	619	202	1020
South Excavation East Wall	5.2	15.0	20.2	7.4	50.7	16.7	78.6	37.0	190
South Excavation West Wall	0.5	0.4	0.9	3.3	9.1	19.6	84.7	28.4	145
South Excavation Floor	ND	ND	ND	ND	4.4	7.7	24.5	5.3	41.9
South Excavation South Wall	ND	ND	ND	ND	1.9	7.9	24.8	8.7	43.3

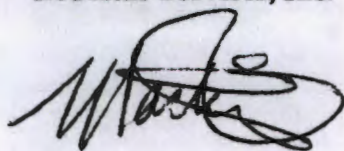
GRO: Gasoline Range Organics; DRO: Diesel Range Organics;
ND: Not Detected in sample; ppm: parts per million; ppb: parts per billion

Approximately six thousand eight hundred and eighty two cubic yards of soil were removed for treatment to the land farm. Lodestar and XTO met with the USEPA and the NNEPA on November 27, 2006 at the job site and received permission to backfill the excavation based on the above results.

Six groundwater monitoring wells were previously installed on the site to investigate groundwater quality. Three of the wells, MW-1, MW-2, and MW-6 were removed during excavation activities.

Laboratory reports and Bill-of-Lading copies are attached. Please contact Lisa Winn of XTO at (505) 324-1090 with any questions that may arise.

Sincerely,
Lodestar Services, Inc.

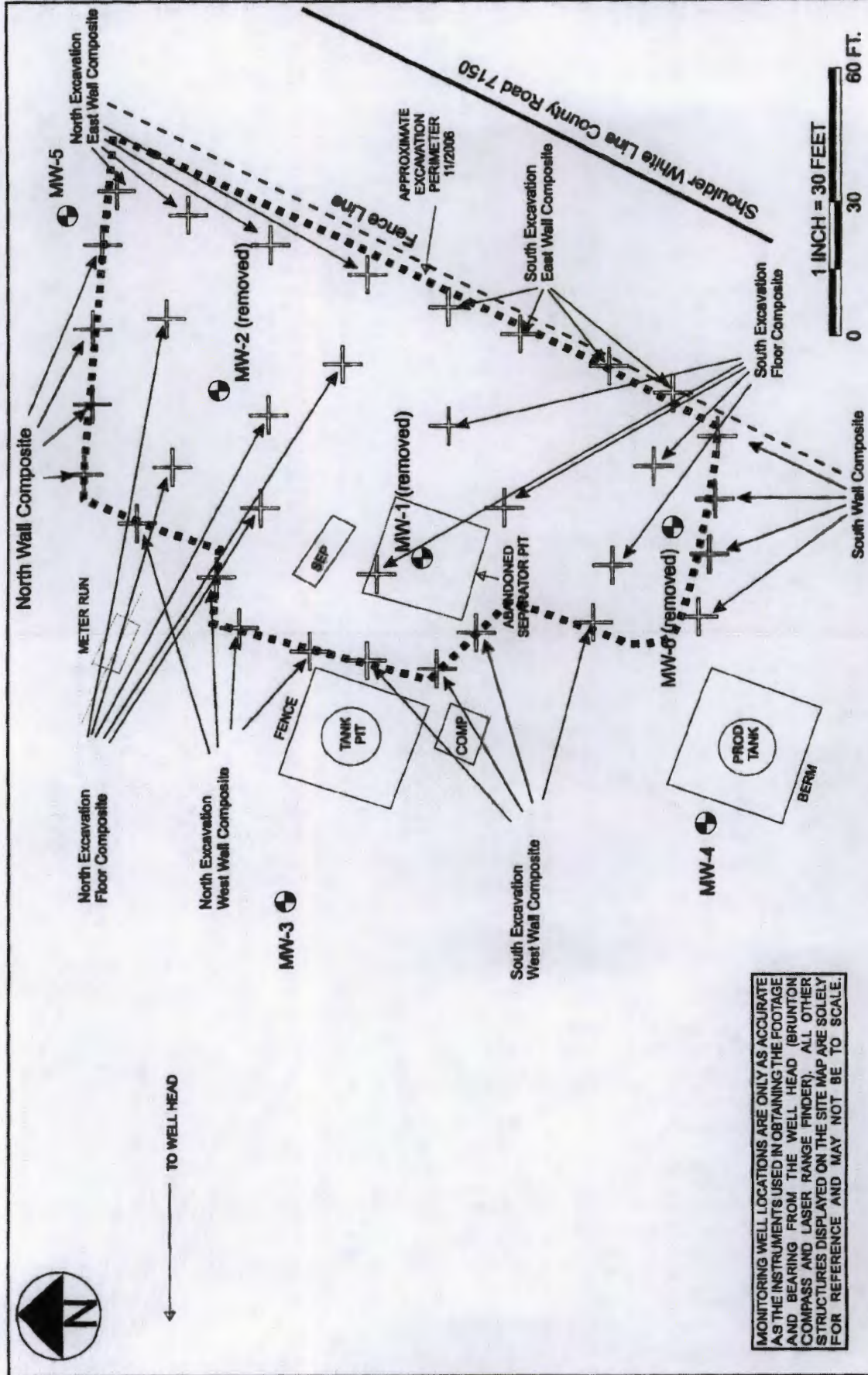


Martin Nee

Cc: Jim Walker, USEPA
Lisa Winn, XTO Energy
Kim Champlin, XTO Energy
Ashley Ager, Lodestar Services



Lodestar Services, Incorporated PO Box 3861 Farmington, NM 87499 (505) 334-2791



↗ Lodestar Services, Inc
 PO Box 3861
 Farmington, NM 87499

OH RANDEL #7
 NW/4 NW/4 SEC. 15, T26N, R11W
 SAN JUAN COUNTY, NEW MEXICO

PROJECT: XTO Excavation
 DRAWN BY: MJN
 REVISED: 01/29/07

Composite Sample Location Map
 1/29/2007



Hall Environmental Analysis Laboratory, Inc.

Date: 20-May-08

CLIENT: XTO Energy
 Lab Order: 0805196
 Project: Ground Water
 Lab ID: 0805196-01

Client Sample ID: OH Randel #7 MW-7
 Collection Date: 5/12/2008 10:17:00 AM
 Date Received: 5/14/2008
 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	7900	100		µg/L	100	5/19/2008 4:05:17 PM
Toluene	11000	500		µg/L	500	5/19/2008 3:35:15 PM
Ethylbenzene	830	100		µg/L	100	5/19/2008 4:05:17 PM
Xylenes, Total	12000	200		µg/L	100	5/19/2008 4:05:17 PM
Surr: 4-Bromofluorobenzene	104	68.9-122		%REC	100	5/19/2008 4:05:17 PM

Qualifiers: * Value exceeds Maximum Contaminant Level
 E Value above quantitation range
 J Analyte detected below quantitation limits
 ND Not Detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 MCL Maximum Contaminant Level
 RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: 20-May-08

CLIENT: XTO Energy
Lab Order: 0805196
Project: Ground Water
Lab ID: 0805196-02

Client Sample ID: Randel#7 MW-3
Collection Date: 5/12/2008 11:23:00 AM
Date Received: 5/14/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	1.4	1.0		µg/L	1	5/19/2008 5:05:25 PM
Toluene	ND	1.0		µg/L	1	5/19/2008 5:05:25 PM
Ethylbenzene	ND	1.0		µg/L	1	5/19/2008 5:05:25 PM
Xylenes, Total	ND	2.0		µg/L	1	5/19/2008 5:05:25 PM
Surr: 4-Bromofluorobenzene	100	68.9-122		%REC	1	5/19/2008 5:05:25 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: 20-May-08

CLIENT: XTO Energy
Lab Order: 0805196
Project: Ground Water
Lab ID: 0805196-07

Client Sample ID: TRIP BLANK
Collection Date:
Date Received: 5/14/2008
Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	5/19/2008 8:08:18 PM
Toluene	ND	1.0		µg/L	1	5/19/2008 8:08:18 PM
Ethylbenzene	ND	1.0		µg/L	1	5/19/2008 8:08:18 PM
Xylenes, Total	ND	2.0		µg/L	1	5/19/2008 8:08:18 PM
Surr: 4-Bromofluorobenzene	91.5	88.9-122		%REC	1	5/19/2008 8:08:18 PM

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
RL Reporting Limit

QA/QC SUMMARY REPORT

Client: XTO Energy
 Project: Ground Water

Work Order: 0805196

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 0805196-06A MSD		MSD			Batch ID: R28566	Analysis Date: 5/19/2008 9:06:27 PM			
Benzene	19.62	µg/L	1.0	98.1	85.9	113	0.417	27	
Toluene	19.56	µg/L	1.0	97.8	86.4	113	1.47	19	
Ethylbenzene	19.67	µg/L	1.0	98.4	83.5	118	2.17	10	
Xylenes, Total	59.20	µg/L	2.0	98.7	83.4	122	1.61	13	
Sample ID: 5ML RB		MBLK			Batch ID: R28566	Analysis Date: 5/16/2008 8:48:01 AM			
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 100NG BTEX LCS-R		LCS			Batch ID: R28566	Analysis Date: 5/19/2008 11:34:15 AM			
Benzene	19.50	µg/L	1.0	97.5	85.9	113			
Toluene	19.46	µg/L	1.0	97.3	86.4	113			
Ethylbenzene	19.55	µg/L	1.0	97.7	83.5	118			
Xylenes, Total	59.49	µg/L	2.0	99.2	83.4	122			
Sample ID: 0805196-06A MS		MS			Batch ID: R28566	Analysis Date: 5/19/2008 8:36:29 PM			
Benzene	19.70	µg/L	1.0	98.5	85.9	113			
Toluene	19.85	µg/L	1.0	99.2	86.4	113			
Ethylbenzene	20.10	µg/L	1.0	101	83.5	118			
Xylenes, Total	60.16	µg/L	2.0	100	83.4	122			

Qualifiers:

B Value above quantitation range
 J Analyte detected below quantitation limits
 R RPD outside accepted recovery limits
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name XTO ENERGY

Date Received:

5/14/2008

Work Order Number 0805196

Received by: ARS

Checklist completed by:

Jamie Shomin
Signature

5/14/08
Date

Sample ID labels checked by:

TS
Initials

Matrix:

Carrier name Greyhound

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

Yes ☒

No ☐

Water - Preservation labels on bottle and cap match?

Yes ☐

No ☐

N/A ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

7°

<6° C Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action

Chain of-Custody Record

Client: XTO Energy
Kim Champlin
 Address: 382 CR 3100
Aztec, NM 87410
 Phone #: 505-333-3207
 email or Fax#: _____
 QA/QC Package: _____
☒ Standard ☐ Level 4 (Full Validation)
☐ Other _____
☐ EDD (Type) _____

Date	Time	Sample Request ID
05/20/08	1017	Randel #7 MW-8
05/20/08	1123	OH Randel #7 MW-7
05/20/08	1332	Garcia Gas Cond 1 MW-2
05/20/08	1520	McCoy D#1E MW-3
05/13/08	0822	McCoy D#1E MW-2
05/13/08	0917	McCoy D#1E MW-1
05/20/08	0700	Tri-BLANK

Date: 5/13/08 Time: 1105
 Relinquished by: [Signature]
 Date: _____ Time: _____
 Relinquished by: _____

Turn-Around Time: _____
☒ Standard ☐ Rush
 Project Name: _____

Ground Water
 Project #: _____

Project Manager: Ashley Ager
970-946-1093
 Sampler: Troy Urban

Container Type and # <i>40 150/150</i>	Preservative Type	HEAL No.
<u>20cc/3</u>	<u>HCl</u>	<u>08051910</u>
<u>20cc/3</u>	<u>HCl</u>	<u>1</u>
<u>20cc/3</u>	<u>HCl</u>	<u>2</u>
<u>20cc/3</u>	<u>HCl</u>	<u>3</u>
<u>20cc/3</u>	<u>HCl</u>	<u>4</u>
<u>20cc/3</u>	<u>HCl</u>	<u>5</u>
<u>20cc/3</u>	<u>HCl</u>	<u>6</u>
<u>20cc/2</u>	<u>HCl</u>	<u>7</u>

Received by: [Signature] 9:05 5/14/08
 Received by: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com
 4901 Hawkins NE - Albuquerque, NM 87108
 Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX + MTBE + TMBs (8021)	
BTEX + MTBE + TPH (Gas only)	
TPH Method 8015B (Gas/Diesel)	
TPH (Method 418.1)	
EDB (Method 504.1)	
EDC (Method 8260)	
8310 (PNA or PAH)	
Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	
8081 Pesticides / 8082 PCB's	
8260B (VOA)	
8270 (Semi-VOA)	
Air Bubbles (Y or N)	

Remarks: Please copy Results to
ALA @ lodestar services, com
Per Ashley with the IO's for our #1 and #2 of 5/10

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly noted on the analytical report.

Hall Environmental Analysis Laboratory, Inc.

Date: 20-Nov-08

CLIENT: Lodestar Services
Project: XTO Groundwater**Lab Order:** 0811114**Lab ID:** 0811114-01
Client Sample ID: OH Randel #7-MW-7**Collection Date:** 11/7/2008 10:40:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	12000	200		µg/L	200	11/17/2008 11:24:02 PM
Toluene	16000	200		µg/L	200	11/17/2008 11:24:02 PM
Ethylbenzene	1100	200		µg/L	200	11/17/2008 11:24:02 PM
Xylenes, Total	17000	400		µg/L	200	11/17/2008 11:24:02 PM
Surr: 4-Bromofluorobenzene	104	65.9-130		%REC	200	11/17/2008 11:24:02 PM

Lab ID: 0811114-02
Client Sample ID: OH Randel #7-MW-8**Collection Date:** 11/7/2008 11:00:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	1.2	1.0		µg/L	1	11/17/2008 11:54:21 PM
Toluene	ND	1.0		µg/L	1	11/17/2008 11:54:21 PM
Ethylbenzene	ND	1.0		µg/L	1	11/17/2008 11:54:21 PM
Xylenes, Total	ND	2.0		µg/L	1	11/17/2008 11:54:21 PM
Surr: 4-Bromofluorobenzene	95.8	65.9-130		%REC	1	11/17/2008 11:54:21 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

QA/QC SUMMARY REPORT

Client: Lodestar Services
Project: XTO Groundwater

Work Order: 0811114

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 5ML RB		MBLK							
					Batch ID: R31251	Analysis Date: 11/14/2008 9:10:56 AM			
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 5ML RB		MBLK							
					Batch ID: R31251	Analysis Date: 11/14/2008 9:10:56 AM			
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: b 10		MBLK							
					Batch ID: R31252	Analysis Date: 11/17/2008 2:03:31 PM			
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 100NG BTEX LCS		LCS							
					Batch ID: R31251	Analysis Date: 11/14/2008 6:28:37 PM			
Benzene	22.03	µg/L	1.0	110	85.9	113			
Toluene	22.64	µg/L	1.0	113	86.4	113			S
Ethylbenzene	22.93	µg/L	1.0	115	83.5	118			
Xylenes, Total	68.94	µg/L	2.0	115	83.4	122			
Sample ID: 100NG BTEX LCS		LCS							
					Batch ID: R31252	Analysis Date: 11/17/2008 7:21:05 PM			
Benzene	21.86	µg/L	1.0	108	85.9	113			
Toluene	21.98	µg/L	1.0	110	86.4	113			
Ethylbenzene	21.95	µg/L	1.0	110	83.5	118			
Xylenes, Total	66.17	µg/L	2.0	110	83.4	122			

Qualifiers:

E Estimated value
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **LODESTAR SERVICES**

Date Received:

11/10/2008

Work Order Number **0811114**

Received by:

TLS

Checklist completed by:

Signature

Date

Sample ID labels checked by:

Initials

Matrix:

Carrier name Greyhound

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

Yes ☒

No ☐

Water - Preservation labels on bottle and cap match?

Yes ☐

No ☐

N/A ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

6°

<6° C Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action

