3R - 106

WORKPLANS

05/01/2008

3R0106

XTO ENERGY

RECEIVED

MAY 04 2007

Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

May 1, 2007

Mr. Glenn Von Gonten
New Mexico Oil Conservation Division
1220 South Francis Drive
Santa Fe, New Mexico 87505

RE: Bruington Gas Com #1

Dear Mr. Von Gonten,

XTO Energy, Inc. (XTO) is pleased to present this work plan for installation of groundwater monitoring well MW-8 at the Bruington Gas Com #1. The site is located in Unit E of Section 14 within Township 29 North and Range 11 West and includes seven existing groundwater monitoring wells. A site map is attached for your review. Quarterly groundwater sampling indicates that monitoring wells MW-2R, MW-5, MW-6 and MW-7 contain concentrations of benzene, toluene, ethylbenzene and xylenes (BTEX) that are above New Mexico Water Quality Control Commission (NMWQCC) standards. XTO intends to install a new groundwater well in an attempt to identify a source that is affecting groundwater quality at the site.

Attached for your review is the annual report submitted in January, 2007 documenting remedial activities conducted at the site. In 1993, affected soil from a former earthen blow pit located southwest of the wellhead was excavated. That same year, a second excavation removed additional soil affected by the blow pit, as well as soil affected by a former earthen separator pit located in the same vicinity. The perimeters of both excavations are delineated on the attached site map. In 1994, El Paso Field Services (EPFS) closed a third earthen pit on the site, which was located 144' southeast of the wellhead. The approximate location of the pit is also identified on the site map. EPFS removed 75 cubic yards of affected soil from the former pit location, but samples submitted for closure contained elevated levels of BTEX. An exploratory borehole was drilled in 1995 to identify the depth of affected soil. As documented on the borehole logs, affected soil was observed from approximately 12' to 22' below the ground surface (bgs). Sandstone was encountered at 22' bgs, and a sample analyzed for BTEX was clean. In 1998, EPFS submitted paperwork to the New Mexico Oil and Gas Conservation Division (NMOCD) requesting risk-based closure of the pit. The affected soil between 12 and 22' bgs was never removed.

Upon purchase of the site, XTO installed groundwater monitoring wells and began monitoring groundwater quality. Groundwater samples collected from wells MW-2R, MW-5, MW-6 and MW-7 have been consistently high in BTEX concentrations. Results from the most recent groundwater sampling event (March 28, 2007) are shown on the site map. Trenches were dug in March of 2006 to analyze soil properties and attempt to delineate the extent of affected soil. Historic information suggests the former EPFS pit is still a cause for concern.

In order to determine if soil from the former EPFS pit is affecting groundwater at the Bruington Gas Com #1, XTO intends to install groundwater monitoring well MW-8 between the EPFS pit and existing monitoring well MW-7. The proposed location is shown on the site map. The well will be constructed of schedule 40, two-inch diameter polyvinyl-chloride (PVC) and include 0.01-inch machine slotted flush-threaded PVC well screen. Ten feet of screen will be set beneath the

water table and five feet above to allow for seasonal fluctuations. A clean 10-20 grade silica sand gravel pack will be placed from the bottom of the boring to three feet below the ground surface. Two feet of three-eights inch natural bentonite chips will be set above the gravel pack followed by a neat cement slurry, containing a minimum of five percent powdered bentonite, to the surface. XTO will develop the new well by purging fluid from the well until the pH, specific conductivity and temperature have stabilized and turbidity has been reduced to the greatest extent possible. The well will be added to the quarterly sampling schedule already developed for the Bruington Gas Com #1 and described in the attached annual report. Water levels and dissolved oxygen concentrations within the groundwater will be measured bi-monthly.

Within the past year, quarterly measurements of water levels within existing monitoring wells have been conducted. Erratic results have made groundwater flow directions and rates challenging to infer. The results suggest the documented top of casing elevations used to determine groundwater elevations are suspect, possibly affected by subsidence within the backfilled excavations or undocumented repairs to groundwater wells. A new survey of the wells is planned before proceeding with the well installation described above. Groundwater flow will be characterized using the previously measured water levels to determine if proposed location of MW-8 is upgradient of the affected groundwater. If it is not, a new plan for addressing the groundwater will be developed.

XTO proposes to complete this work on May 2, 2007, and monitoring will begin immediately. Should you have any questions or require additional information, please do not hesitate to contact me at (505) 324-1090.

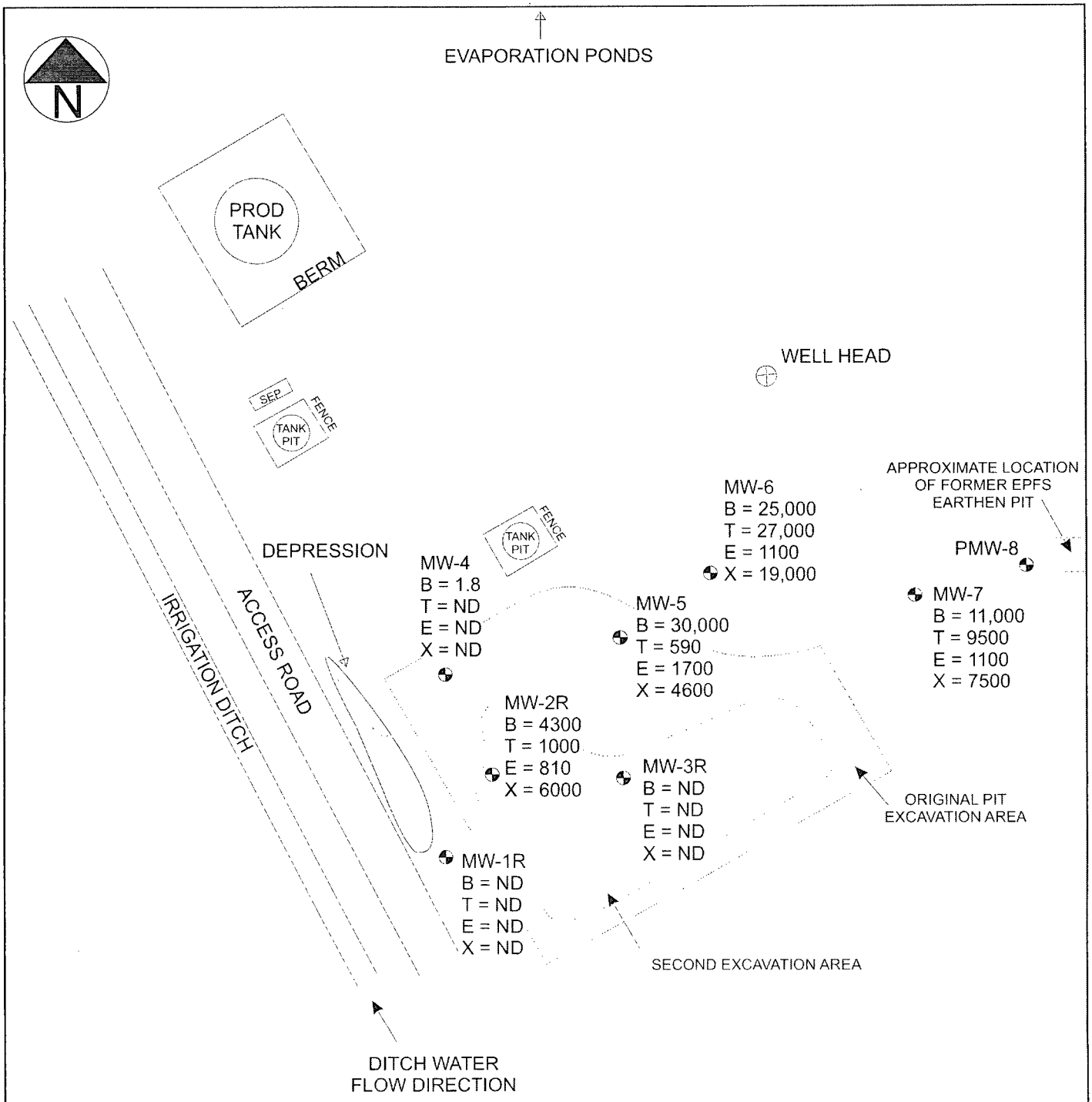
Sincerely,
XTO Energy, Incorporated

Lisa Winn by kme

Lisa Winn

Cc: Kim Champlin, XTO Energy
Martin Nee, Lodestar Services
Ashley Ager, Lodestar Services
File

Attachments: Site Map
Bruington Gas Com #1 Annual Report



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.

1 INCH = 50 FEET

0 50 100 FT.

B	= CONCENTRATION OF BENZENE (ug/L)
T	= CONCENTRATION OF TOLUENE (ug/L)
E	= CONCENTRATION OF ETHYLBENZENE (ug/L)
X	= CONCENTRATION OF TOTAL XYLENES (ug/L)
ND	= NOT DETECTED

Lodestar Services, Inc PO Box 3861 Farmington, NM 87499	BRUINGTON GAS COM #1 SW/4 NW/4 SEC. 14, T29N, R11W SAN JUAN COUNTY, NEW MEXICO	PROJECT: XTO GROUND WATER DRAWN BY: ALA REVISED: 04/21/07	SITE MAP WITH GROUNDWATER SAMPLING RESULTS 03/28/2007

XTO ENERGY INC.

ANNUAL GROUNDWATER REPORT

2006

BRUINGTON GC #1
(E) SECTION 14 – T29N – R11W, NMPM
SAN JUAN COUNTY, NEW MEXICO

PREPARED FOR:
MR. GLENN VON GONTEN
NEW MEXICO OIL CONSERVATION DIVISION

January 2007

TABLE OF CONTENTS

2006 XTO GROUNDWATER REPORT

BRUINGTON GAS COM #1

SITE DETAILS

Legals - Twn: 29N **Rng:** 11W **Sec:** 14 **Unit:** E
NMOCD Hazard Ranking: 20 **Land Type:** FEE

PREVIOUS ACTIVITIES

Excavation: Nov-93 (4000 cy)
Quarterly Sampling Initiated: Jul-96
Monitor Wells: Jun-96
Additional Monitor Wells: Feb-01/Jul-03

SITE MAP

A site map is presented as Figure 1.

SUMMARY TABLES

Historical and current groundwater laboratory results are summarized in Table 1. A summary of general water quality data is presented in Table 2. Copies of the laboratory reports and associated quality assurance/quality control data for 2006 are presented as Attachment 1.

POTENTIOMETRIC SURFACE DIAGRAMS

Historically, field data collected from the groundwater monitoring wells since 2001 indicate a groundwater gradient that consistently flows to the east. This field data was predominantly collected each year during the month of June when the unlined irrigation ditch adjacent to the site is running. Water levels collected during 2006 indicate a groundwater gradient that trends toward the east in April 2006 with a change to the southwest in November 2006. Figures 2-3 illustrate the estimated groundwater gradients for April 2006 and November 2006, respectively.

2006 ACTIVITIES

Annual Groundwater Remediation Report- The 2005 annual groundwater report was submitted to New Mexico Oil Conservation Division (NMOCD) in January 2006, proposing additional excavation of potentially impacted soil and consideration of a possible in situ remediation system. In March 2006 several test holes were dug to evaluate the concentration of petroleum hydrocarbons in the soil (Figures 8-9). Inquiries were conducted to identify historical or suspect activities near the project site.

Groundwater Monitoring – Semi-annual groundwater samples were collected from monitor wells MW-1R through MW-7 in 2006. Groundwater from monitor wells MW-2R, MW-5, MW-6, and MW-7 have indicated elevated concentrations of benzene, toluene, ethyl benzene and total xylenes (BTEX) constituents. Laboratory analyses of groundwater from other site wells, including MW-1R, MW-3R, and MW-4 show no detectable levels or trace concentrations of dissolved hydrocarbons.

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

Bore/Test Hole Reports are presented as Figures 4-7 representing drilling that occurred on site in February 2001 and July 2003.

DISPOSITION OF GENERATED WASTES

Waste generated (groundwater) during monitor well sampling and development was placed in the produced water separator tank located on the well site.

CONCLUSIONS

Historical records indicate an earthen blow pit was excavated and backfilled approximately 125 feet south of the wellhead in October 1993. The pit closure report indicates the limits of excavation were approximately 40 feet by 75 feet and no more than 20 feet maximum depth. In November 1993 additional excavation work was done combining the previously excavated blow pit and an earthen separator pit. Field notes state the excavation was 120 to 150 feet south-southwest of the wellhead (Figure 1) encompassing the original excavation. The second excavation was "L" shaped with the two longest sides estimated at 120 feet by 150 feet. Site diagrams of both excavation events show the majority of the excavated materials were southwest of the wellhead.

An approved risk-based closure request (Attachment 2) was discovered in the NMOCD records for an earthen production pit located east of the earthen pits previously excavated by Amoco Production Company (Amoco). According to the pit closure form the dimensions of the pit, closed by another operator, was 17 feet by 16 feet and 12 feet below ground surface. The report indicates elevated field screening measurements and heavy staining on walls and floor.

In January 1998 XTO Energy Inc. (XTO) acquired the Bruington Gas Com #1 from Amoco Production Company. XTO installed additional monitoring wells and continued to monitor the groundwater for natural attenuation.

Theories have been presented by individuals associated with the site that historically contaminated soils were not fully removed and may continue to contribute hydrocarbons to the groundwater. In March 2006 limited field screening was conducted indicating vadose zone contamination at depths below 15 feet (Attachment 4). This appears to be consistent with the most concentrated band of groundwater impacts around MW-2R, MW-5, MW-6 and MW-7.

Field data collected over recent years have been limited to one seasonal period. XTO is proposing to collect groundwater levels during months when the unlined Citizen's Irrigation Ditch is not flowing to confirm the groundwater gradients and better understand the influence of the ditch within the project area. XTO continues to screen appropriate remediation technologies and evaluate other potential sources to groundwater impacts.

RECOMMENDATIONS

- Continued site investigation including dissolved oxygen, water levels, and gradient information every other month.
- Quarterly sampling is proposed at all monitoring wells.
- Development and submittal of groundwater remediation work plan to OCD.

TABLE 1
XTO ENERGY INC. GROUNDWATER LAB RESULTS

BRUINGTON GC #1- BLOW PIT
UNIT E, SEC. 14, T29N, R11W

Revised Date: January 26, 2007

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
06-Jul-96	MW #1	7.00	20.36		ND	ND	ND	ND
05-May-99	MW #1R	10.55	20.00		16.5	26	8.1	78.2
29-Jun-00		11.14			17	ND	130	455.5
17-May-01		11.33			29	19	33	127
24-Sep-01		9.84			5.8	0.52	15	36
27-Jun-02		9.93			ND	ND	17	52.1
25-Jun-03		11.45			3.1	ND	ND	ND
25-Aug-03		12.14			ND	ND	2.2	0.9
25-Apr-06		11.55			1	1.3	1.8	5.9
27-Nov-06		13.17	20.23		ND	ND	ND	ND
07-Jun-96	MW #2	10.12	21.74		347	28.5	156	1,580
27-Jun-97		12.65	14.47		429	67.9	46.1	402.4
12-Jun-98	MW #2R	11.00	20.95		13,440	13,330	1,030	6,040
05-May-99		10.78			1,020	554	175	679
29-Jun-00		11.50			7,600	2,600	630	4,210
17-May-01		12.12			1,700	320	390	1,620
24-Sep-01		10.08			15,000	1,200	880	5,900
27-Jun-02		9.77			13,000	1,100	680	4,120
25-Jun-03		11.53			3,700	1,000	380	2,500
18-Jun-04		12.07			5,500	1,400	710	3,500
27-Jun-05		10.14			16,000	1,900	900	5,400
25-Apr-06		11.64			5,000	1,100	700	3,800
27-Nov-06		11.32	23.15		12,000	1,600	690	3,900
07-Jun-96	MW #3	13.05	21.17		ND	1.8	ND	ND
05-May-99		13.64	18.08		73.2	38.3	31.2	200.1
29-Jun-00		13.52			87	ND	3.4	8.3
17-May-01		14.51			ND	0.6	0.7	ND
24-Sep-01		12.15			ND	ND	ND	ND
25-Aug-03	MW #3R	11.81	20.00		ND	ND	1.3	ND
19-Nov-03		12.28			ND	ND	1.4	ND
25-Apr-06		12.56			ND	ND	ND	ND
27-Nov-06		12.60	21.93		ND	ND	ND	ND
17-May-01	MW #4	10.88	20.00		ND	ND	ND	ND
25-Apr-06		11.11			ND	ND	ND	ND
27-Nov-06		12.41	20.22		ND	ND	ND	ND
17-May-01	MW #5	16.00	25.00		25,000	620	870	6,610
24-Sep-01		13.70			26,000	110	470	6,900
27-Jun-02		13.83			26,000	280	900	6,670
25-Jun-03		15.73			26,000	ND	ND	4,400
18-Jun-04		15.82			26,000	ND	1,100	3,400
27-Jun-05		14.21			29,000	ND	920	3,400

TABLE 1
XTO ENERGY INC. GROUNDWATER LAB RESULTS

BRUINGTON GC #1- BLOW PIT
UNIT E, SEC. 14, T29N, R11W

Revised Date: January 26, 2007

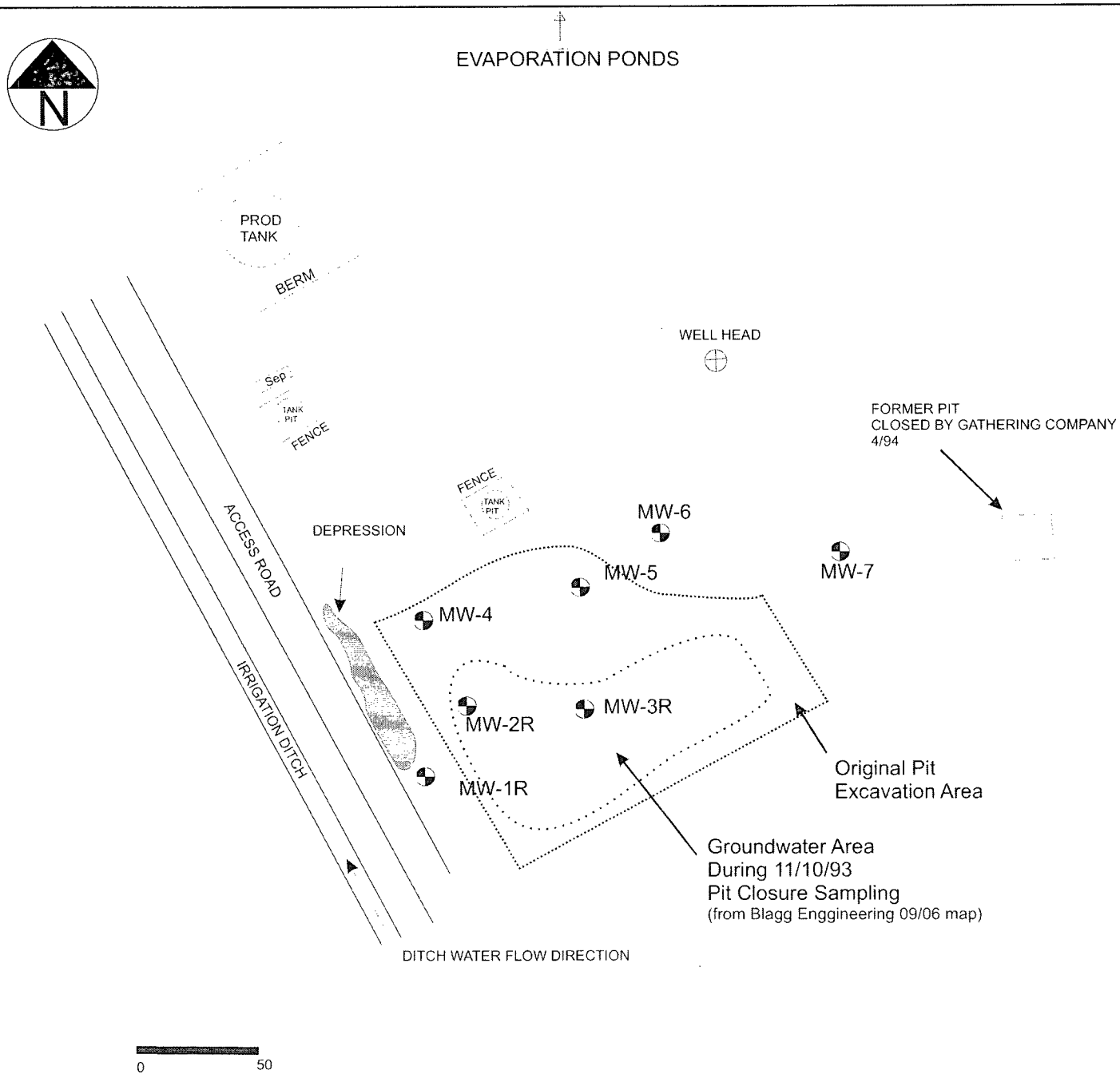
Sample Date	Monitor Well No.	DTW (ft)	TD (ft)	Product (ft)	Benzene ug/L	Toluene ug/L	Ethyl Benzene ug/L	Total Xylene ug/L
25-Apr-06	MW #5	16.21			28,000	ND	1600	2,700
27-Nov-06		15.24	25.20		22,000	ND	630	1,700
17-May-01	MW #6	19.47	25.00		28,000	15,000	1,000	9,400
24-Sep-01		14.46			22,000	6,000	1,100	6,900
27-Jun-02		16.68			28,000	16,000	990	9,800
25-Jun-03		18.94			22,000	16,000	ND	6,300
18-Jun-04		18.71			23,000	19,000	1,000	8,800
27-Jun-05		17.09			28,000	20,000	1,200	9,600
25-Apr-06		19.28			26,000	25,000	1,700	8,900
27-Nov-06		17.08	25.22		22,000	23,000	990	9,700
25-Aug-03	MW #7	17.93	25.00		18,000	11,000	930	8,200
18-Jun-04		18.87			11,000	7,800	670	5,000
27-Jun-05		17.40			14,000	8,700	880	5,000
25-Apr-06		19.14			19,000	6,600	1,200	5,100
27-Nov-06		16.94	25.34		6,100	4,400	420	2,500
NMWQCC GROUNDWATER STANDARDS					10	750	750	620

TABLE 2
XTO ENERGY INC. GROUNDWATER LAB RESULTS

BRUINGTON GC #1- BLOW PIT
UNIT E, SEC. 14, T29N, R11W

Revised Date: January 26, 2007
Sample Date: June 29, 2000

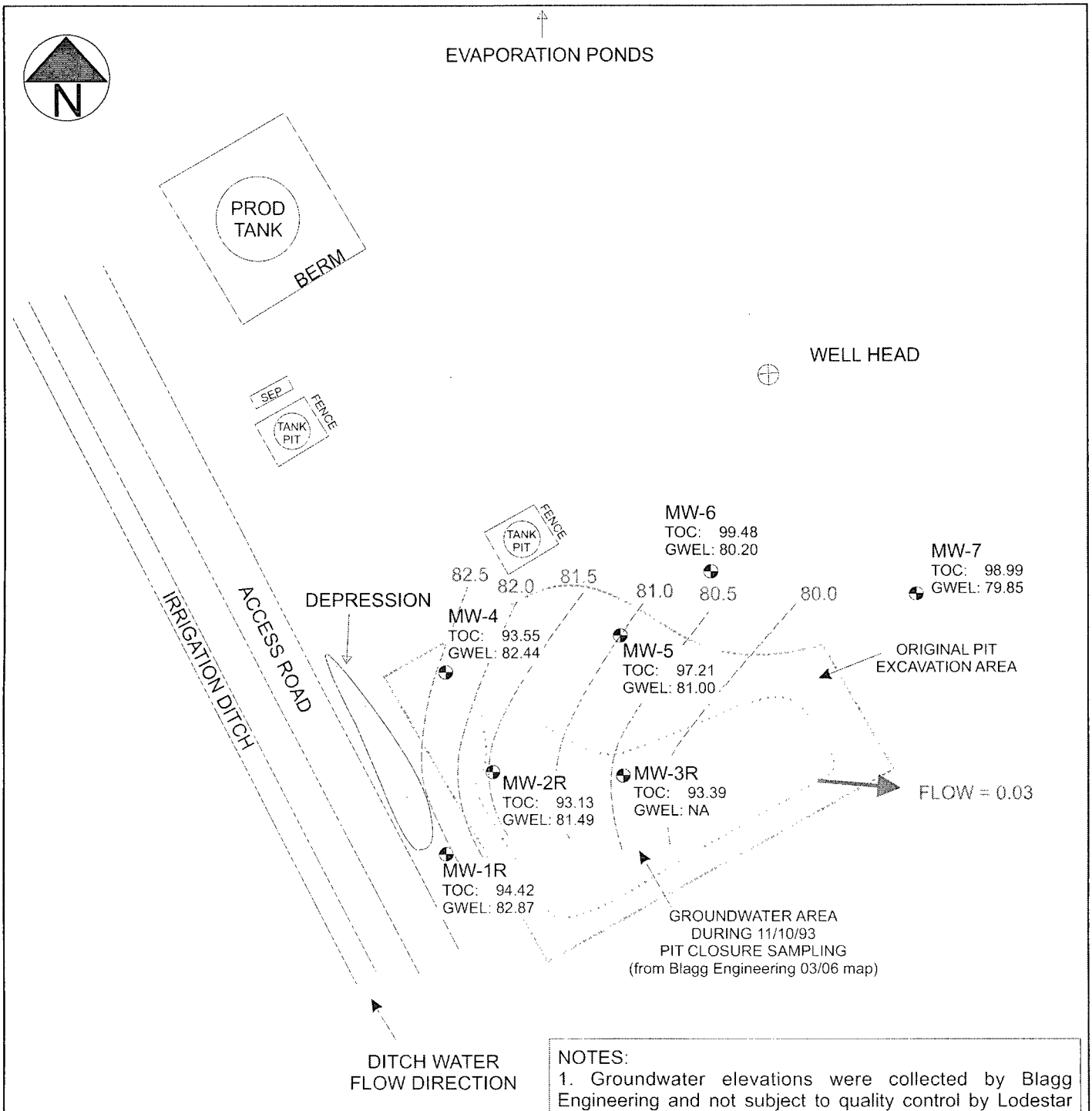
PARAMETERS	MW #1R	MW #2R	MW #3	UNITS
LAB Ph	6.72	7.2	6.96	s.u.
LAB CONDUCTIVITY @ 25 C	8,720	15,100	17,600	umhos/cm
TOTAL DISSOLVED SOLIDS @ 180 C	4,350	7,530	8,750	mg/L
TOTAL DISSOLVED SOLIDS (Calc)	4,310	7,490	8,700	mg/L
SODIUM ABSORPTION RATIO	7.4	32.9	25.1	ratio
TOTAL ALKALINITY AS CaCO3	562	3,120	1,050	mg/L
TOTAL HARDNESS AS CaCO3	1,700	940	1,520	mg/L
BICARBONATE AS HCO3	562	3,120	1,050	mg/L
CARBONATE AS CO3	< 0.1	< 0.1	< 0.1	mg/L
HYDROXIDE AS OH	< 0.1	< 0.1	< 0.1	mg/L
NITRATE NITORGEN	0.6	3.6	0.9	mg/L
NITRITE NITROGEN	0.028	0.284	0.048	mg/L
CHLORIDE	28.2	1040	118	mg/L
FLUORIDE	1.54	0.76	3.2	mg/L
PHOSPHATE	1.1	2.7	5.6	mg/L
SULFATE	2,610	1,880	5,150	mg/L
IRON	14.4	2.04	16.2	mg/L
CALCIUM	539	295	418	mg/L
MAGNESIUM	85.5	49.3	115	mg/L
POTASSIUM	1.0	2.1	2.9	mg/L
SODIUM	700	2,320	2,250	mg/L
CATION/ANION DIFFERENCE	0.1	0.05	0.12	%



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.

DRAWING BASED ON SITE MAP
BY BLAGG ENGINEERING 10/11/05

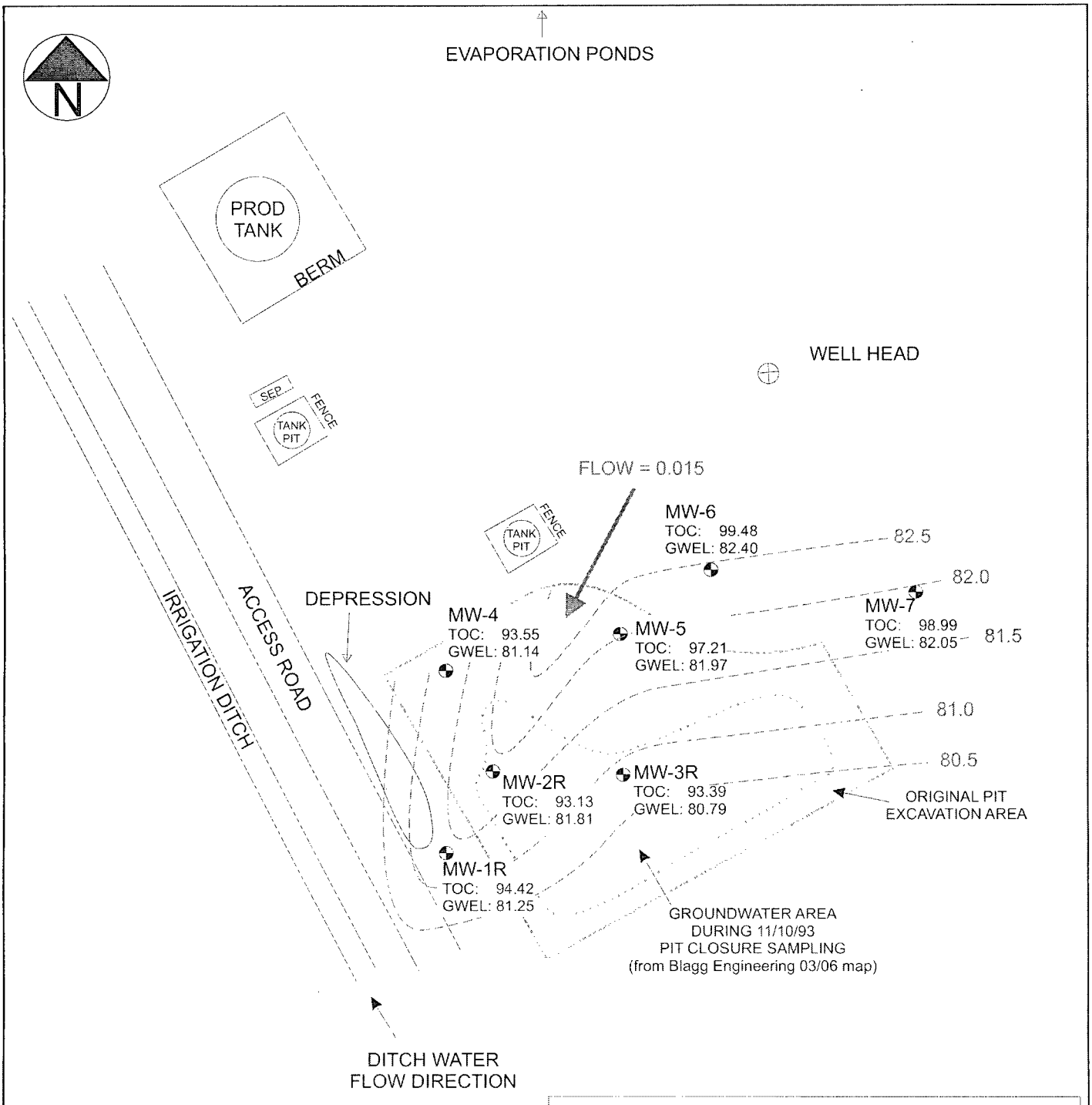
Lodestar Services, Inc PO Box 3861 Farmington, NM 87499	BRUINGTON GAS COM #1 SW/4 NW/4 SEC. 14, T29N, R11W SAN JUAN COUNTY, NEW MEXICO	PROJECT: XTO GROUND WATER DRAWN BY: MJN REVISED: 02/7/07	FIGURE 1 SITE MAP



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

NOTES:
1. Groundwater elevations were collected by Blagg Engineering and not subject to quality control by Lodestar Services, Inc.
2. MW-3 casing was damaged and TOC elevation is questionable. Groundwater elevation at MW-3R was not used to infer contours.
3.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.

Lodestar Services, Inc PO Box 3861 Farmington, NM 87499	BRUINGTON GAS COM #1 SW/4 NW/4 SEC. 14, T29N, R11W SAN JUAN COUNTY, NEW MEXICO	PROJECT: XTO GROUND WATER DRAWN BY: ALA REVISED: 01/24/07	FIGURE 2 GROUNDWATER GRADIENT MAP 04/25/2006



NOTES:
1. Historic notes indicate MW-3 casing was damaged in the past, and TOC elevation may be questionable. The well does not currently appear to be damaged.
2. 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	BRUINGTON GAS COM #1 SW/4 NW/4 SEC. 14, T29N, R11W SAN JUAN COUNTY, NEW MEXICO	PROJECT: XTO GROUND WATER DRAWN BY: ALA REVISED: 12/01/06	FIGURE 3 GROUNDWATER GRADIENT MAP 11/27/2006

FIGURE 4

BLAGG ENGINEERING, INC.

P.O. BOX 87

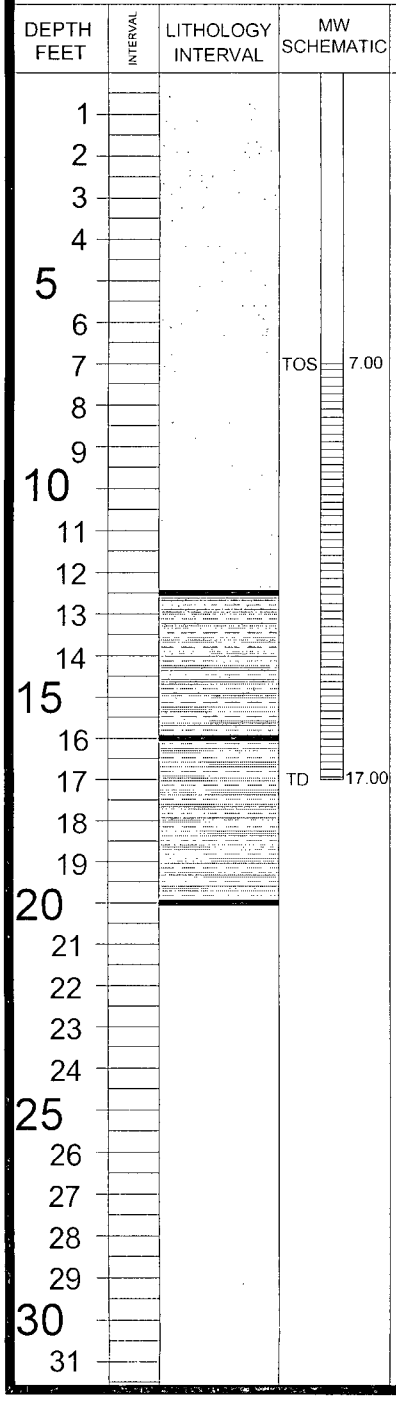
BLOOMFIELD, NM 87413

(505) 632-1199

BORE / TEST HOLE REPORT

LOCATION NAME:	BRUINGTON GC # 1
CLIENT:	XTO ENERGY INC.
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION:	N30W, 39.5 FEET FROM MW # 2R.

BORING #.....	BH - 4
MW #.....	4
PAGE #.....	4
DATE STARTED	2/20/01
DATE FINISHED	2/20/01
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 3.00 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH ORANGE TO MODERATE YELLOWISH BROWN SAND (POSSIBLY FILL DIRT), NON COHESIVE, SLIGHTLY MOIST, FIRM. NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.0 - 12.5 FT. INTERVAL).

▼ **GW DEPTH ON 4/30/01 = 11.52 FT. (APPROX.) FROM GROUND SURFACE.**

DARK YELLOWISH BROWN SILTY CLAY, SLIGHTLY COHESIVE, SLIGHTLY MOIST, FIRM TO SLIGHTLY STIFF, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (12.5 - 16.0 FT. INTERVAL).

DARK YELLOWISH BROWN CLAY, PLASTIC, SATURATED, FIRM TO STIFF, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (16.0 - 20.0 FT. INTERVAL).

NOTES:

- **SAND.**
- **SILTY CLAY.**
- **CLAY.**

TOS - TOP OF SCREEN FROM GROUND SURFACE.

TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.

GW - GROUND WATER.

DRAWING:	DATE:	DWN BY:
BRU-MW4.SKF	9/15/03	NJV

FIGURE 5

BLAGG ENGINEERING, INC.

P.O. BOX 87

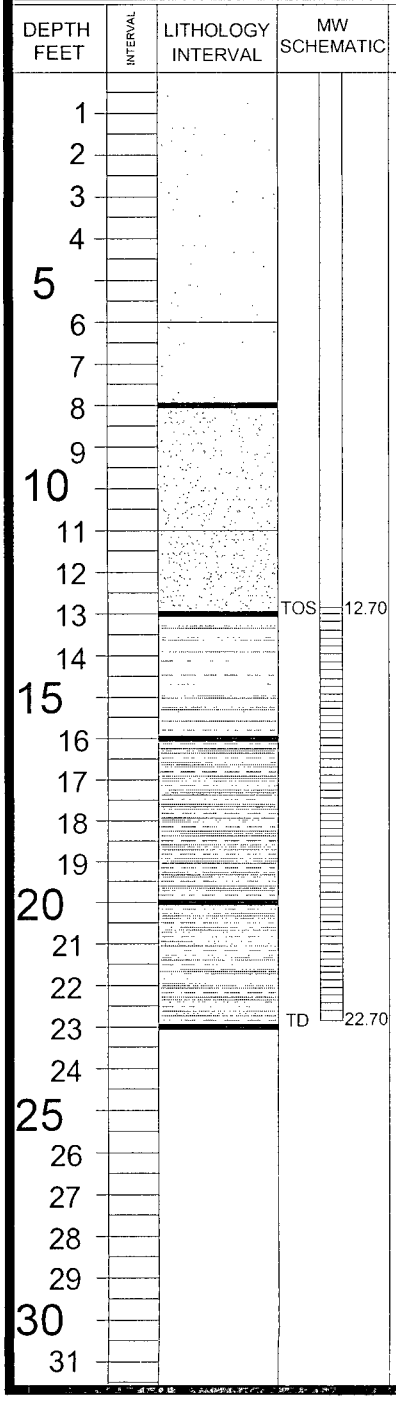
BLOOMFIELD, NM 87413

(505) 632-1199

BORE / TEST HOLE REPORT

LOCATION NAME:	BRUINGTON GC # 1
CLIENT:	XTO ENERGY INC.
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION:	N42E, 64.2 FEET FROM MW # 2R.

BORING #.....	BH - 5
MW #.....	5
PAGE #.....	5
DATE STARTED	2/20/01
DATE FINISHED	2/20/01
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.30 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.0 - 6.0 FT. INTERVAL).

SAME AS ABOVE EXCEPT DENSE (6.0 - 8.0 FT. INTERVAL).

MODERATE YELLOWISH ORANGE TO DARK YELLOWISH BROWN SILTY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM. NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (8.0 - 11.0 FT. INTERVAL).

SAME AS ABOVE EXCEPT MODERATE TO DARK YELLOWISH BROWN (11.0 - 13.0 FT. INTERVAL).

▼ **GW DEPTH ON 5/17/01 = 13.70 FT. (APPROX.) FROM GROUND SURFACE.**

LIGHT TO MEDIUM GRAY SILTY CLAY TO CLAY, SLIGHTLY COHESIVE TO PLASTIC, SLIGHTLY SATURATED TO SATURATED, FIRM TO SLIGHTLY STIFF, SLIGHT HYDROCARBON ODOR DETECTED PHYSICALLY (13.0 - 16.0 FT. INTERVAL).

MEDIUM GRAY SILTY CLAY TO CLAY, SLIGHTLY COHESIVE TO SLIGHTLY PLASTIC, SLIGHTLY MOIST TO WET, FIRM TO SLIGHTLY STIFF, STRONGER HYDROCARBON ODOR DETECTED PHYSICALLY (16.0 - 20.0 FT. INTERVAL).

MODERATE YELLOWISH BROWN SILTY CLAY, SLIGHTLY COHESIVE, SATURATED, FIRM TO SLIGHTLY STIFF, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (20.0 - 23.0 FT. INTERVAL).

NOTES:

- **SAND.**
- **SILTY SAND.**
- **SILTY CLAY AND/OR SILTY CLAY TO CLAY.**

TOS - TOP OF SCREEN FROM GROUND SURFACE.

TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.

GW - GROUND WATER.

DRAWING:	DATE:	DWN BY:
BRU-MW5.SKF	9/15/03	NJV

FIGURE 6

BLAGG ENGINEERING, INC.

P.O. BOX 87

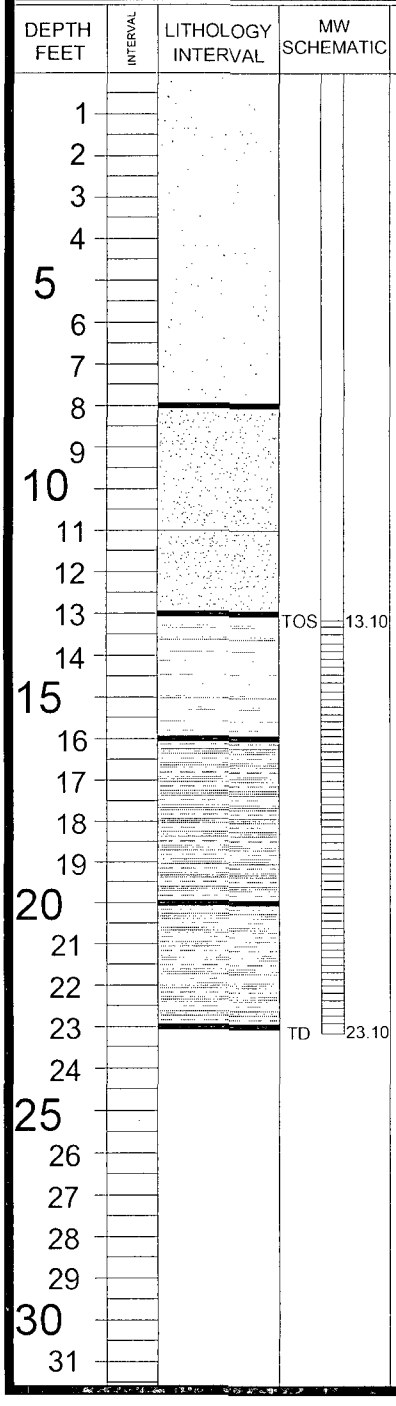
BLOOMFIELD, NM 87413

(505) 632-1199

BORE / TEST HOLE REPORT

LOCATION NAME:	BRUINGTON GC # 1
CLIENT:	XTO ENERGY INC.
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION:	N47E, 106.8 FEET FROM MW # 2R.

BORING #.....	BH - 6
MW #.....	6
PAGE #.....	6
DATE STARTED	2/20/01
DATE FINISHED	2/20/01
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 1.90 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.0 - 8.0 FT. INTERVAL).

MODERATE YELLOWISH ORANGE TO DARK YELLOWISH BROWN SILTY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (8.0 - 11.0 FT. INTERVAL).

SAME AS ABOVE EXCEPT MODERATE TO DARK YELLOWISH BROWN (11.0 - 13.0 FT. INTERVAL).

MEDIUM GRAY SILTY CLAY TO CLAY, SLIGHTLY COHESIVE, WET TO SATURATED, FIRM TO SLIGHTLY STIFF, HYDROCARBON ODOR DETECTED PHYSICALLY (13.0 - 16.0 FT. INTERVAL).

▼ **GW DEPTH ON 5/17/01 = 17.57 FT. (APPROX.) FROM GROUND SURFACE.**

MEDIUM TO DARK GRAY SILTY CLAY TO CLAY, SLIGHTLY COHESIVE TO SLIGHTLY PLASTIC, SLIGHTLY MOIST TO WET, FIRM TO SLIGHTLY STIFF, STRONGER HYDROCARBON ODOR DETECTED PHYSICALLY (16.0 - 20.0 FT. INTERVAL).

MODERATE YELLOWISH BROWN SILTY CLAY, SLIGHTLY COHESIVE, SATURATED, FIRM TO SLIGHTLY STIFF, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (20.0 - 23.0 FT. INTERVAL).

NOTES:

- **SAND.**
- **SILTY SAND.**
- **SILTY CLAY AND/OR SILTY CLAY TO CLAY.**

TOS - **TOP OF SCREEN FROM GROUND SURFACE.**

TD - **TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.**

GW - **GROUND WATER.**

DRAWING:	DATE:	DWN BY:
BRU-MW6.SKF	9/15/03	NJV

FIGURE 7

BLAGG ENGINEERING, INC.

P.O. BOX 87

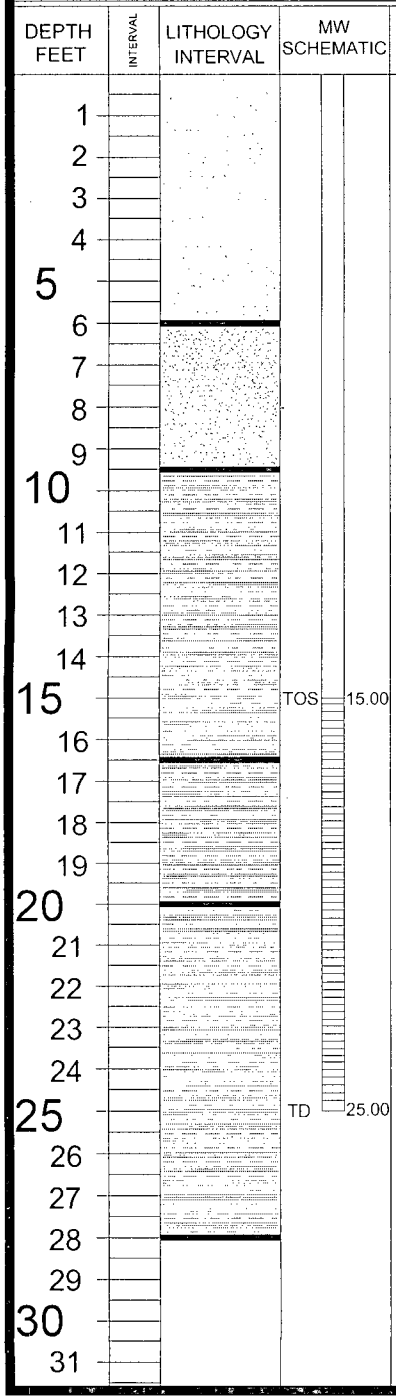
BLOOMFIELD, NM 87413

(505) 632-1199

BORE / TEST HOLE REPORT

LOCATION NAME:	BRUINGTON GC # 1
CLIENT:	XTO ENERGY INC.
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION:	S34.5E, 93 FEET FROM WELL HEAD.

BORING #.....	BH - 7
MW #.....	7
PAGE #.....	7
DATE STARTED	7/10/03
DATE FINISHED	7/10/03
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. AT GROUND SURFACE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.0 - 6.0 FT. INTERVAL).

MODERATE YELLOWISH ORANGE TO DARK YELLOWISH BROWN SILTY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (6.0 - 9.5 FT. INTERVAL).

MODERATE BROWN SILTY CLAY TO CLAY, SLIGHTLY COHESIVE, WET TO SATURATED, FIRM TO STIFF, HYDROCARBON ODOR DETECTED PHYSICALLY (9.5 - 16.5 FT. INTERVAL).

▼ **GW DEPTH ON 8/25/03 = 17.93 FT. (APPROX.) FROM GROUND SURFACE.**

MEDIUM TO DARK GRAY SILTY CLAY TO CLAY, SLIGHTLY COHESIVE TO SLIGHTLY PLASTIC, SLIGHTLY MOIST TO WET, FIRM TO SLIGHTLY STIFF, STRONGER HYDROCARBON ODOR DETECTED PHYSICALLY (16.5 - 20.0 FT. INTERVAL).

MODERATE YELLOWISH BROWN SILTY CLAY, SLIGHTLY COHESIVE, SATURATED, FIRM TO SLIGHTLY STIFF, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (20.0 - 28.0 FT. INTERVAL).

NOTES:

- **SAND.**
- **SILTY SAND.**
- **SILTY CLAY AND/OR SILTY CLAY TO CLAY.**

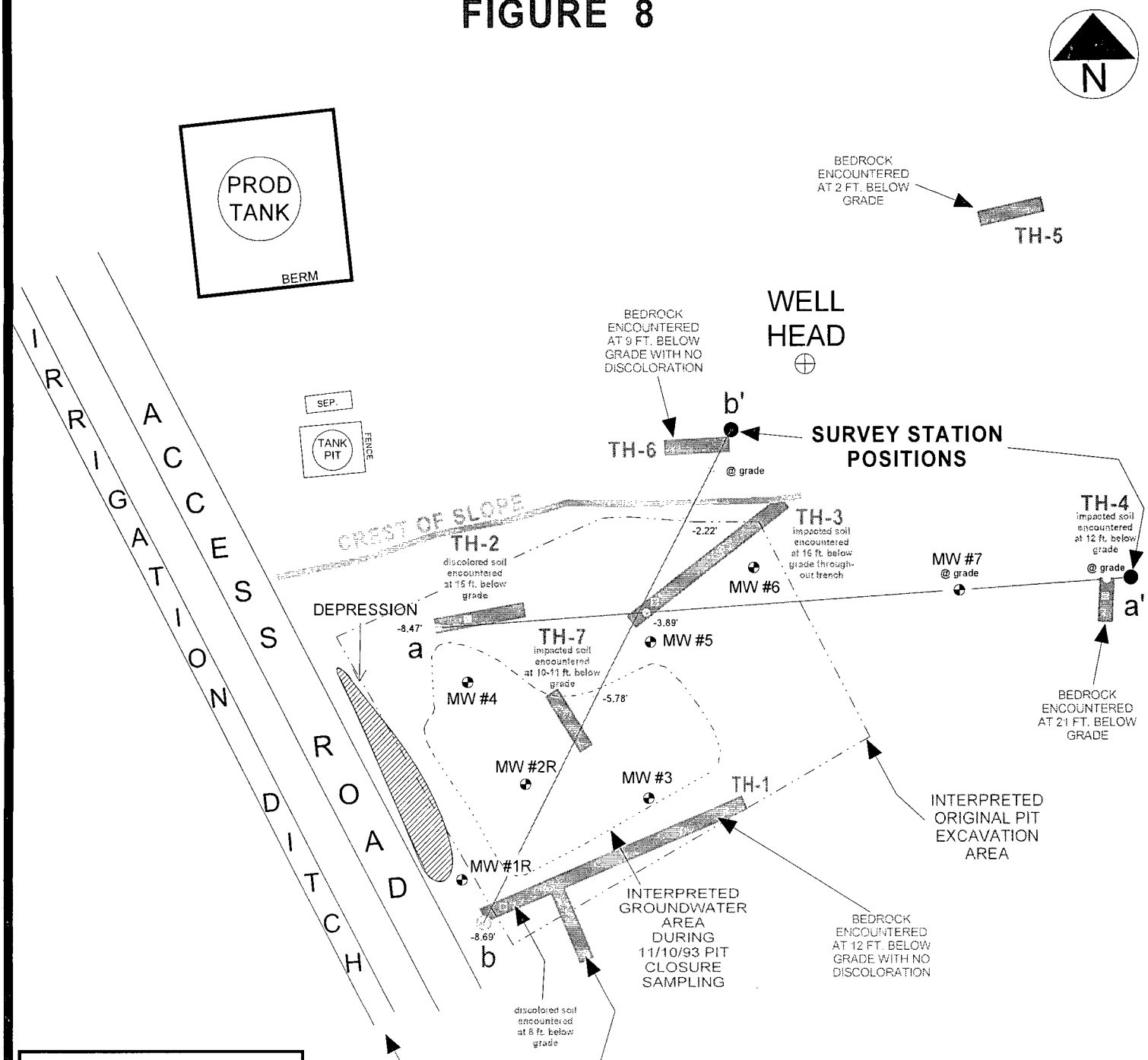
TOS - **TOP OF SCREEN FROM GROUND SURFACE.**

TD - **TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.**

GW - **GROUND WATER.**

DRAWING:	DATE:	DWN BY:
BRU-MW7.SKF	9/15/03	NJV

FIGURE 8



- INDICATES SURVEY ROD POSITION.
- INDICATES SAMPLE LOCATION.

ONE INCH = 50 FEET

0 50 100 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.

OVM CALIBRATION - 53.4 ppm with 100 ppm Isobutylence gas & response factor set @ 0.52 ; TIME - 10:40 (prior to sample readings).

DATE	TIME	SAMPLE ID	SAMPLE DEPTH	OVM (parts per million)
3/6/06	0944	TH # 1	8 FT.	0.0
3/6/06	1402	TH # 2	15 FT.	5.6 *
3/6/06	1445	TH # 3	16 FT.	729
3/6/06	1525	TH # 4	12 FT.	40.6 *
3/6/06	1535	TH # 4	20 FT.	144.3 *

* - INDICATES SAMPLE SUBMITTED TO LAB FOR APPROPRIATE ANALYSES.

XTO ENERGY INC.

BRUINGTON GC 1

SW/4 NW/4 SEC. 14, T29N, R11W

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: SITE ASSESSMENT

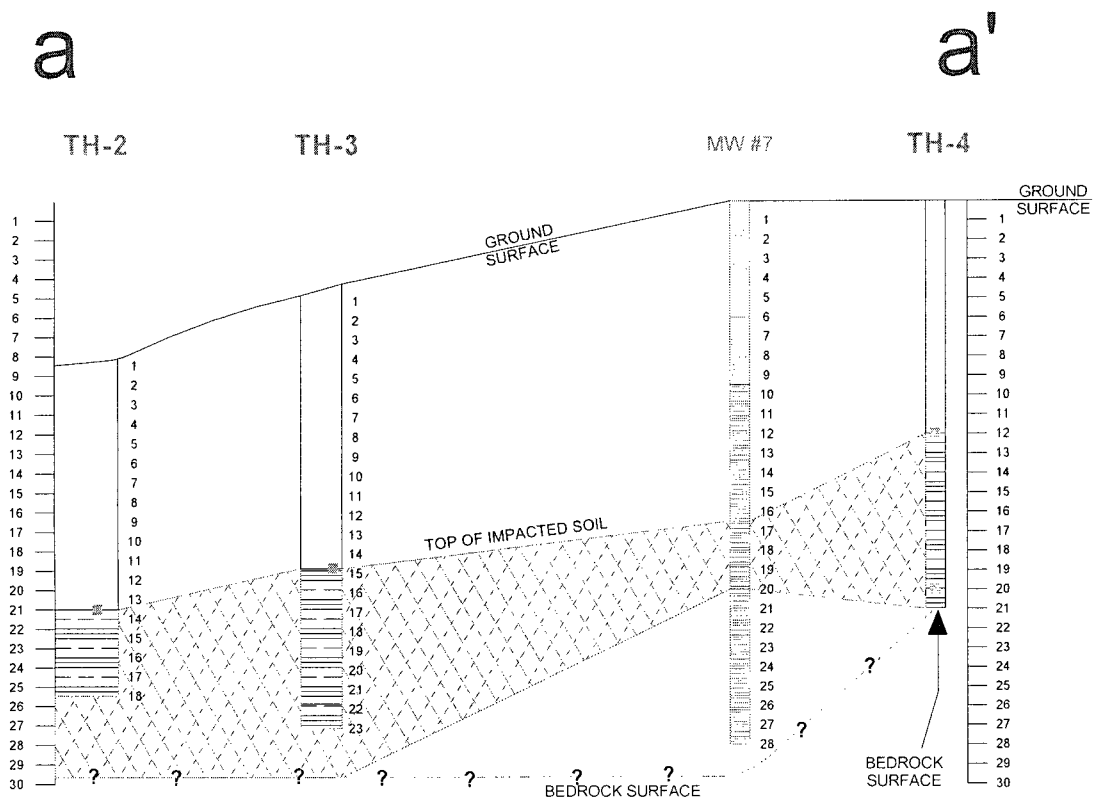
DRAWN BY: NJV

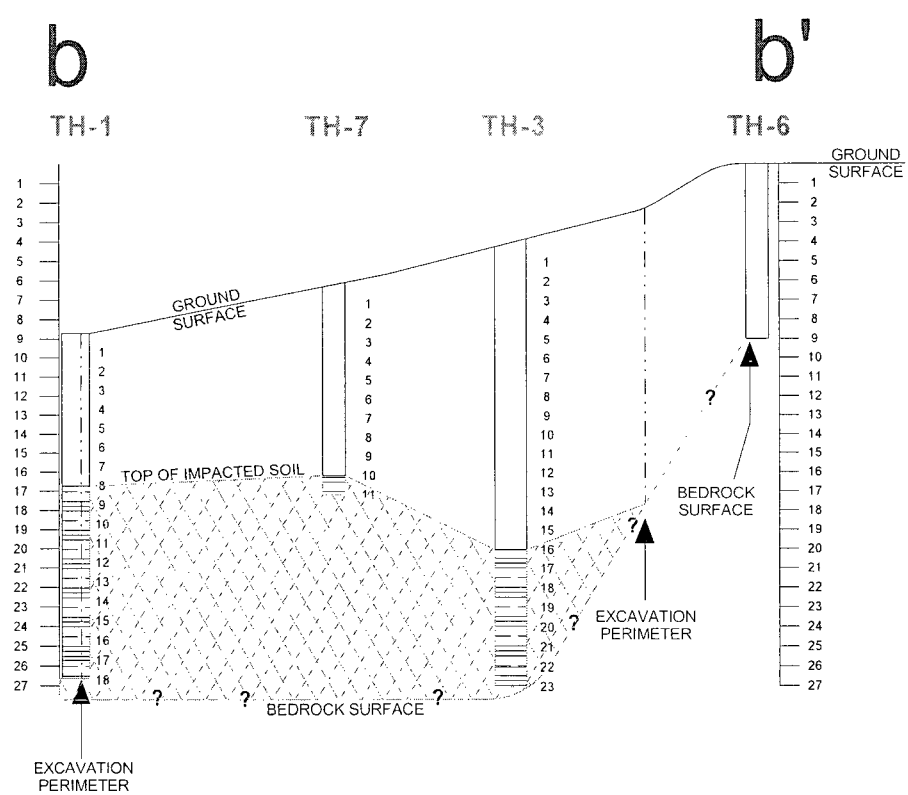
FILENAME: BRUINGTON-SM2.SKF

REVISED: 03/11/06 NJV

03/06

FIGURE 9





XTO ENERGY INC. BRUINGTON GC 1 SW/4 NW/4 SEC. 14, T29N, R11W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: SITE ASSESSMENT DRAWN BY: NJV FILENAME: BRUINGTON-SM2-XSEC-A.SKF DRAFTED: 03/11/06 NJV	CROSS SECTION VIEWS 03/06

Hall Environmental Analysis Laboratory

Date: *01-May-06*

CLIENT: Blagg Engineering
Project: Bruington GC #1

Lab Order: 0604260

Lab ID: 0604260-01 **Collection Date:** 4/25/2006 1:55:00 PM
Client Sample ID: MW #1R **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: HLM
Benzene	1.0	1.0		µg/L	1	4/27/2006 10:01:21 PM
Toluene	1.3	1.0		µg/L	1	4/27/2006 10:01:21 PM
Ethylbenzene	1.8	1.0		µg/L	1	4/27/2006 10:01:21 PM
Xylenes, Total	5.9	3.0		µg/L	1	4/27/2006 10:01:21 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/27/2006 10:01:21 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/27/2006 10:01:21 PM
Surr: 4-Bromofluorobenzene	103	85-115		%REC	1	4/27/2006 10:01:21 PM

Lab ID: 0604260-02 **Collection Date:** 4/25/2006 4:47:00 PM
Client Sample ID: MW #2R **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: HLM
Benzene	5000	250		µg/L	250	4/28/2006 10:30:52 PM
Toluene	1100	20		µg/L	20	4/27/2006 10:33:10 PM
Ethylbenzene	700	20		µg/L	20	4/27/2006 10:33:10 PM
Xylenes, Total	3800	60		µg/L	20	4/27/2006 10:33:10 PM
1,2,4-Trimethylbenzene	540	20		µg/L	20	4/27/2006 10:33:10 PM
1,3,5-Trimethylbenzene	130	20		µg/L	20	4/27/2006 10:33:10 PM
Surr: 4-Bromofluorobenzene	107	85-115		%REC	20	4/27/2006 10:33:10 PM

Lab ID: 0604260-03 **Collection Date:** 4/25/2006 1:30:00 PM
Client Sample ID: MW #3R **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: HLM
Benzene	ND	1.0		µg/L	1	4/28/2006 2:11:26 PM
Toluene	ND	1.0		µg/L	1	4/28/2006 2:11:26 PM
Ethylbenzene	ND	1.0		µg/L	1	4/28/2006 2:11:26 PM
Xylenes, Total	ND	3.0		µg/L	1	4/28/2006 2:11:26 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/28/2006 2:11:26 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/28/2006 2:11:26 PM
Surr: 4-Bromofluorobenzene	116	85-115	S	%REC	1	4/28/2006 2:11:26 PM

Qualifiers:
- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Hall Environmental Analysis Laboratory

Date: *01-May-06*

CLIENT: Blagg Engineering
Project: Bruington GC #1

Lab Order: 0604260

Lab ID: 0604260-04 Collection Date: 4/25/2006 1:15:00 PM
Client Sample ID: MW #4 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: HLM
Benzene	ND	1.0		µg/L	1	4/27/2006 11:31:33 PM
Toluene	ND	1.0		µg/L	1	4/27/2006 11:31:33 PM
Ethylbenzene	ND	1.0		µg/L	1	4/27/2006 11:31:33 PM
Xylenes, Total	ND	3.0		µg/L	1	4/27/2006 11:31:33 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/27/2006 11:31:33 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/27/2006 11:31:33 PM
Surr: 4-Bromofluorobenzene	95.1	85-115		%REC	1	4/27/2006 11:31:33 PM

Lab ID: 0604260-05 Collection Date: 4/25/2006 5:26:00 PM
Client Sample ID: MW #5 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: HLM
Benzene	28000	500		µg/L	500	4/28/2006 11:00:05 PM
Toluene	ND	20		µg/L	20	4/28/2006 12:03:22 AM
Ethylbenzene	1600	20		µg/L	20	4/28/2006 12:03:22 AM
Xylenes, Total	2700	1500		µg/L	500	4/28/2006 11:00:05 PM
1,2,4-Trimethylbenzene	700	20		µg/L	20	4/28/2006 12:03:22 AM
1,3,5-Trimethylbenzene	ND	20		µg/L	20	4/28/2006 12:03:22 AM
Surr: 4-Bromofluorobenzene	111	85-115		%REC	20	4/28/2006 12:03:22 AM

Lab ID: 0604260-06 Collection Date: 4/25/2006 5:21:00 PM
Client Sample ID: MW #6 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: HLM
Benzene	26000	500		µg/L	500	4/28/2006 11:29:11 PM
Toluene	25000	500		µg/L	500	4/28/2006 11:29:11 PM
Ethylbenzene	1700	20		µg/L	20	4/28/2006 12:35:12 AM
Xylenes, Total	8900	1500		µg/L	500	4/28/2006 11:29:11 PM
1,2,4-Trimethylbenzene	640	20		µg/L	20	4/28/2006 12:35:12 AM
1,3,5-Trimethylbenzene	320	20		µg/L	20	4/28/2006 12:35:12 AM
Surr: 4-Bromofluorobenzene	104	85-115		%REC	20	4/28/2006 12:35:12 AM

Qualifiers:
- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Hall Environmental Analysis Laboratory

Date: *01-May-06*

CLIENT: Blagg Engineering
Project: Bruington GC #1

Lab Order: 0604260

Lab ID: 0604260-07
Client Sample ID: MW #7

Collection Date: 4/25/2006 5:07:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: HLM
Benzene	19000	500		µg/L	500	4/28/2006 11:58:19 PM
Toluene	6600	500		µg/L	500	4/28/2006 11:58:19 PM
Ethylbenzene	1200	20		µg/L	20	4/28/2006 1:06:53 AM
Xylenes, Total	5100	60		µg/L	20	4/28/2006 1:06:53 AM
1,2,4-Trimethylbenzene	570	20		µg/L	20	4/28/2006 1:06:53 AM
1,3,5-Trimethylbenzene	130	20		µg/L	20	4/28/2006 1:06:53 AM
Surr: 4-Bromofluorobenzene	101	85-115		%REC	20	4/28/2006 1:06:53 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BLAGG ENER. / XTO ENERGY
Project Name: BRUINGTON GC #1
Address: P.O. BOX 87
BLFD, NM 87413
Project #:
Project Manager: NV
Phone #: 632-1199
Sampler: NV
Fax #:
Sample Temperature: 2°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.	(BTEX) + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
4/25/06	1355	WATER	MW # 1R	2-40ml	✓			0042600-1	✓																
4/25/06	1647	WATER	MW # 2R	2-40ml	✓			-2	✓																
4/25/06	1330	WATER	MW # 3R	2-40ml	✓			-3	✓																
4/25/06	1315	WATER	MW # 4	2-40ml	✓			-4	✓																
4/25/06	1726	WATER	MW # 5	2-40ml	✓			-5	✓																
4/25/06	1721	WATER	MW # 6	2-40ml	✓			-6	✓																
4/25/06	1707	WATER	MW # 7	2-40ml	✓			-7	✓																

Remarks:

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
4/26/06	1400		
4/27/06	0754		4/27/06 0754

CLIENT: Blagg Engineering
Work Order: 0604260
Project: Bruington GC #1

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021BTEX_W

Sample ID: 5ML REAGENT BLA	SampType: MBLK	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19078
Client ID: ZZZZZ	Batch ID: R19078	TestNo: SW8021		Analysis Date: 4/27/2006	SeqNo: 474338

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	3.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									

Sample ID: 5ML REAGENT BLA	SampType: MBLK	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19098
Client ID: ZZZZZ	Batch ID: R19098	TestNo: SW8021		Analysis Date: 4/28/2006	SeqNo: 474848

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	3.0									
1,2,4-Trimethylbenzene	ND	1.0									
1,3,5-Trimethylbenzene	ND	1.0									

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19078
Client ID: ZZZZZ	Batch ID: R19078	TestNo: SW8021		Analysis Date: 4/27/2006	SeqNo: 474340

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.05	1.0	20	0	105	85	115				
Toluene	21.88	1.0	20	0	109	85	118				
Ethylbenzene	21.47	1.0	20	0	107	85	116				
Xylenes, Total	43.67	3.0	40	0	109	85	119				
1,2,4-Trimethylbenzene	20.83	1.0	20	0	104	81.7	121				
1,3,5-Trimethylbenzene	21.17	1.0	20	0	106	85	123				

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

CLIENT: Blagg Engineering
Work Order: 0604260
Project: Bruington GC #1

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021BTEX_W

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19098
Client ID: ZZZZZ	Batch ID: R19098	TestNo: SW8021		Analysis Date: 4/28/2006	SeqNo: 474849

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.38	1.0	20	0	107	85	115				
Toluene	22.92	1.0	20	0.546	112	85	118				
Ethylbenzene	21.95	1.0	20	0	110	85	116				
Xylenes, Total	44.71	3.0	40	0.698	110	85	119				
1,2,4-Trimethylbenzene	20.76	1.0	20	0	104	81.7	121				
1,3,5-Trimethylbenzene	20.99	1.0	20	0	105	85	123				

5 / 6

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

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name BLAGG | Date and Time Received: 4/27/2006

Work Order Number 0604260 | Received by AT

Checklist completed by _____ Signature _____ Date 4/27/06

Matrix | Carrier name Client drop-off

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 - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	

Container/Temp Blank temperature? 2° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Dec-06*

CLIENT: XTO Energy
Project: Bruington Gas Com #1 Ground water
Lab Order: 0611365

Lab ID: 0611365-01 **Collection Date:** 11/27/2006 9:04:00 AM
Client Sample ID: Bruington Gas Com 1 MW-1R **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	12/1/2006 10:00:39 AM
Toluene	ND	1.0		µg/L	1	12/1/2006 10:00:39 AM
Ethylbenzene	ND	1.0		µg/L	1	12/1/2006 10:00:39 AM
Xylenes, Total	ND	3.0		µg/L	1	12/1/2006 10:00:39 AM
Surr: 4-Bromofluorobenzene	82.6	70.2-105		%REC	1	12/1/2006 10:00:39 AM

Lab ID: 0611365-02 **Collection Date:** 11/27/2006 10:21:00 AM
Client Sample ID: Bruington Gas Com 1 MW-3 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	12/1/2006 10:30:43 AM
Toluene	ND	1.0		µg/L	1	12/1/2006 10:30:43 AM
Ethylbenzene	ND	1.0		µg/L	1	12/1/2006 10:30:43 AM
Xylenes, Total	ND	3.0		µg/L	1	12/1/2006 10:30:43 AM
Surr: 4-Bromofluorobenzene	84.3	70.2-105		%REC	1	12/1/2006 10:30:43 AM

Lab ID: 0611365-03 **Collection Date:** 11/27/2006 10:57:00 AM
Client Sample ID: Bruington Gas Com 1 MW-2R **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	12000	250		µg/L	250	12/6/2006 2:02:57 AM
Toluene	1600	250		µg/L	250	12/6/2006 2:02:57 AM
Ethylbenzene	690	250		µg/L	250	12/6/2006 2:02:57 AM
Xylenes, Total	3900	750		µg/L	250	12/6/2006 2:02:57 AM
Surr: 4-Bromofluorobenzene	84.5	70.2-105		%REC	250	12/6/2006 2:02:57 AM

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: *11-Dec-06*

CLIENT: XTO Energy
Project: Bruington Gas Com #1 Ground water
Lab Order: 0611365

Lab ID: 0611365-04 **Collection Date:** 11/27/2006 11:01:00 AM
Client Sample ID: Bruington Gas Com 1 MW-4 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	12/4/2006 2:40:22 PM
Toluene	ND	1.0		µg/L	1	12/4/2006 2:40:22 PM
Ethylbenzene	ND	1.0		µg/L	1	12/4/2006 2:40:22 PM
Xylenes, Total	ND	3.0		µg/L	1	12/4/2006 2:40:22 PM
Surr: 4-Bromofluorobenzene	83.6	70.2-105		%REC	1	12/4/2006 2:40:22 PM

Lab ID: 0611365-05 **Collection Date:** 11/27/2006 11:42:00 AM
Client Sample ID: Bruington Gas Com 1 MW-5 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	22000	250		µg/L	250	12/6/2006 2:33:00 AM
Toluene	ND	250		µg/L	250	12/6/2006 2:33:00 AM
Ethylbenzene	630	250		µg/L	250	12/6/2006 2:33:00 AM
Xylenes, Total	1700	750		µg/L	250	12/6/2006 2:33:00 AM
Surr: 4-Bromofluorobenzene	83.7	70.2-105		%REC	250	12/6/2006 2:33:00 AM

Lab ID: 0611365-06 **Collection Date:** 11/27/2006 11:45:00 AM
Client Sample ID: Bruington Gas Com 1 MW-6 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	22000	250		µg/L	250	12/6/2006 3:03:04 AM
Toluene	23000	250		µg/L	250	12/6/2006 3:03:04 AM
Ethylbenzene	990	250		µg/L	250	12/6/2006 3:03:04 AM
Xylenes, Total	9700	750		µg/L	250	12/6/2006 3:03:04 AM
Surr: 4-Bromofluorobenzene	85.1	70.2-105		%REC	250	12/6/2006 3:03:04 AM

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: *11-Dec-06*

CLIENT: XTO Energy
Project: Bruington Gas Com #1 Ground water
Lab Order: 0611365

Lab ID: 0611365-07
Collection Date: 11/27/2006 12:14:00 PM
Client Sample ID: Bruington Gas Com 1 MW-7
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	6100	250		µg/L	250	12/6/2006 3:33:10 AM
Toluene	4400	250		µg/L	250	12/6/2006 3:33:10 AM
Ethylbenzene	420	250		µg/L	250	12/6/2006 3:33:10 AM
Xylenes, Total	2500	750		µg/L	250	12/6/2006 3:33:10 AM
Surr: 4-Bromofluorobenzene	83.7	70.2-105		%REC	250	12/6/2006 3:33:10 AM

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: Bruington Gas Com #1 Ground water **Work Order:** 0611365

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML RB		*MBLK*			Batch ID: **R21633**		Analysis Date:	11/30/2006 8:50:27 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 5ML RB-II		*MBLK*			Batch ID: **R21634**		Analysis Date:	12/1/2006 6:28:13 PM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: B		*MBLK*			Batch ID: **R21651**		Analysis Date:	12/4/2006 10:18:30 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 5ML RB		*MBLK*			Batch ID: **R21677**		Analysis Date:	12/5/2006 8:27:26 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 125NG BTEX CCV-B		*LCS*			Batch ID: **R21633**		Analysis Date:	12/1/2006 8:28:43 AM	
Benzene	24.67	µg/L	1.0	98.7	85.9	113			
Toluene	24.24	µg/L	1.0	97.0	86.4	113			
Ethylbenzene	23.65	µg/L	1.0	94.6	83.5	118			
Xylenes, Total	71.15	µg/L	3.0	94.9	83.4	122			
Sample ID: 100NG BTEX LCS-II		*LCS*			Batch ID: **R21634**		Analysis Date:	12/1/2006 6:58:17 PM	
Benzene	20.09	µg/L	1.0	100	85.9	113			
Toluene	20.06	µg/L	1.0	100	86.4	113			
Ethylbenzene	18.80	µg/L	1.0	94.0	83.5	118			
Xylenes, Total	57.06	µg/L	3.0	95.1	83.4	122			
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID: **R21651**		Analysis Date:	12/4/2006 10:24:45 PM	
Benzene	18.14	µg/L	1.0	90.7	85.9	113			
Toluene	17.86	µg/L	1.0	89.3	86.4	113			
Ethylbenzene	17.30	µg/L	1.0	86.5	83.5	118			
Xylenes, Total	52.11	µg/L	3.0	86.8	83.4	122			
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID: **R21677**		Analysis Date:	12/6/2006 12:30:15 AM	
Benzene	17.22	µg/L	1.0	86.1	85.9	113			
Toluene	17.12	µg/L	1.0	85.6	85.4	113			
Ethylbenzene	16.51	µg/L	1.0	82.5	82.5	118			
Xylenes, Total	49.97	µg/L	3.0	83.3	82.4	122			
Sample ID: 100NG BTEX LCSD		*LCSD*			Batch ID: **R21651**		Analysis Date:	12/4/2006 10:54:40 PM	
Benzene	18.02	µg/L	1.0	90.1	85.9	113	0.686	27	
Toluene	17.73	µg/L	1.0	88.7	86.4	113	0.719	19	

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: XTO Energy
Project: *Bruington Gas Com #1 Ground water* **Work Order:** 0611365

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 100NG BTEX LCSD		*LCSD*			Batch ID: R21651		Analysis Date: 12/4/2006 10:54:40 PM		
Ethylbenzene	17.17	µg/L	1.0	85.9	83.5	118	0.766	10	
Xylenes, Total	51.71	µg/L	3.0	86.2	83.4	122	0.774	13	

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name XTO ENERGY | Date and Time Received: 11/30/2006

Work Order Number 0611365 | Received by GLS

Checklist completed by [signature] Signature | 11/30/06 Date

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 - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	2°	*4° C ± 2 Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package: Std ☒ Level 4 ☐
Other:

Client: XTO Energy
Kim Champlin

Address: 2700 Farmington Ave
Bldg 1, Ste K
Farmington, NM

Phone #: 505 566 7954
Fax #:

Project Name: Bruington Gas Com #1
Ground Water

Project #:

Project Manager: Lisa Winn

Sampler: Ashley Ager

Sample Temperature: 2°

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	HEAL No. 0611365
11-27-06	0904	GW	Bruington Gas Com	1 MW-1R	✓		1
11-27-06	1021	GW	Bruington Gas Com	1 MW-3	✓		2
11-27-06	1057	GW	Bruington Gas Com	1 MW-2R	✓		3
11-27-06	1101	GW	Bruington Gas Com	1 MW-4	✓		4
11-27-06	1142	GW	Bruington Gas Com	1 MW-5	✓		5
11-27-06	1145	GW	Bruington Gas Com	1 MW-6	✓		6
11-27-06	1214	GW	Bruington Gas Com	1 MW-7	✓		7

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	8021B BTEX				Air Bubbles or Headspace (Y or N)
												✓				
												✓				
												✓				
												✓				
												✓				
												✓				
												✓				

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
11-29-06	1300	Ashley Ager		11/30/06 1030
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks:
*Please copy results to
ala@lodestarservices.com

Dennis L. Foust
DEPUTY OIL & GAS INSPECTOR

DEC 21 1993

Approved

EL PASO FIELD SERVICES
PRODUCTION PIT CLOSURE

RECEIVED
JUL 2 1998

BRUINGTON GAS COM #1
Meter/Line ID - 73746

SITE DETAILS

Legals - Twn: 29 **Rng:** 11 **Sec:** 14 **Unit:** E
NMOCD Hazard Ranking: 20 **Land Type:** 4 - Fee
Operator: AMOCO PRODUCTION COMPANY **Pit Closure Date: 04/28/94**

RATIONALE FOR RISK-BASED CLOSURE:

The above mentioned production pit was assessed and ranked according to the criteria in the New Mexico Conservation Division's Unlined Surface Impoundment Closure Guidelines.

The primary source, discharge to the pit, has been removed. There has been no discharge to the production pit for at least five years and the pit has been closed for at least three years.

The production pit has been remediated to the practical extent of the trackhoe or to the top of bedrock. Initial laboratory analysis has indicated that the soil remaining at the bottom of the excavation is above standards based on the hazard ranking score. Contaminated soil was removed and transported to an approved landfarm for disposal. The initial excavation was backfilled with clean soil and graded in a manner to divert precipitation away from the excavated area. Any rainfall that does infiltrate the ground surface must migrate through clean backfill before reaching any residual hydrocarbons remaining in the soil. Therefore, further mobility of residual hydrocarbons is unlikely.

Since the soil samples from the initial excavation were above standards, a test boring was drilled and a sample was collected to evaluate the vertical extent of impact to soils. Test boring sample results indicated soils below standards beneath the original excavation.

El Paso Field Services Company (EPFS) requests closure of the above mentioned production pit location for the following reasons:

- Discharge to the pit has not occurred in over five years and the pit has been closed for over three years.
- The bulk of the impacted soil was removed during the initial excavation.
- The excavation was backfilled with clean soil and graded to divert precipitation away from the excavation area.
- All source material has been removed from the ground surface, eliminating potential direct contact with livestock and the general public.
- Groundwater was not encountered in the initial excavation or test boring; therefore, impact to groundwater is unlikely.
- Soil samples collected beneath the initial excavation were below standards.
- No potential receptors are within 1,000 feet of the site.
- Residual hydrocarbons remaining in the soil at the bottom of the initial excavation will naturally degrade in time with minimal risk to the environment.

J:\18954\rbc

FIELD PIT SITE ASSESSMENT FORM

GENERAL

Meter: 73746 Location: BRUINGTON GAS COM #1

Operator #: 0203 Operator Name: Amoco P/L District: BLOOMFIELD

Coordinates: Letter: E Section 14 Township: 29 Range: 11

Or Latitude _____ Longitude _____

Pit Type: Dehydrator X Location Drip: ___ Line Drip: ___ Other: _____

Site Visit Date: 4.14.94 Run: 10 81

SITE ASSESSMENT

NMOCD Zone: (From NMOCD Maps)
Inside Vulnerable Zone ☒
Outside ☐

Land Type:
BLM ☐
State ☐
Fee ☒
Indian _____

Depth to Groundwater
Less Than 50 Feet (20 points) ☐
50 Ft to 99 Ft (10 points) ☒
Greater Than 100 Ft (0 points) ☐

Wellhead Protection Area :
Is it less than 1000 ft from wells, springs, or other sources of fresh water extraction? , or ; Is it less than 200 ft from a private domestic water source? ☐ YES (20 points) ☒ NO (0 points)

Horizontal Distance to Surface Water Body
Less Than 200 Ft (20 points) ☐
200 Ft to 1000 Ft (10 points) ☒
Greater Than 1000 Ft (0 points) ☐
Name of Surface Water Body ~~IRRIGATION~~ CITIZENS IRRIGATION DITCH
(Surface Water Body : Perennial Rivers, Major Wash, Streams, Creeks, Irrigation Canals, Ditches, Lakes, Ponds)

TOTAL HAZARD RANKING SCORE: 20 **POINTS**

REMARKS

Remarks : TWO PITS ON LOCATION. WILL CLOSE ONLY ONE. PIT IS DRY. LOCATION IS UP ON A HILL. LOCATED RIGHT BEHIND CONOCO PLANT IN BLOOMFIELD.

(SP3100) 03/16/

ORIGINAL PIT LOCATION

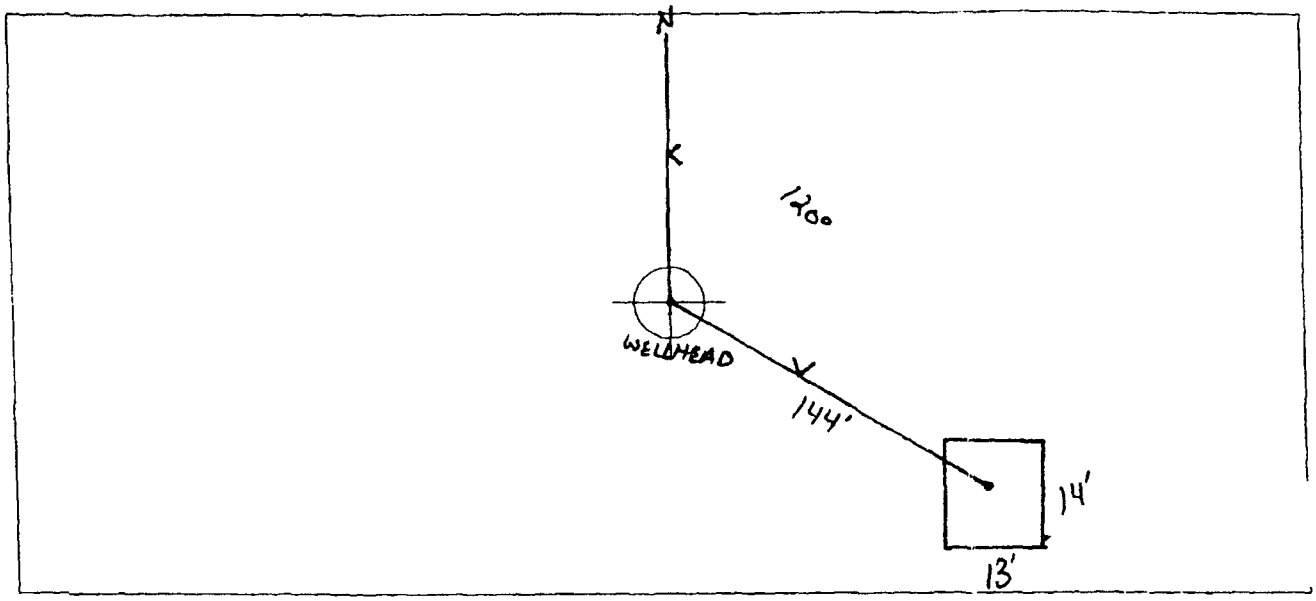
ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 120° Footage to Wellhead 144'

b) Degrees from North _____ Footage to Dogleg _____

Dogleg Name _____

c) Length : 14' Width : 13' Depth : 1'



REMARKS

Remarks :

STARTED TAKING PICTURES AT 10:06 A.M.

END DUMP

Completed By:

Robert Thompson
Signature

4.14.04
Date

PHASE I EXCAVATION

FIELD [illegible] REMEDIATION/CLOSURE [illegible]ORM

GENERAL

Meter: 73746 Location: Bruington Gas Com #1

Coordinates: Letter: E Section 14 Township: 29 Range: 11

Or Latitude _____ Longitude _____

Date Started : 4-28-94 Area: 10 Run: 81

FIELD OBSERVATIONS

Sample Number(s): 945036 1P5 _____ _____ _____

Sample Depth: 12 Feet

Final PID Reading 0410 ppm PID Reading Depth 12 Feet

Yes No

Groundwater Encountered ☐ (1) ☒ (2) Approximate Depth _____ Feet

CLOSURE

Remediation Method :

Excavation ☒ (1) Approx. Cubic Yards 75

Onsite Bioremediation ☐ (2)

Backfill Pit Without Excavation ☐ (3)

Soil Disposition:

Envirotech ☐ (1) ☒ (3) Tierra

Other Facility ☐ (2) Name: _____

Pit Closure Date: 4-28-94 Pit Closed By: BEI

REMARKS

Remarks : Dug test hole to 10' took Initial PID reading was 210 ppm at 75°. Remediated pit to 12' took VC sample PID reading was 410 ppm at 75° pit size is 17x16x12 closed pit side walls & Floor still real Black.

Signature of Specialist: James J Penroe

(SP3191) 04/07/94

El Paso Natural Gas Company

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Soil

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JP5	945036
MTR CODE | SITE NAME:	73746	N/A
SAMPLE DATE | TIME (Hrs):	4/28/94	1315
SAMPLED BY:	N/A	
DATE OF TPH EXT. | ANAL.:	5-2-94	5-2-94
DATE OF BTEX EXT. | ANAL.:	5/5/94	5/6/94
TYPE | DESCRIPTION:	VC	Brown/Grey Clay/Sand

REMARKS: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	2.6	MG/KG				
TOLUENE	59	MG/KG				
ETHYL BENZENE	8.8	MG/KG				
TOTAL XYLENES	110	MG/KG				
TOTAL BTEX	180	MG/KG				
TPH (418.1)	432	MG/KG			2.63	25
HEADSPACE PID	410	PPM				
PERCENT SOLIDS	85.5	%				

– TPH is by EPA Method 418.1 and BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 81 % for this sample All QA/QC was acceptable.

Narrative: ATI Results attached.

DF = Dilution Factor Used

Approved By: John Tarbe Date: 5/21/94

****
Test Method for
Oil and Grease and Petroleum Hydrocarbons
in Water and Soil

Perkin-Elmer Model 1600 FT-IR
Analysis Report
****

94/03/?? ?:25

Sample identification
945034

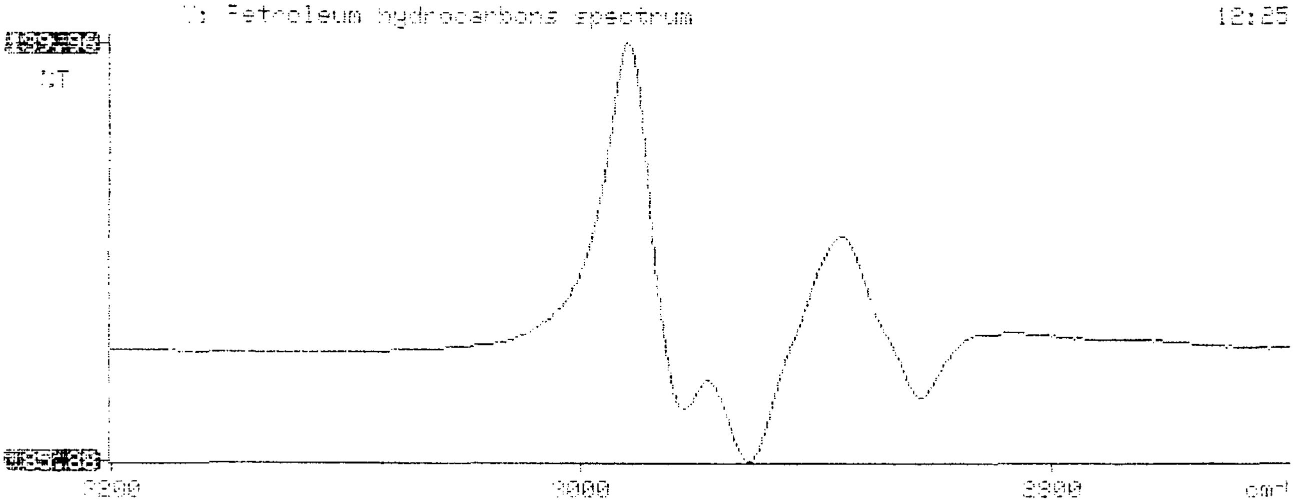
Initial mass of sample, g
2.030

Volume of sample after extraction, ml
29.000

Petroleum hydrocarbons, ppm
432.969

Net absorbance of hydrocarbons (2930 cm-1)
0.068

1: Petroleum hydrocarbons spectrum 12:25



Analytical Technologies, Inc.

2709-D Pan American Freeway, NE Albuquerque, NM 87107
Phone (505) 344-3777 FAX (505) 344-4413

ATI I.D. **405313**

May 13, 1994

El Paso Natural Gas Company
P.O. Box 4990
Farmington, NM 87499

Project Name/Number: PIT CLOSURE 24324

Attention: John Lambdin

On **05/03/94**, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **non-aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA Method 8015 analysis was added on 05/05/94 for sample 945008 per Stacy Sendler.

The matrix spike/spike duplicate data from the samples extracted on 05/05/94 is reported twice reflecting quantification using both the internal standard and external standard protocols. Both protocols were employed to quantify the samples submitted for this project.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Letitia Krakowski, Ph.D.
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jd

Enclosure

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX, MTBE (EPA 8020)

CLIENT : EL PASO NATURAL GAS CO. ATI I.D.: 405313

PROJECT # : 24324

PROJECT NAME : PIT CLOSURE

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
22	945033	NON-AQ	04/28/94	05/05/94	05/05/94	1
23	945035	NON-AQ	04/28/94	05/05/94	05/05/94	1
24	945036	NON-AQ	04/28/94	05/05/94	05/06/94	20

PARAMETER	UNITS	22	23	24
BENZENE	MG/KG	<0.025	<0.025	2.6
TOLUENE	MG/KG	<0.025	<0.025	59
ETHYLBENZENE	MG/KG	<0.025	<0.025	8.8
TOTAL XYLENES	MG/KG	<0.025	<0.025	110
METHYL-t-BUTYL ETHER	MG/KG	<0.12	<0.12	<2.4
SURROGATE:				
BROMOFLUOROBENZENE (%)		91	95	81

Analytical Technologies, Inc.

COPY

ORIGINAL

INVOICE

AL 72053

Albuquerque Office: 2709-D Pan American Fwy., N E
Albuquerque, NM 87107
(505) 344-3777

Remit To:
Analytical Technologies, Inc.
P. O. Box 840436
Dallas, Texas 75284-0436

Billed to: EL PASO NATURAL GAS COMPANY
P.O. BOX 4990
FARMINGTON, NM 87499

Accession No.: 9405-313
Date: 05/13/94
Client No.: 850-020
810

Attention: ACCOUNTS PAYABLE

Telephone: 505-325-2841

Authorized by: JOHN LAMBDIN

P.O. Number: 38822

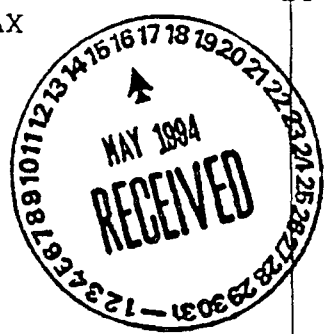
Samples: 39 NON-AQ

EPNG Sample # 945008 to 945027
945032, 945033, 945035 to 945039, 945041 to 945050, 945034 and 945040 received 05/03/94

Project: PIT CLOSURE
Project No.: 24324

TEST DESCRIPTION		QUANTITY	PRICE	TOTAL
EPA METHOD 8015M/8020	-10 %	1	125.00	112.50
BTEX/MTBE (8020)	-10 %	38	80.00	2736.00
NM GROSS RECEIPTS TAX		1	165.57	165.57

****
Amount due: 3014.07
****



5/17/94
APPROVED FOR PAYMENT

DATE _____
CHARGE 50% 108-52452-24-0001-0012-51-2010 50% 108-51570-24-0001-0012-51-2010
SIGNATURE _____
David Hall
541-3531

TERMS: Net 30 Days - 1½% Finance Charge on Balance Due over 30 days.

PHASE II

RECORD OF SUBSURFACE EXPLORATION

Borehole # BH-1
Well #
Page 1 of 1

PHILIP ENVIRONMENTAL
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Project Name EPNG PITS
Project Number 14509 Phase 6000 / 77
Project Location Bevington Gas Com #1 73746

Elevation
Borehole Location
GWL Depth
Logged By CM CHANCE
Drilled By ~~M BONGHUS~~ K. Padilla
Date/Time Started 6/13/95 - 0930
Date/Time Completed 6/13/95 - 1050

Well Logged By CM Chance
Personnel On-Site K. Padilla, F. Rivera, D. Tsalate
Contractors On-Site
Client Personnel On-Site

Drilling Method 4 1/4" ID HSA
Air Monitoring Method PID, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: PPM BZ	BH	S HS	Drilling Conditions & Blow Counts
0				Backfill to 12'						
5										
10										
15	1	15-17	6"	Blk silty CLAY, with x-ln parting, med stiff, sl moist, odor			0	36	292/298	0940 hr
20	2	20-22	6"	Blk silty SAND, vf-f sand, tr med sand, med dense, sl moist, odor			3	69	28/832	0949
										hard drilling
25	3	25-25.5	3"	lt br SANDSTONE, med sand, sl x-ln, v. hard			0	40	12	1007 Collect sample @ 25.5'
				TDB 25.5						
30										
35										
40										

Comments: 25-25.5 sample sent to lab (CMC 50) (BTEX, TPH) BH grouted to surface

Geologist Signature

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC50	946892
MTR CODE | SITE NAME:	73746	Bruington Gas Com #1
SAMPLE DATE | TIME (Hrs):	6/13/95	1007
PROJECT:	PHASE II Drilling	
DATE OF TPH EXT. | ANAL.:	6/15/95	6/15/95
DATE OF BTEX EXT. | ANAL.:	6/16/95	6/16/95
TYPE | DESCRIPTION:	VG	Light tan fine sand

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	<0.03	MG/KG				
TOLUENE	<0.03	MG/KG				
ETHYL BENZENE	<0.03	MG/KG				
TOTAL XYLENES	<0.03	MG/KG				
TOTAL BTEX	<0.10	MG/KG				
TPH (418.1)	23.2	MG/KG			2.00	28
HEADSPACE PID	1	PPM				
PERCENT SOLIDS	94.1	%				

-- TPH is by EPA Method 418.1 and BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 97.0 for this sample All QA/QC was acceptable.

Narrative:

DF = Dilution Factor Used

Approved By: _____ INGVZPIT.XLS Date: 6/28/95 7/17/97

Natural Gas Company

Phase II

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC50	946892
MTR CODE | SITE NAME:	73746	N/A
SAMPLE DATE | TIME (Hrs):	6-13-95	1007
Project ~~SAMPLED BY~~:	N/A	Phase II Drilling
DATE OF TPH EXT. | ANAL.:	6-15-95	6-15-95
DATE OF BTEX EXT. | ANAL.:	6-16-95	6-16-95
TYPE | DESCRIPTION:	VG	Light tan Fine SAND

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	<0.025	MG/KG	1			
TOLUENE	<0.025	MG/KG	1			
ETHYL BENZENE	<0.025	MG/KG	1			
TOTAL XYLENES	<0.025	MG/KG	1			
TOTAL BTEX	<0.10	MG/KG				
TPH (418.1)	23.2	MG/KG			2.0	28
HEADSPACE PID	1	PPM				
PERCENT SOLIDS	94.1	%				

-- TPH is by EPA Method 418.1 and BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 97 % for this sample All QA/QC was acceptable.

Narrative:

All Results attached.

DF = Dilution Factor Used

Approved By: J.P. Date: 6/28/95

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)

CLIENT : EL PASO NATURAL GAS CO. ATI I.D.: 506376

PROJECT # : 24324

PROJECT NAME : PIT CLOSURE/PHASE II

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	946891	NON-AQ	06/13/95	06/16/95	06/16/95	1
02	946892	NON-AQ	06/13/95	06/16/95	06/16/95	1
03	946893	NON-AQ	06/13/95	06/16/95	06/16/95	1

PARAMETER	UNITS	01	02	03
BENZENE	MG/KG	<0.025	<0.025	<0.025
TOLUENE	MG/KG	<0.025	<0.025	<0.025
ETHYLBENZENE	MG/KG	<0.025	<0.025	<0.025
TOTAL XYLENES	MG/KG	<0.025	<0.025	<0.025
SURROGATE:				
BROMOFLUOROBENZENE (%)		111	97	97

Analytical Technologies, Inc.

2709-D Pan American Freeway, NE Albuquerque, NM 87107
Phone (505) 344-3777 FAX (505) 344-4413

ATI I.D. 506376

June 21, 1995

El Paso Natural Gas Co.
P.O. Box 4990
Farmington, NM 87499

Project Name/Number: PIT CLOSURE/PHASE II 24324

Attention: John Lambdin

On 06/16/95, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **non-aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jt

Enclosure

JUN 1995
Lab
Farmington

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Page ____ of ____

PROJECT NUMBER	PROJECT NAME	CONTRACT LABORATORY P. O. NUMBER
# 24324	Pit Closure Project	

SAMPLERS: (Signature) Cory Chance — DATE: 6/13/95

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID		PID HS PPM	SEQUENCE #	REMARKS
946891	6/13/95	0756	SOIL	CMC49	1	VG	✓	✓			2	47	33-35' Bruington GC 1E 90935
946892	↕	1007	↕	CMC50	1	VG	✓	✓			1	48	25-25.5 Bruington Gas Com #1 73746
946893	↕	1320	↕	CMC51	1	VG	✓	✓			4	49	15-17 Jacquez Gas Com A #2 72117
946894	6/13/95	1441	soil	CMC52	1	VG	✓	✓			3	50	Bagged + Iced 25-27 Jacquez Gas Com A #3E 93 "

Cory 6/13/95

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Cory Chance	35 6/13/95 1800	Lynne Casebeer 34	Lynne Casebeer	6/14/95 0935 34	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)
					[signature]

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:
FIELD SERVICES LABORATORY
EL PASO NATURAL GAS COMPANY
P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499
505-599-2144 FAX: 505-599-2261

White - *Testing Laboratory* Canary - *EPNG Lab* Pink - *Field Sampler*

FM-08-0565 A (Rev. 05-94)