

3RP-106

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Annual Groundwater
Remediation Reports
For Year 2008

April 2009



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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.

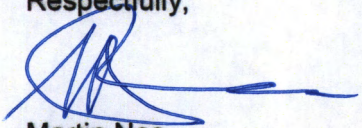
Mr. Glen VonGonten
XTO Annual Groundwater Reports

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- 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

Bruington Gas Com
#1- 3RP106

XTO ENERGY INC.

ANNUAL GROUNDWATER REPORT

2008

BRUINGTON GAS COM #1

3RP-106

**(E) SECTION 14 – T19N – R11W, NMPM
SAN JUAN COUNTY, NEW MEXICO**

PREPARED FOR:

MR. GLENN VON GONTEN

NEW MEXICO OIL CONSERVATION DIVISION

April 2009

TABLE OF CONTENTS

Site Details	3
Introduction	3
History.....	3
Methodology.....	5
Results.....	6
Conclusions.....	6
Recommendations	6

Appendices

Table 1:	Summary Groundwater Laboratory Results
Table 2:	General Water Quality
Figure 1:	Site Map
Figure 2:	Topographic Map
Figures 3-14:	Bore/Test Hole Reports Cross Section Views
Figures 15-18:	Total BTEX Isopach Diagrams
Figures 19-26:	Potentiometric Surface Diagrams
Attachment 1:	Field Report Closure Verification (10/93)
Attachment 2:	Field Report Closure Verification (11/93)
Attachment 3:	Risk Based Closure (04/94)
Attachment 4:	2008 Laboratory Reports

2008 XTO GROUNDWATER REPORT

BRUINGTON GAS COM #1 3RP-106

SITE DETAILS

LEGALS - TWN: 29N
OCD HAZARD RANKING: 40
LATITUDE: 36.72879

RNG: 11W

SEC: 14
LAND TYPE: FEE
LONGITUDE: 107.96616

INTRODUCTION

XTO Energy Inc. (XTO) acquired the Bruington Gas Com #1 well site from Amoco Production Company (Amoco) in January 1998. This is a gas producing well in the Basin Dakota formation and is currently active. The Citizen's Irrigation Ditch runs parallel to this location and flows in the summer months while remaining dry in the winter months. A site map and topographic map are presented as Figures 1 and 2.

HISTORY

Historical records indicate an earthen blow pit was excavated and backfilled approximately 125 feet south of the wellhead in October 1993 by Amoco. The pit closure report indicates the limits of the excavation were approximately 40 feet by 75 feet and no more than 20 feet maximum depth (Attachment 1). In November 1993 additional excavation work was done combining the previously excavated blow pit and an earthen separator pit (Attachment 2). Field notes state the excavation was 120 to 150 feet south-southwest of the wellhead 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 (Figure 1). Field notes also indicate groundwater was encountered and that additional soil and groundwater remediation were recommended.

An approved risk-based closure request (Attachment 3) was discovered in the New Mexico Oil Conservation Division (OCD) records for an earthen production pit located east of the earthen pits previously excavated by Amoco. The closure request included a field pit site assessment along with field notes for additional excavation and one bore hole for sampling. According to the pit closure form the dimensions of the pit were 17 feet by 16 feet by 12 feet below ground surface. The report indicates elevated field screening measurements and heavy staining on the side walls and the floor of the excavation. Upon further review of the closure it is apparent that hydrocarbon contamination remained on the surface and possibly within the exposed sandstone benches during the excavation of the blow pit.

Amoco had three monitoring wells (MW-1, MW-2 & MW-3) installed in April 1996. Bore/Test Hole Reports are presented as Figures 3-5 representing drilling that occurred on site in April 1996. These wells were sampled in June 1996. MW-1 and MW-3 revealed benzene, toluene, ethyl benzene, and total xylenes (BTEX) concentrations were non-detect or below New Mexico Water Quality Control Commission (WQCC) standards. MW-2 revealed benzene and total xylenes levels exceeding WQCC standards. At this time it was determined MW-2 would be sampled annually in accordance with the OCD approved Groundwater Management Plan. After the installation of the three monitoring

2008 XTO GROUNDWATER REPORT

wells it appeared the groundwater level at the pit area was dramatically influenced by a seasonal fluctuation in the nearby irrigation ditch immediately to the west of the area.

Upon the purchase of this location by XTO another site assessment was performed in May 1998. MW-1 and MW-2 were damaged or not functional. Both monitoring wells were replaced (MW-1R & MW-2R) in June 1998. Figures 6-7 are presented for the monitoring wells installed during 1998.

An annual groundwater report for 1996-1998 was submitted to the OCD in February 1999 proposing further evaluation of MW-2R and annual sampling of MW-1R and MW-3 to verify hydrocarbon contamination remained steady in and around MW-2R. OCD responded in April 1999 requiring the extent of any BTEX contamination down gradient and/or laterally be defined. Annual sampling continued throughout 1999 and 2000.

XTO installed monitoring wells numbered MW-4, MW-5 and MW-6 in February 2001 in an effort to further delineate the extent of impacted groundwater. Figures 8-10 are presented for the monitoring wells installed during 2001. All six wells were sampled twice in 2001 with the exception of MW-4, it was sampled only once. Laboratory results revealed high levels of BTEX constituents in monitoring wells MW-1, MW-2R, MW-5 and MW-6. MW-3 and MW-4 were non-detect or below WQCC standards.

An additional monitoring well was installed in May 2003 (MW-7) and monitoring well MW-3 was repaired in 2003 (MW-3R). Figure 11 is presented for the monitoring well installed during 2003. All wells continued to be sampled and with the exception of MW-1R, MW-3R and MW-4 consistently show elevated levels of BTEX.

In 2005 XTO initiated further investigation of subsurface conditions. Test holes and trenches were dug to evaluate whether historically contaminated soils were fully removed and if the soil may continue to contribute hydrocarbons to the groundwater. Limited field studies were conducted indicating vadose zone impact at depths below 15 feet (Figures 12-13). This appears to be consistent with the most concentrated band of groundwater impacts around MW-2R, MW-5, MW-6, and MW-7. The 2005 annual groundwater report submitted to the OCD in January 2006, proposed possible additional excavation and consideration of an in-situ remediation system.

The 2006 annual groundwater report submitted to the OCD in February 2007, proposed collection of 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; and continued evaluation of appropriate remediation technologies along with other potential sources for groundwater impacts.

Monitoring well MW-8 was installed May 2007 adjacent to a former pit operated and closed by El Paso Field Services (EPFS). Figure 14 is presented for the monitoring well installed during 2007. The installation revealed impacted soil from 12-25 feet below ground surface. The approved risk based closure request in 1994 was based on bedrock encountered at 22 feet below ground surface and no apparent groundwater. The presence of impacted soil and seasonal groundwater gradients indicates the former pit may be a source of groundwater impact at this site. The 2007 annual groundwater report submitted to the OCD in February 2008, proposed continued investigation including dissolved oxygen readings, water levels and gradient information and requested OCD

2008 XTO GROUNDWATER REPORT

encourage EPFS conduct an evaluation of groundwater associated with the Risk Based Closure of the production pit at this site.

A summary of laboratory results from historical and current groundwater monitoring is presented as Table 1. A summary of general water quality data from 2000 is presented as Table 2. Copies of the laboratory data sheets and associated quality assurance/quality control data for 2008 are presented as Attachment 4.

METHODOLOGY

Water levels and dissolved oxygen levels were collected from monitoring wells every other month during 2008. Groundwater samples were collected quarterly from monitoring wells MW-1R, MW-2R, MW-3R, MW-4, MW-5, MW-6, MW-7 and MW-8.

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 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

2008 XTO GROUNDWATER REPORT

observation of physical characteristics at the site (topography, proximity to irrigation ditches, etc.).

RESULTS

2008 laboratory results from MW-1R, MW-3R and MW-4 indicate BTEX constituents are below standards or not detectable. Laboratory results from MW-2R, MW-5, MW-6, MW-7 and MW-8 have indicated elevated levels of BTEX constituents. Total BTEX Isopach diagrams are presented as Figures 15-18 in order to review BTEX distribution.

Site monitoring activities indicate a groundwater flow that is primarily affected by the adjacent unlined irrigation ditch. When the ditch is dry, during the winter months, the groundwater gradient flows near the center and eastern portion of the site towards a small depression in the water table near MW-5. Groundwater directly adjacent to the ditch flows steeply towards the ditch. During the spring and summer months, when flow within the irrigation ditch is high, the small depression appears to be absent and groundwater at the site is essentially level, but flows slightly away from the ditch. Figures 19-26 illustrate the estimated groundwater gradients during 2008.

CONCLUSIONS

Additional investigation and remediation is required at MW-8.

RECOMMENDATIONS

One 4" recovery well to be installed in between MW-5 and MW-6 and another 4" recovery well installed in between MW-6 and MW-7. Periodic removal of the groundwater from the two recovery wells.

Installation of a monitoring well north of MW-5 and another monitoring well between MW-3 and MW-7.

Placement of oxygenate in impacted wells.

Sample all wells quarterly.

Discussion between XTO and EPFS regarding investigation of impacted groundwater associated with the Risk-Based Closure of the production pit at this site.

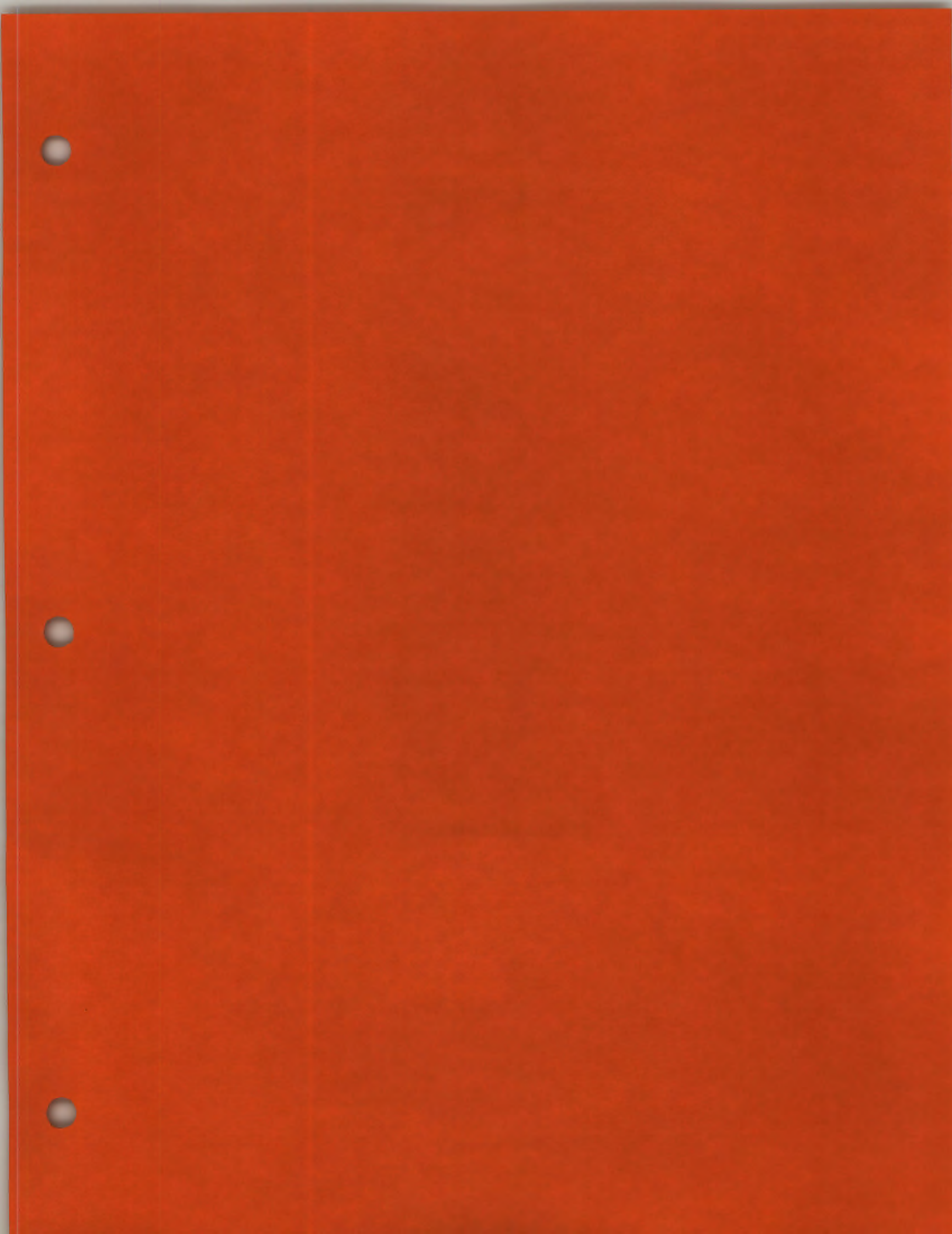


TABLE 1

XTO ENERGY INC. GROUNDWATER LAB RESULTS

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

						BTEX EPA Method 801 (ppb)			
Sample Date	Monitor Well No.	DTW (ft)	TD (ft)	Product (ft)	Dissolved Oxygen (mg/L)	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	20.23			1	1.3	1.8	5.9
27-Nov-06		13.17	20.23		1.14	ND	ND	ND	ND
23-Feb-07		14.24	20.23		0.51	No Samples Collected			
28-Mar-07		16.78	20.23		0.85	ND	ND	ND	ND
11-Apr-07		13.51	20.23		1.13	No Samples Collected			
13-Jun-07		7.51	20.23		0.76	ND	ND	ND	ND
21-Aug-07		7.20	20.23		0.82	No Samples Collected			
25-Sep-07		7.07	20.23		0.99	ND	1.2	ND	ND
20-Dec-07		12.97	20.23		0.75				
12-Mar-08		13.18	20.23		NA	ND	ND	ND	ND
02-Jun-08		7.53	20.23		2.6	ND	ND	ND	ND
22-Sep-08		7.76	20.23			ND	ND	ND	ND
05-Dec-08		11.26	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		0.35	12,000	1,600	690	3,900
23-Feb-07		12.55	23.15		0.37	No Samples Collected			
28-Mar-07		14.72	23.15		0.52	4,300	1,000	810	6,000
11-Apr-07		12.79	23.15		0.64	No Samples Collected			
13-Jun-07		9.94	23.15		0.43	13,000	1,100	720	4,000
21-Aug-07		9.36	23.15		0.28	No Samples Collected			
25-Sep-07		9.33	23.15		0.54	18,000	1,900	990	5,500
20-Dec-07		13.13	23.15		0.42				
12-Mar-08		13.51	23.15		NA	2,800	890	750	5,300
02-Jun-08		10.07	23.15		2.6	5,900	430	510	2,200
22-Sep-08		10.29	23.15			18,000	920	950	4,900
05-Dec-08		12.05	23.15			20,000	1,700	1,100	5,300

XTO ENERGY INC. GROUNDWATER LAB RESULTS

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

07-Jun-98	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	0.42		ND	ND	ND	ND
23-Aug-07		14.33	21.93	0.96	No Samples Collected				
28-Mar-07		15.83	21.93	0.62	ND	ND	ND	ND	
11-Apr-07		14.99	21.93	0.54	No Samples Collected				
13-Jun-07									
25-Sep-07					Well Damaged				
20-Dec-07		14.25	21.93	0.71					
12-Mar-08		15.23	21.98	NA	ND	ND	ND	ND	
02-Jun-08		12.07	21.93	3.3	ND	ND	ND	ND	
22-Sep-08		11.86	21.93		ND	ND	ND	ND	
05-Dec-08		13.23	21.93		ND	ND	ND	ND	
17-May-01	MW #4	10.86	20.00			ND	ND	ND	ND
25-Apr-06		11.11				ND	ND	ND	ND
27-Nov-06		12.41	20.22	0.91		ND	ND	ND	ND
23-Feb-07		13.62	20.22	0.87	No Samples Collected				
28-Mar-07		16.17	20.22	1.59	1.8	ND	ND	ND	ND
11-Apr-07				3.03	No Samples Collected				
13-Jun-07		9.87	20.22	2.26	ND	ND	ND	ND	
21-Aug-07		9.35	20.22	0.75	No Samples Collected				
25-Sep-07		9.25	20.22	1.78	ND	ND	ND	ND	
20-Dec-07		14.91	20.22	0.55					
12-Mar-08		15.09	20.22	NA	ND	ND	ND	ND	
02-Jun-08		9.59	20.22	1.6	ND	ND	ND	ND	
22-Sep-08		9.96	20.22		ND	ND	ND	ND	
05-Dec-08		13.21	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
25-Apr-06		16.21				28,000	ND	1600	2,700
27-Nov-06		15.24	25.20	0.26	22,000	ND	630		1,700
23-Feb-07		18.92	25.20	0.34	No Samples Collected				
28-Mar-07		18.63	25.20	0.44	30,000	590	1700		4,600
11-Apr-07				0.51	No Samples Collected				
13-Jun-07		14.17	25.20	0.58	32,000	91	940		2,000
21-Aug-07		14.12	25.20	0.49	No Samples Collected				
25-Sep-07		13.38	25.20	0.5	25,000	170	620		1,700
20-Dec-07		17.34	25.20	0.54					
12-Mar-08		17.75	25.20	NA	28,000	110	1200		2,300
02-Jun-08		13.92	25.20	1.6	25,000	ND	1100		1,300
22-Sep-08		13.80	25.20		20,000	ND	760		1,100
05-Dec-08		15.93	25.20		24,000	ND	580		1,400

XTO ENERGY INC. GROUNDWATER LAB RESULTS

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

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		0.06	22,000	23,000	990	9,700
23-Feb-07		18.92	25.22		0.28	No Samples Collected			
28-Mar-07		20.36	25.22		0.23	25,000	27,000	1,900	19,000
11-Apr-07					0.11	No Samples Collected			
13-Jun-07		16.87	25.22		0.18	21,000	19,000	780	7,900
21-Aug-07		16.04	25.22		0.33	No Samples Collected			
25-Sep-07		15.98	25.22		0.34	27,000	21,000	1,200	11,000
20-Dec-07		18.83	25.22		0.33				
12-Mar-08		19.42	25.22		NA	21,000	21,000	1,200	11,000
02-Jun-08		16.61	25.22		0.1	19,000	16,000	870	9,000
22-Sep-08		16.15	25.22			15,000	14,000	770	8,500
05-Dec-08		17.70	25.22			28,000	27,000	1,100	12,000
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		0.69	6,100	4,400	420	2,500
23-Feb-07		17.71	25.34		0.71	No Samples Collected			
28-Mar-07		18.62	25.34		0.70	11,000	9,500	1,100	7,500
11-Apr-07					0.06	No Samples Collected			
13-Jun-07		16.75	25.34		0.43	3,800	2,000	320	1,700
21-Aug-07		15.86	25.34		0.36	No Samples Collected			
25-Sep-07		15.65	25.34		0.34	2,900	2,400	210	1,400
20-Dec-07		17.14	25.34		0.36				
12-Mar-08		17.23	25.34		NA	14,000	9,200	830	4,800
02-Jun-08		16.22	25.34		0.1	8,800	5,300	560	3,100
22-Sep-08		15.47	25.34			7,100	4,600	450	2,800
05-Dec-08		16.23	25.34			11,000	9,300	680	5,200
13-Jun-07	MW #8	19.19	26.37		0.40	24,000	24,000	350	10,000
21-Aug-07		18.30	26.37		0.61	No Samples Collected			
25-Sep-07		18.00	26.37		0.57	18,000	4,000	980	9,100
20-Dec-07		18.81	26.37		0.42				
12-Mar-08		18.92	26.37		NA	730	64	ND	2,000
02-Jun-08		18.23	26.37		0.8	12,000	7,100	490	5,300
22-Sep-08		17.56	26.37			15,000	13,000	520	7,200
05-Dec-08		17.99	26.37			18,000	15,000	810	7,700
NMWQCC GROUNDWATER STANDARDS						10	750	750	620

TABLE 2

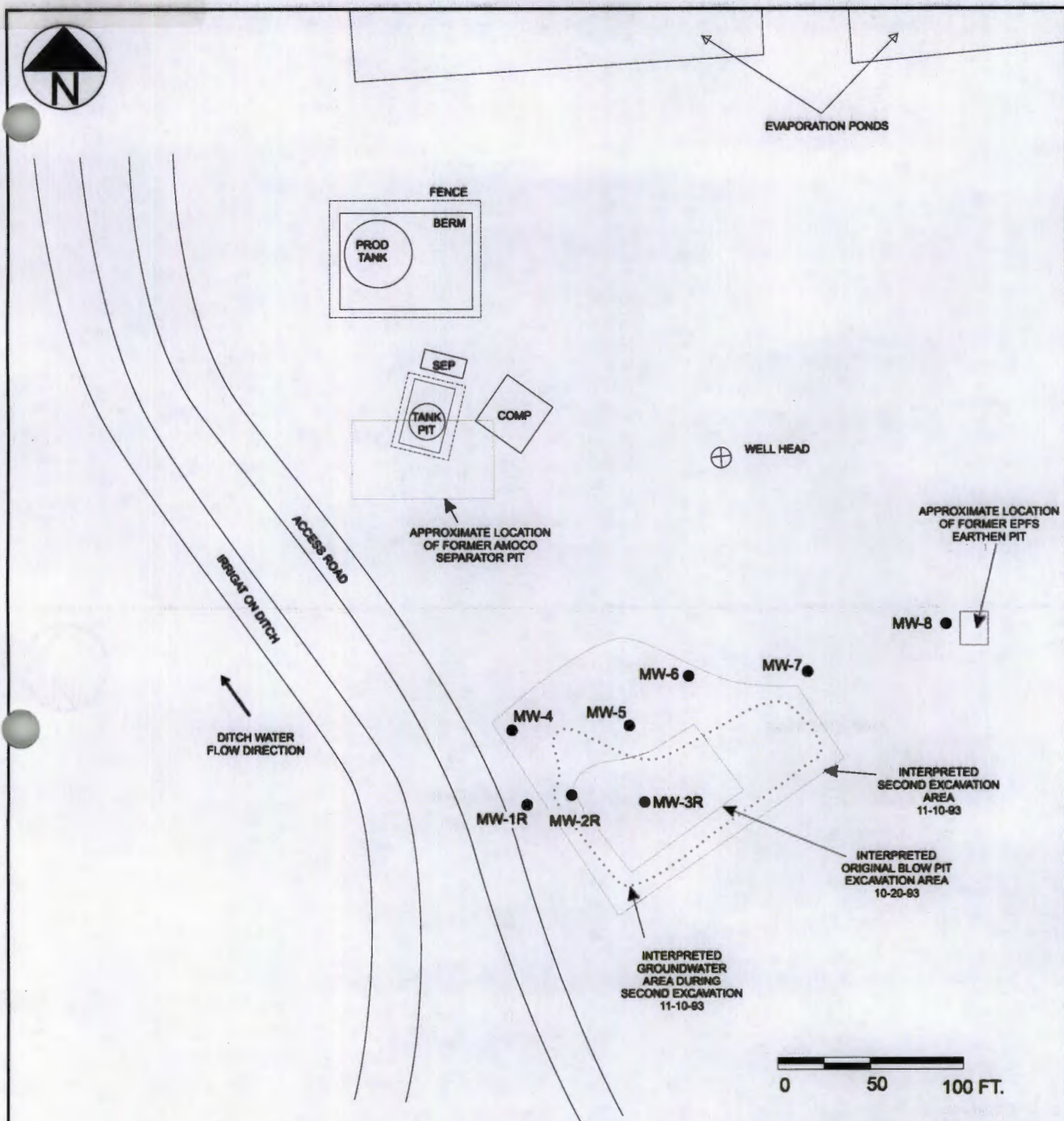
XTO ENERGY INC. GROUNDWATER LAB RESULTS

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

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 CaCO ₃	582	3,120	1,050	mg/L
TOTAL HARDNESS AS CaCO ₃	1,700	940	1,520	mg/L
BICARBONATE AS HCO ₃	582	3,120	1,050	mg/L
CARBONATE AS CO ₃	< 0.1	< 0.1	< 0.1	mg/L
HYDROXIDE AS OH	< 0.1	< 0.1	< 0.1	mg/L
NITRATE NITROGEN	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	%

FIGURE 1

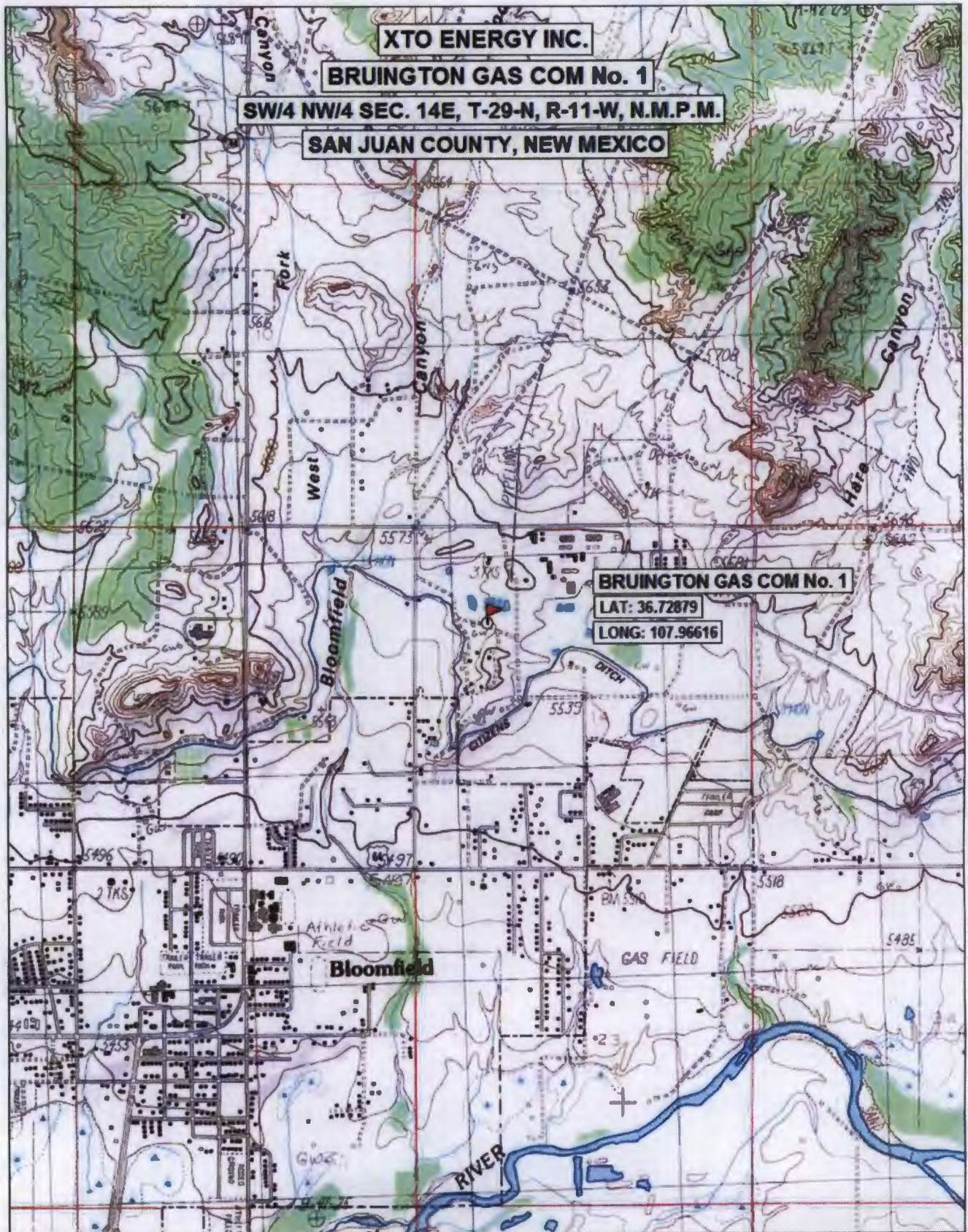


NOTES:

1. Monitoring well locations are only as accurate as the GPS instruments and software used to plot their positions. 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: 12/06/07	SITE MAP
--	---	--	-----------------

FIGURE 2



TN MN
11°

FIGURE 3

BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

BORING #..... BH - 1
MW #..... 1
PAGE #..... 1
DATE STARTED 4/25/96
DATE FINISHED 4/25/96
OPERATOR..... JCB
PREPARED BY NJV

LOCATION NAME: BRUINGTON GC # 1
CLIENT: AMOCO PRODUCTION COMPANY
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION: S20W, 156 FEET FROM WELL HEAD.

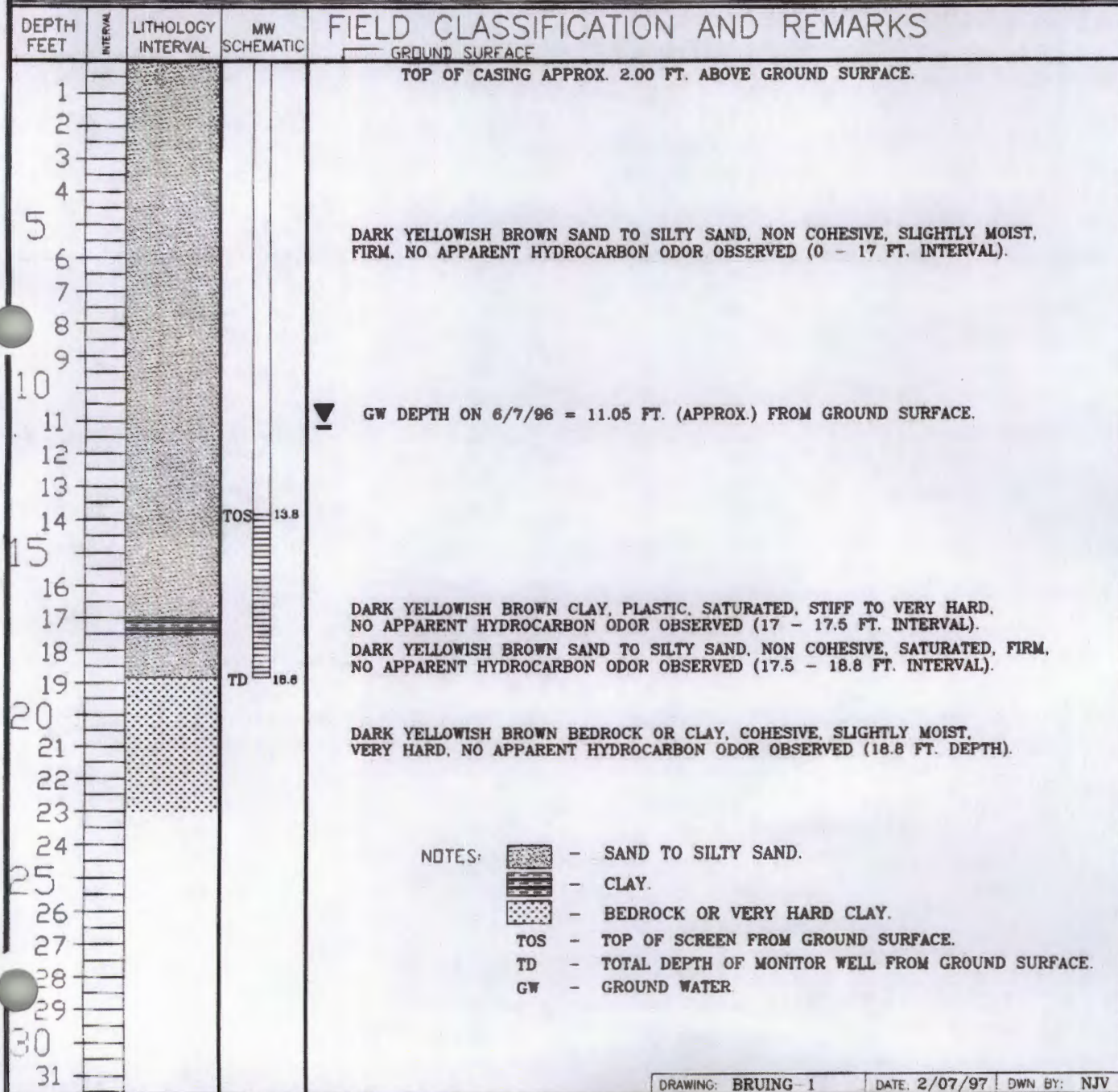


FIGURE 4

BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

LOCATION NAME: BRUINGTON GC # 1
CLIENT: AMOCO PRODUCTION COMPANY
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION: S34W, 171 FEET FROM WELL HEAD.

BORING #..... BH - 2
MW #..... 2
PAGE #..... 2
DATE STARTED 4/25/96
DATE FINISHED 4/25/96
OPERATOR..... JCB
PREPARED BY NJV

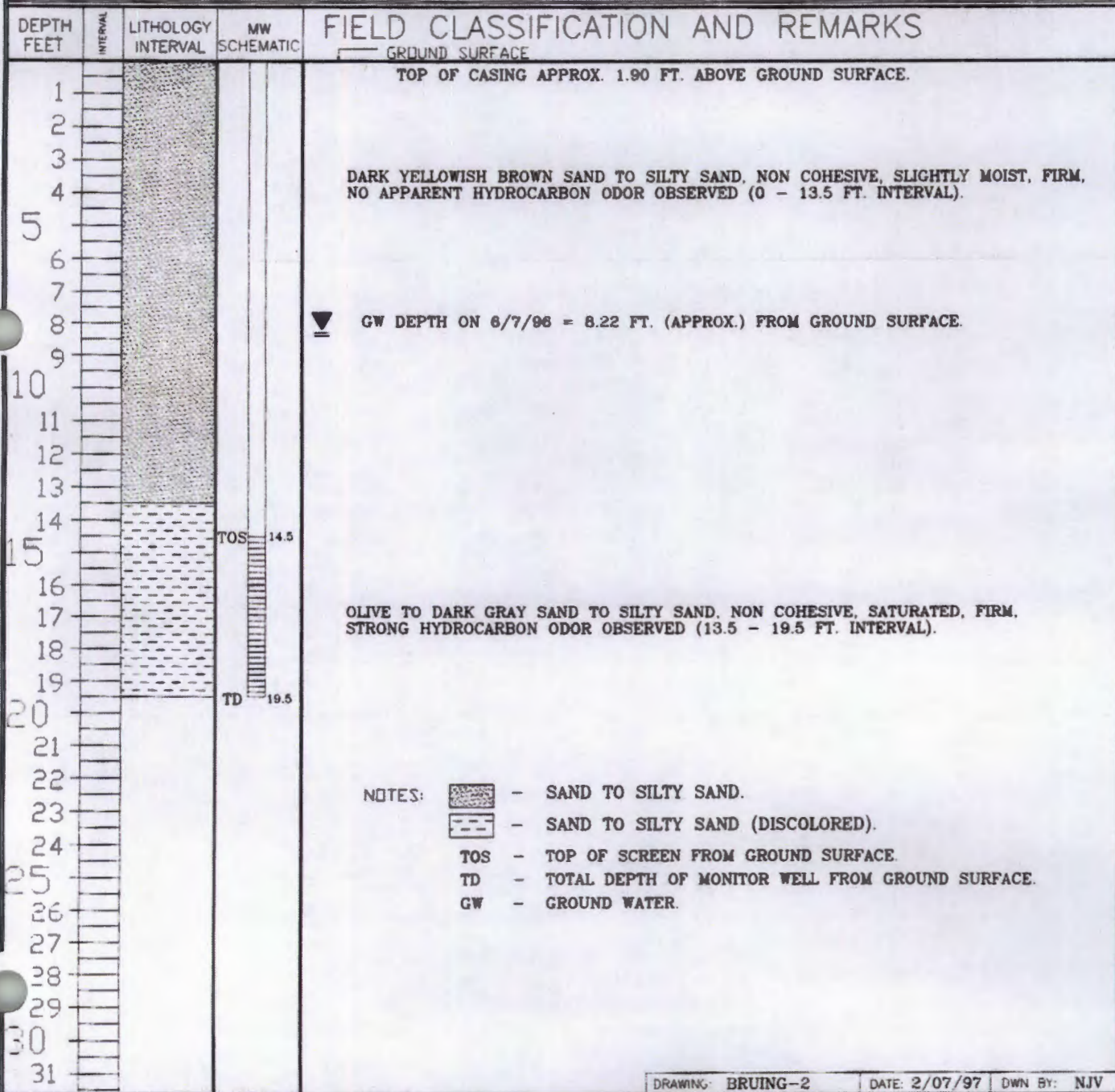


FIGURE 5

BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

LOCATION NAME: BRUINGTON GC # 1
CLIENT: AMOCO PRODUCTION COMPANY
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION: S34W, 210 FEET FROM WELL HEAD.

BORING #..... BH - 3
MW #..... 3
PAGE #..... 3
DATE STARTED 4/25/96
DATE FINISHED 4/25/96
OPERATOR..... JCB
PREPARED BY NJV

DEPTH FEET	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC	FIELD CLASSIFICATION AND REMARKS
				GROUND SURFACE
				TOP OF CASING APPROX. 1.25 FT. ABOVE GROUND SURFACE.
1				
2				
3				
4				
5				▼ GW DEPTH ON 6/7/96 = 5.75 FT. (APPROX.) FROM GROUND SURFACE.
6				
7				
8				
9				
10				DARK YELLOWISH BROWN SAND TO SILTY SAND CONTINUOUS THROUGHOUT ENTIRE BORING. NON COHESIVE. SLIGHTLY MOIST TO SATURATED (SCREENED INTERVAL). FIRM. NO APPARENT HYDROCARBON ODOR OBSERVED (0.0 - 18.75 FT. INTERVAL).
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				

NOTES:  - SAND TO SILTY SAND.
TOS - TOP OF SCREEN FROM GROUND SURFACE.
TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
GW - GROUND WATER.

TOS 13.75
TD 18.75

DRAWING: BRUING-3 DATE 2/07/97 DWN BY: 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: AMOCO PRODUCTION COMPANY
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION: S34W, 210 FEET FROM WELL HEAD.

BORING #..... BH - 1R
MW #..... 1R
PAGE #..... 1R
DATE STARTED 6/19/98
DATE FINISHED 6/19/98
OPERATOR..... REP
PREPARED BY NJV

DEPTH FEET	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC	FIELD CLASSIFICATION AND REMARKS
				GROUND SURFACE
				TOP OF CASING APPROX. 4.92 FT. ABOVE GROUND SURFACE.
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				

DARK YELLOWISH BROWN SAND TO SILTY SAND CONTINUOUS THROUGHOUT ENTIRE BORING. NON COHESIVE. SLIGHTLY MOIST TO SATURATED (SCREENED INTERVAL). FIRM, NO APPARENT HYDROCARBON ODOR DETECTED (0.0 - 15.08 FT. INTERVAL).

▼ GW DEPTH ON 6/20/98 = 8.24 FT. (APPROX.) FROM GROUND SURFACE.

NOTES:  - SAND TO SILTY SAND.
TOS - TOP OF SCREEN FROM GROUND SURFACE.
TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
GW - GROUND WATER.

DRAWING: BRU-1R DATE: 6/22/98 DWN BY: 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: AMOCO PRODUCTION COMPANY
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION: S34W, 171 FEET FROM WELL HEAD.

BORING #..... BH - 2R
MW #..... 2R
PAGE #..... 2A
DATE STARTED 6/5/98
DATE FINISHED 6/5/98
OPERATOR..... REP
PREPARED BY NJV

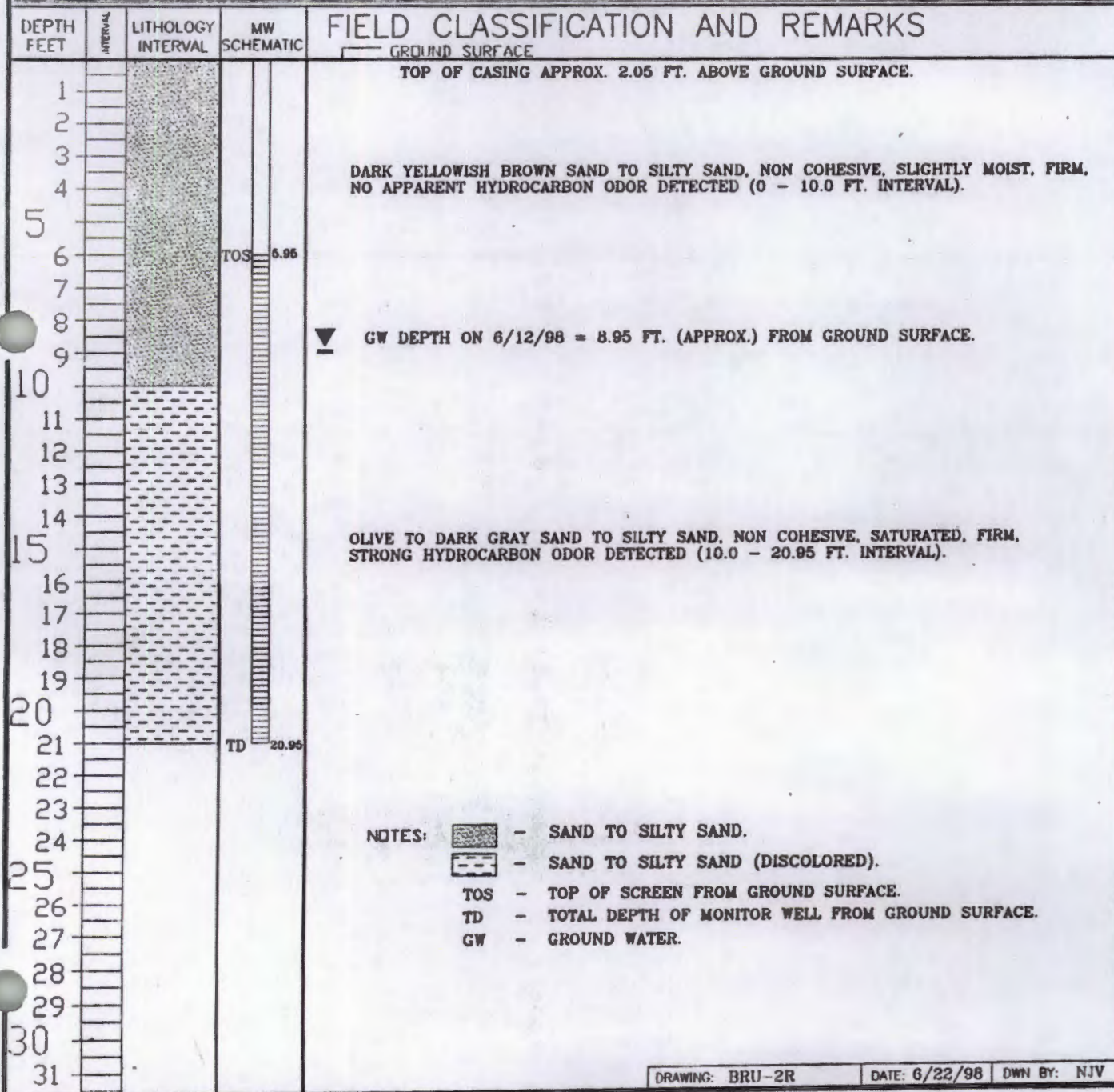


FIGURE 8

BLAGG ENGINEERING, INC.

P.O. BOX 87

BLOOMFIELD, NM 87413

(505) 632-1199

BORE / TEST HOLE REPORT

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

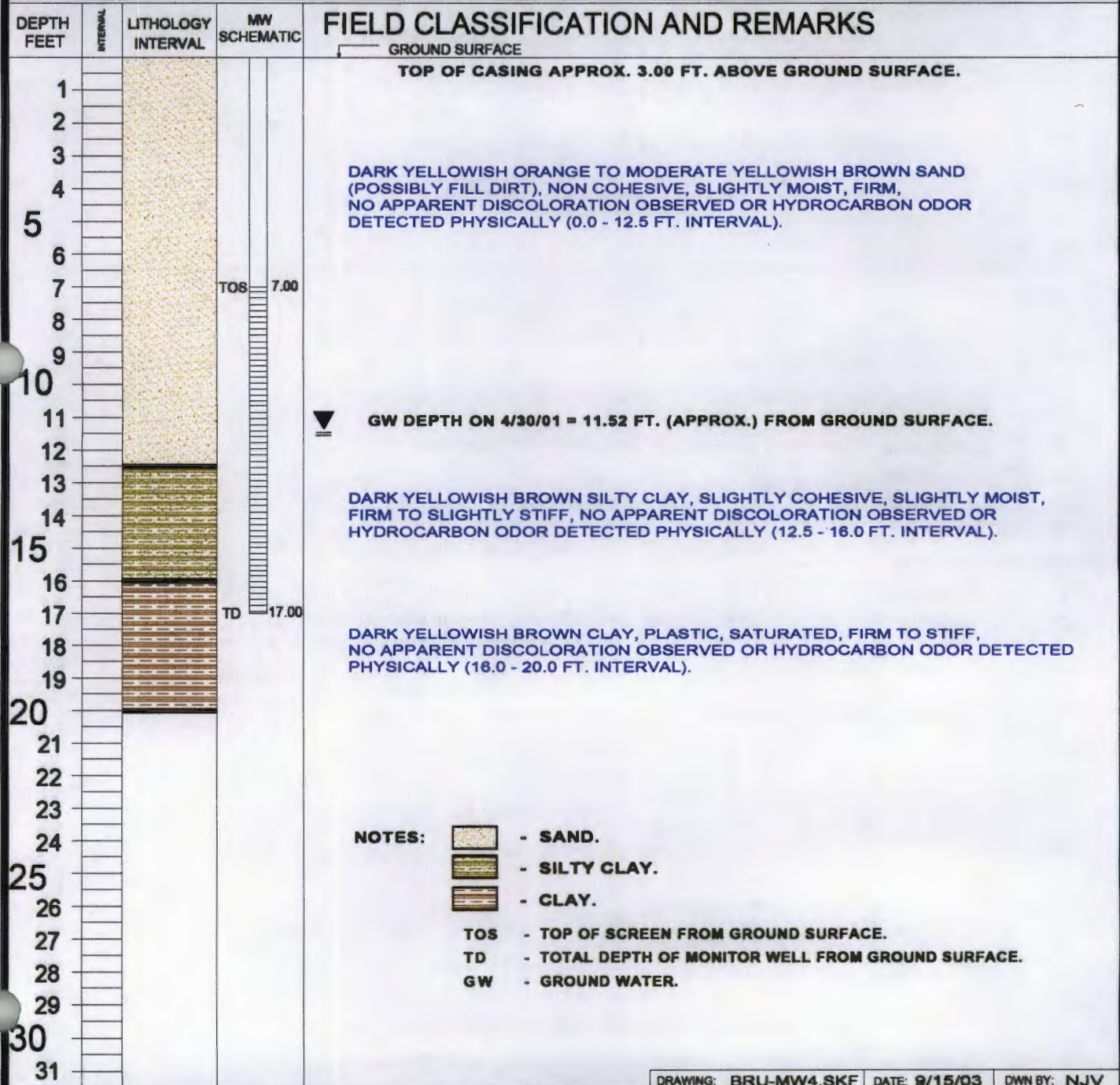
LOCATION NAME: **BRUINGTON GC # 1**CLIENT: **XTO ENERGY INC.**CONTRACTOR: **BLAGG ENGINEERING, INC.**EQUIPMENT USED: **MOBILE DRILL RIG (EARTHPROBE)**BORING LOCATION: **N30W, 39.5 FEET FROM MW # 2R.**

FIGURE 9

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**

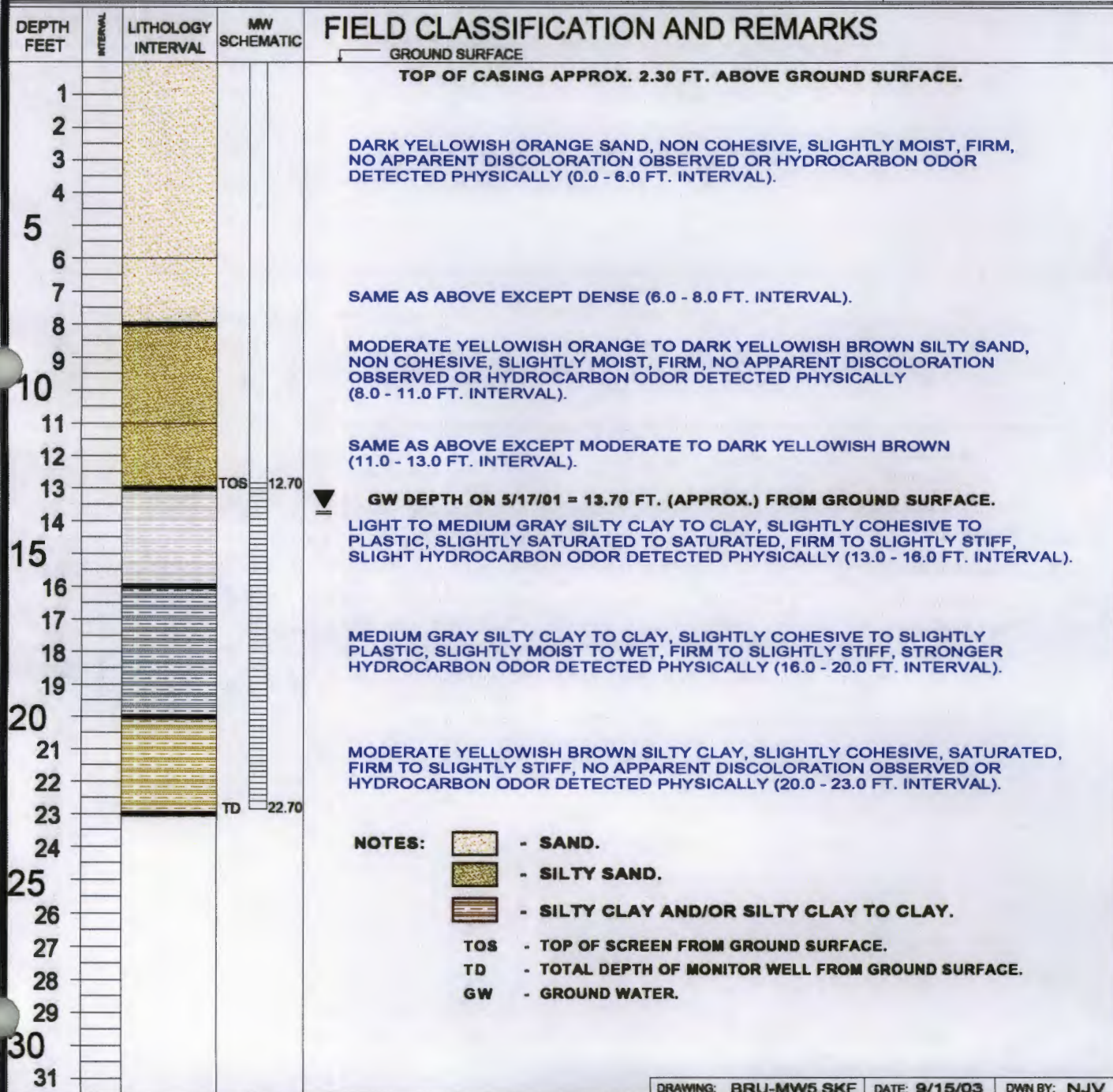


FIGURE 6

BLAGG ENGINEERING, INC.

P.O. BOX 87

BLOOMFIELD, NM 87413

(505) 632-1199

BORE / TEST HOLE REPORT

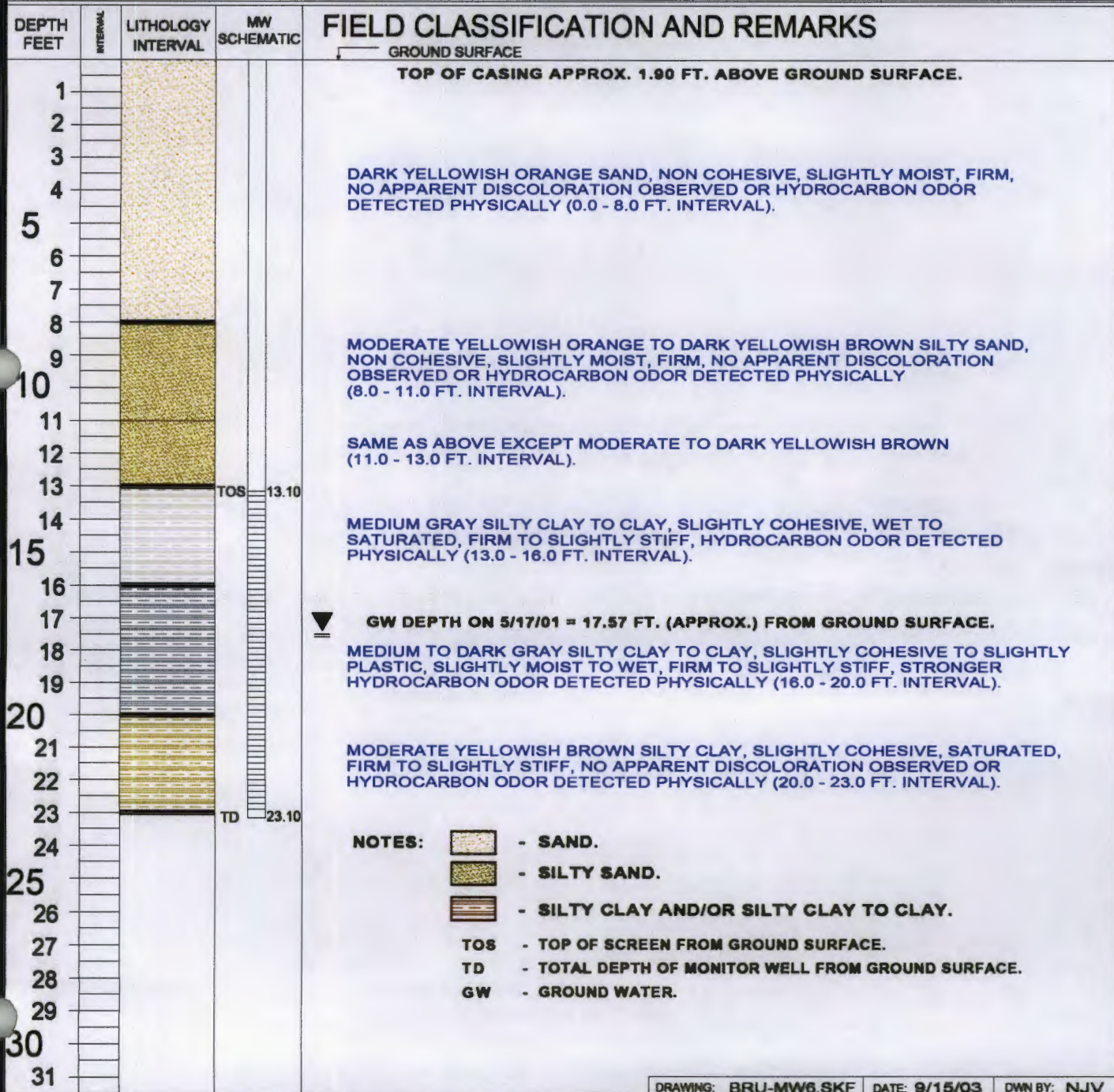
LOCATION NAME: **BRUINGTON GC # 1**CLIENT: **XTO ENERGY INC.**CONTRACTOR: **BLAGG ENGINEERING, INC.**EQUIPMENT USED: **MOBILE DRILL RIG (EARTHPROBE)**BORING LOCATION: **N47E, 108.8 FEET FROM MW # 2R.**BORING #..... **BH - 6**MW #..... **6**PAGE #..... **6**DATE STARTED **2/20/01**DATE FINISHED **2/20/01**OPERATOR..... **JCB**PREPARED BY **NJV**

FIGURE 11

BLAGG ENGINEERING, INC.

P.O. BOX 87

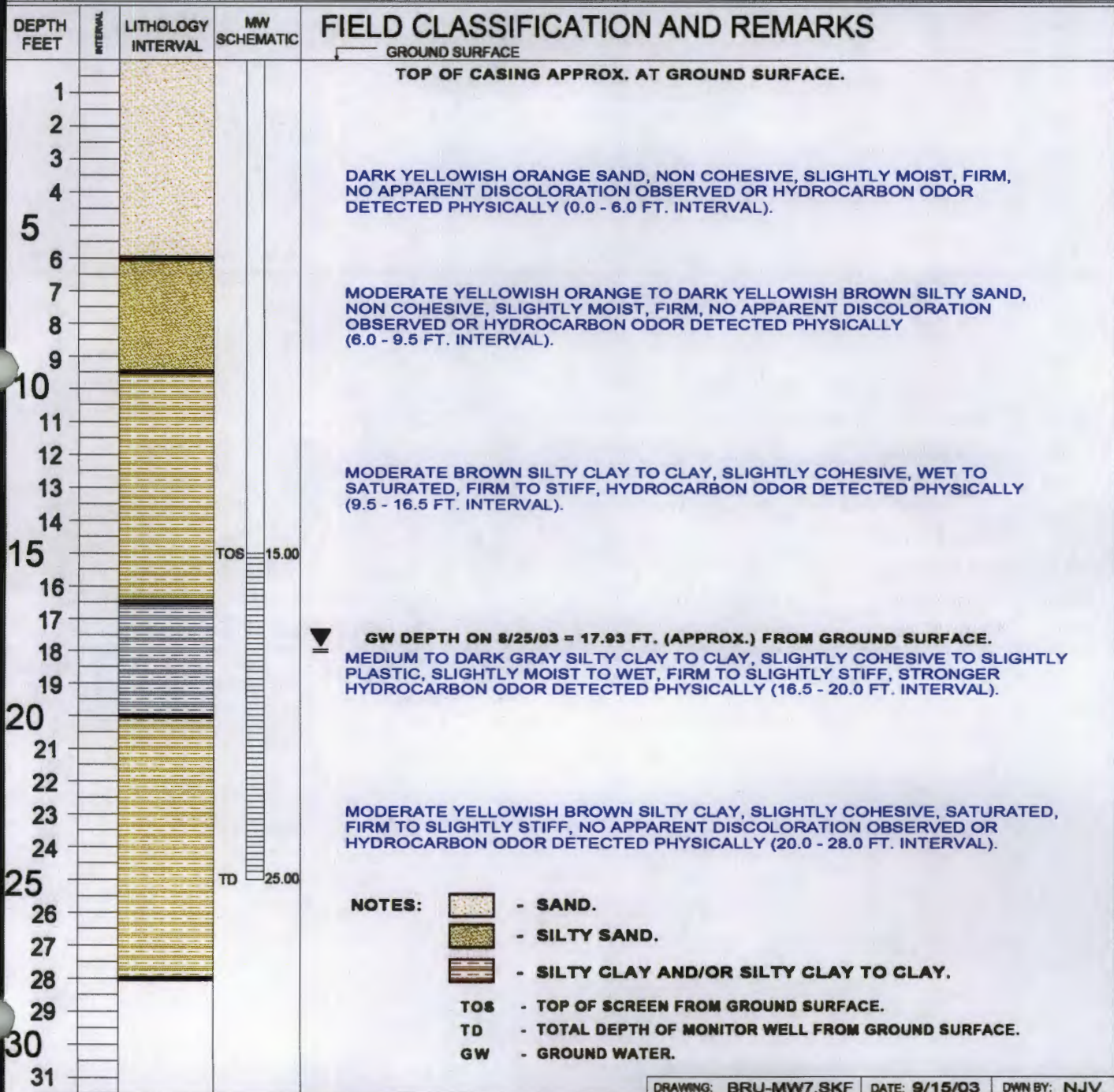
BLOOMFIELD, NM 87413

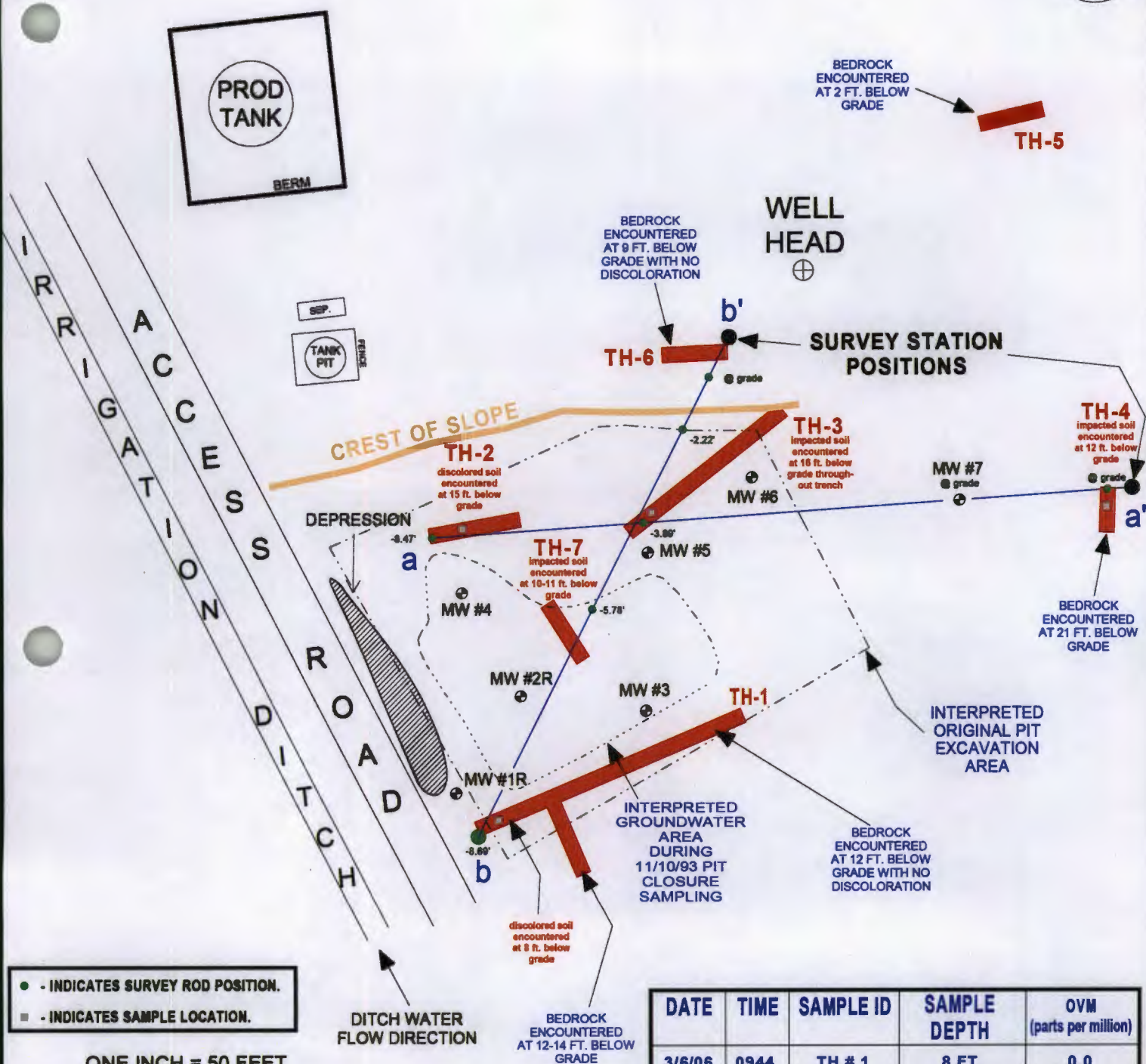
(505) 632-1199

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**





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 Isobutylene 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) 832-1199

PROJECT: SITE ASSESSMENT

DRAWN BY: NJV

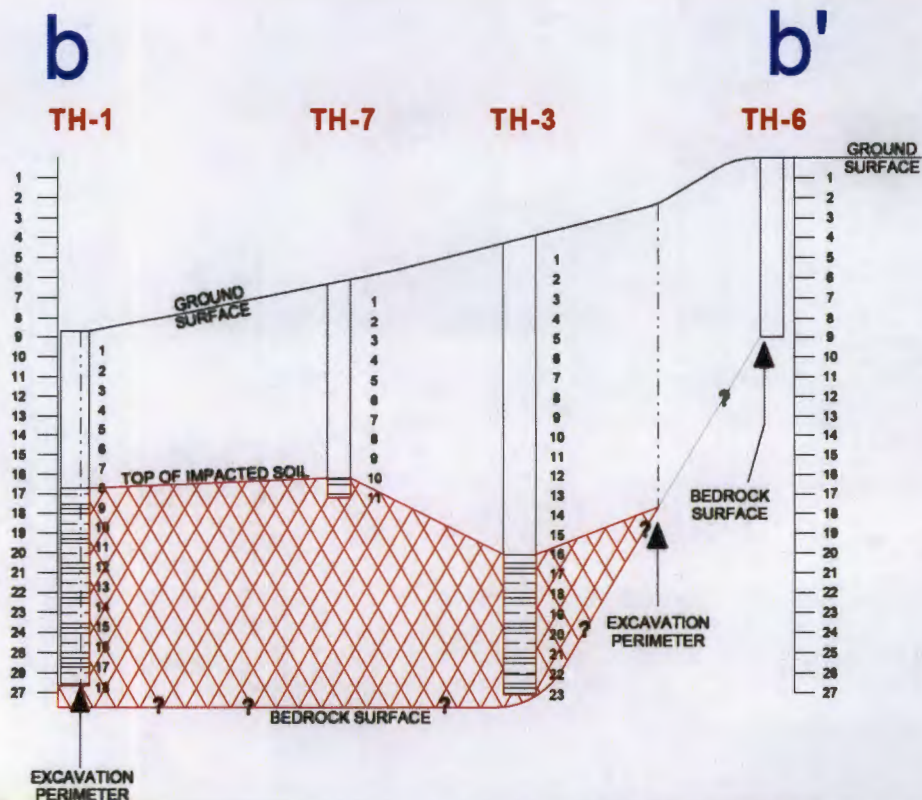
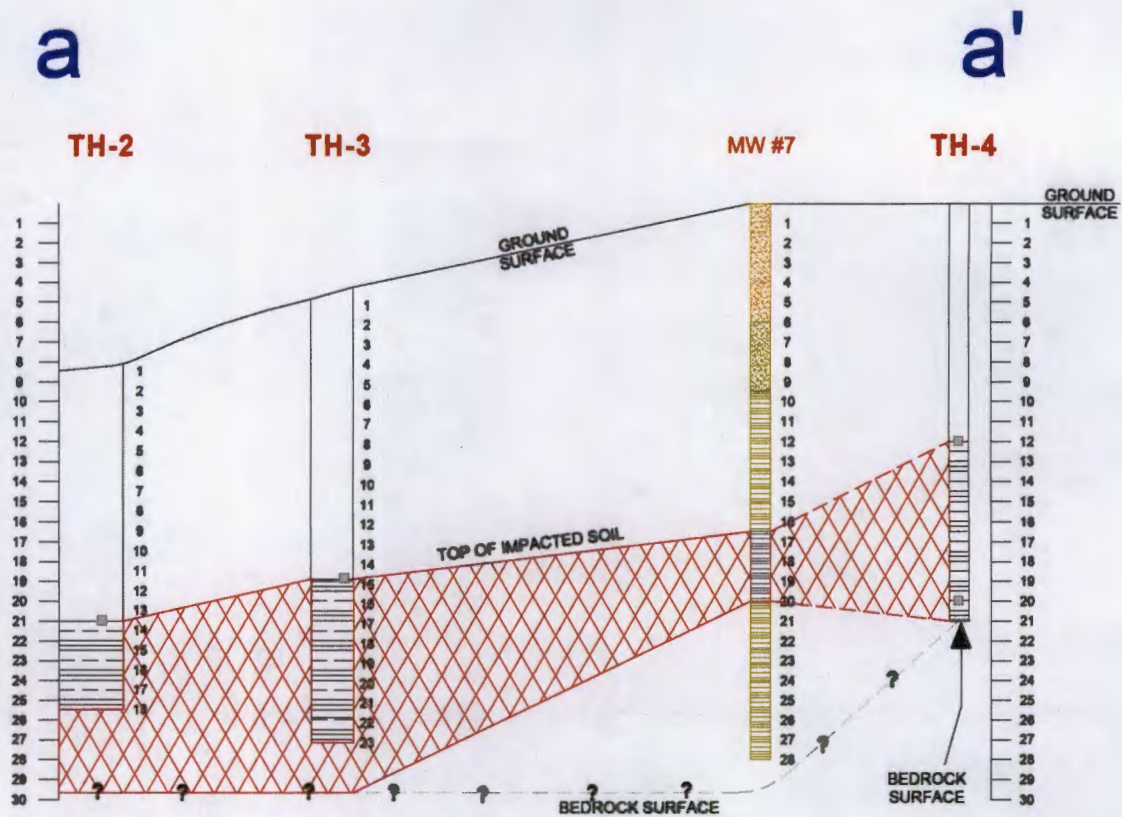
FILENAME: BRUINGTON-SM2.SKF

REVISED: 03/11/06 NJV

TEST HOLES

03/06

FIGURE 13



XTO ENERGY INC.

BRUINGTON GC 1

SW/4 NW/4 SEC. 14, T28N, 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

RECORD OF SUBSURFACE EXPLORATION

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

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

Project Number: _____
Project Name: XTO Ground Water
Project Location: Bruington Gas Com #1

Borehole Location: 36° 43.718' N, 107° 57.991' W
GWL Depth: 20
Drilled By: Enviro-Drill
Well Logged By: Ashley Ager
Date Started: 05/04/07
Date Completed: 05/04/07

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	reddish brown, poorly sorted sand and gravel, damp, unconsolidated	0	Easy
5	2	5-6.5	split spoon	reddish brown, poorly sorted sand and gravel, damp, unconsolidated	0	Easy
10	3	10-11.3	split spoon	brown, sandy silt, coarse sand content, damp, sub-angular	0	Easy
15	4	15-17	split spoon	15-15.8: brown, sandy silt, damp, unconsolidated 15.8-17: black clay, HC odor	52.8 529	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: Bruington Gas Com #1

Borehole Location: 36° 43.718' N, 107° 57.991' W
GWL Depth: 20
Drilled By: Enviro-Drill
Well Logged By: Ashley Ager
Date Started: 05/04/07
Date Completed: 05/04/07

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	20-21.5: bluish gray, sandy clay, very strong odor, coarse sand content, damp 21.5-22: grayish black coarse sand, saturated, unconsolidated	710 1580	Easy
25	6	25-26.3	split spoon	blackish gray sandy clay containing brown sandstone fragments	1120	Easy
30	7	26.5-27'	cuttings	brown sandstone		Hard
35						
40						

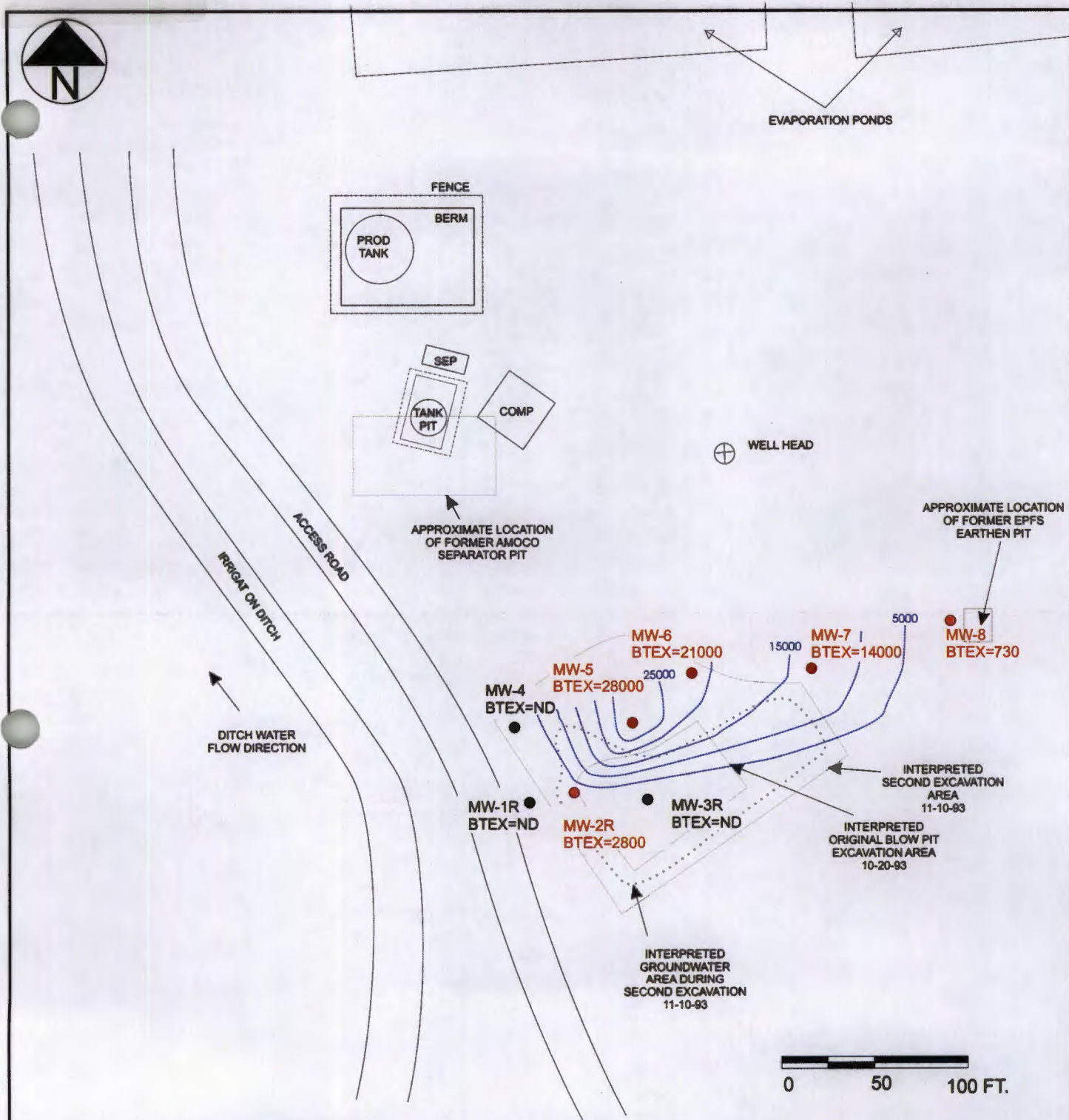
Comments:

Reached sandstone bedrock at 26.5'

Called Kim at XTO to arrange for affected soil in cuttings to be collected and removed
from site.

Geologist Signature: Ashley L. Ager

FIGURE 15



--- = INFERRED ISOPACH - TOTAL BTEX

BTEX = TOTAL CONCENTRATION OF BENZENE, TOLUENE, ETHYLBENZENE AND XYLENES (ug/L) DETECTED IN LABORATORY SAMPLES

ND = NOT DETECTED

NOTES:

1. Monitoring well locations are only as accurate as the GPS instruments and software used to plot their positions. All other structures displayed on the site map are solely for reference and may not be to scale.
2. MW-3 was damaged and a water level could not be measured.

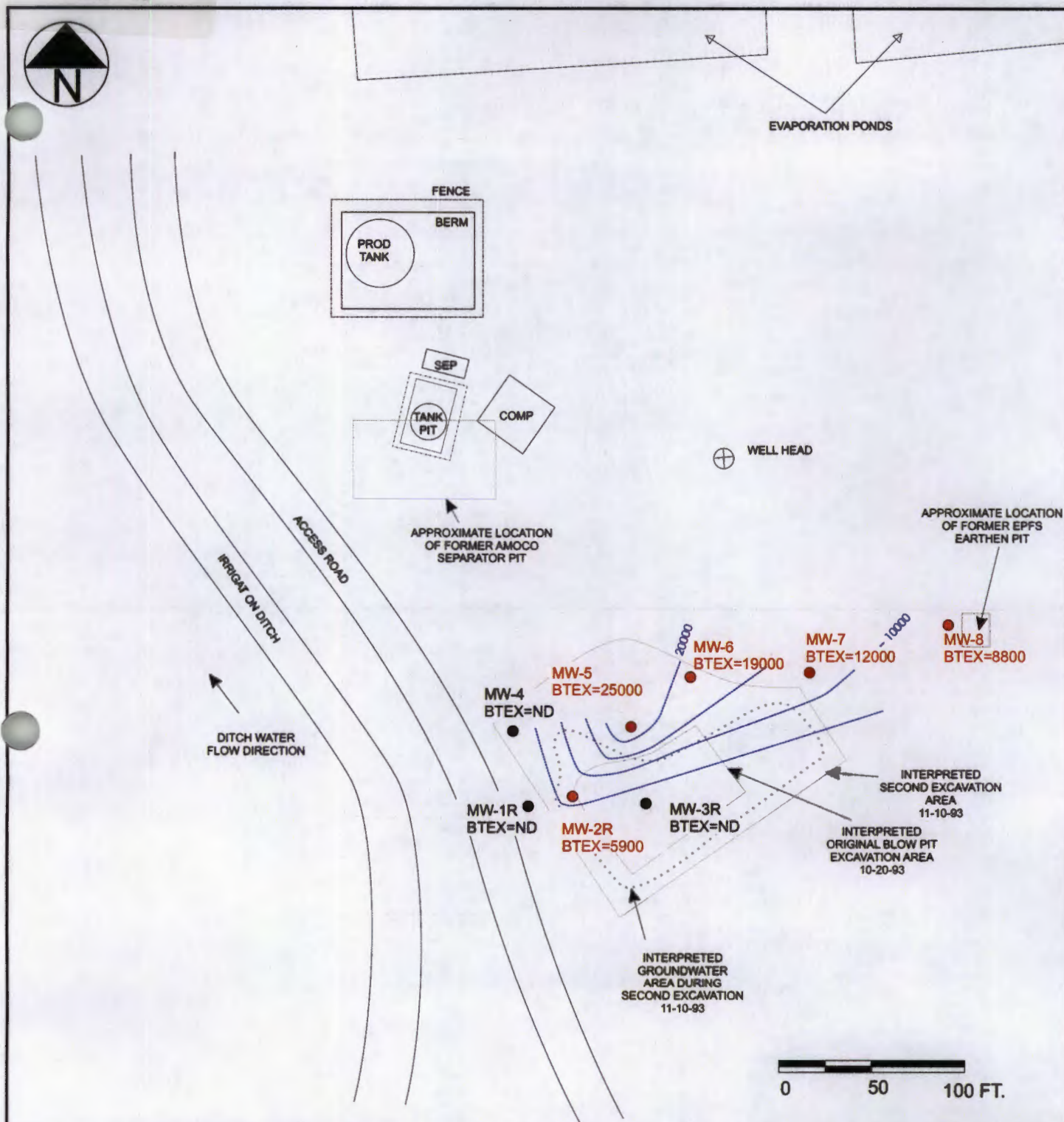
Lodestar Services, Inc
PO Box 3861
Farmington, NM 87499

BRUINGTON GAS COM #1
SW/4 NW/4 SEC. 14, T29N, R11W
SAN JUAN COUNTY, NEW MEXICO

PROJECT: XTO GROUND WATER
DRAWN BY: ADH
REVISED: 24Mar09

TOTALBTEX
ISOPACH MAP
12 Mar08

FIGURE 16



— = INFERRED ISOPACH - TOTAL BTEX
 BTEX = TOTAL CONCENTRATION OF BENZENE, TOLUENE, ETHYLBENZENE AND XYLENES (ug/L) DETECTED IN LABORATORY SAMPLES
 ND = NOT DETECTED

NOTES:

1. Monitoring well locations are only as accurate as the GPS instruments and software used to plot their positions. All other structures displayed on the site map are solely for reference and may not be to scale.
2. MW-3 was damaged and a water level could not be measured.

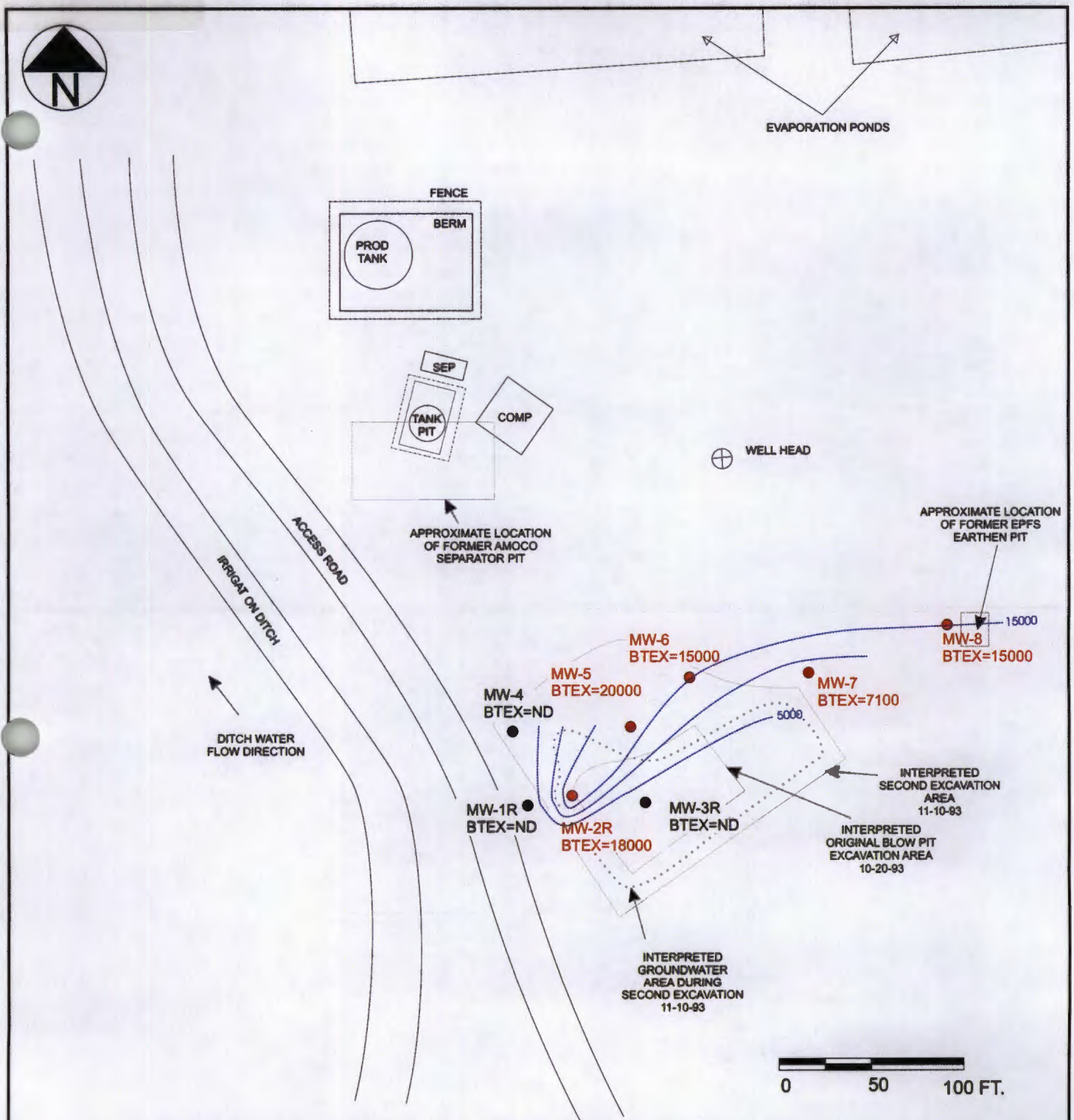
Lodestar Services, Inc
 PO Box 3861
 Farmington, NM 87499

BRUINGTON GAS COM #1
 SW/4 NW/4 SEC. 14, T29N, R11W
 SAN JUAN COUNTY, NEW MEXICO

PROJECT: XTO GROUND WATER
 DRAWN BY: ADH
 REVISED: 24Mar09

TOTAL BTEX
 ISOPACH MAP
 2 Jun 08

FIGURE 17



..... = INFERRED ISOPACH - TOTAL BTEX

BTEX = TOTAL CONCENTRATION OF BENZENE, TOLUENE, ETHYLBENZENE AND XYLENES (ug/L) DETECTED IN LABORATORY SAMPLES

ND = NOT DETECTED

NOTES:

1. Monitoring well locations are only as accurate as the GPS instruments and software used to plot their positions. All other structures displayed on the site map are solely for reference and may not be to scale.
2. MW-3 was damaged and a water level could not be measured.

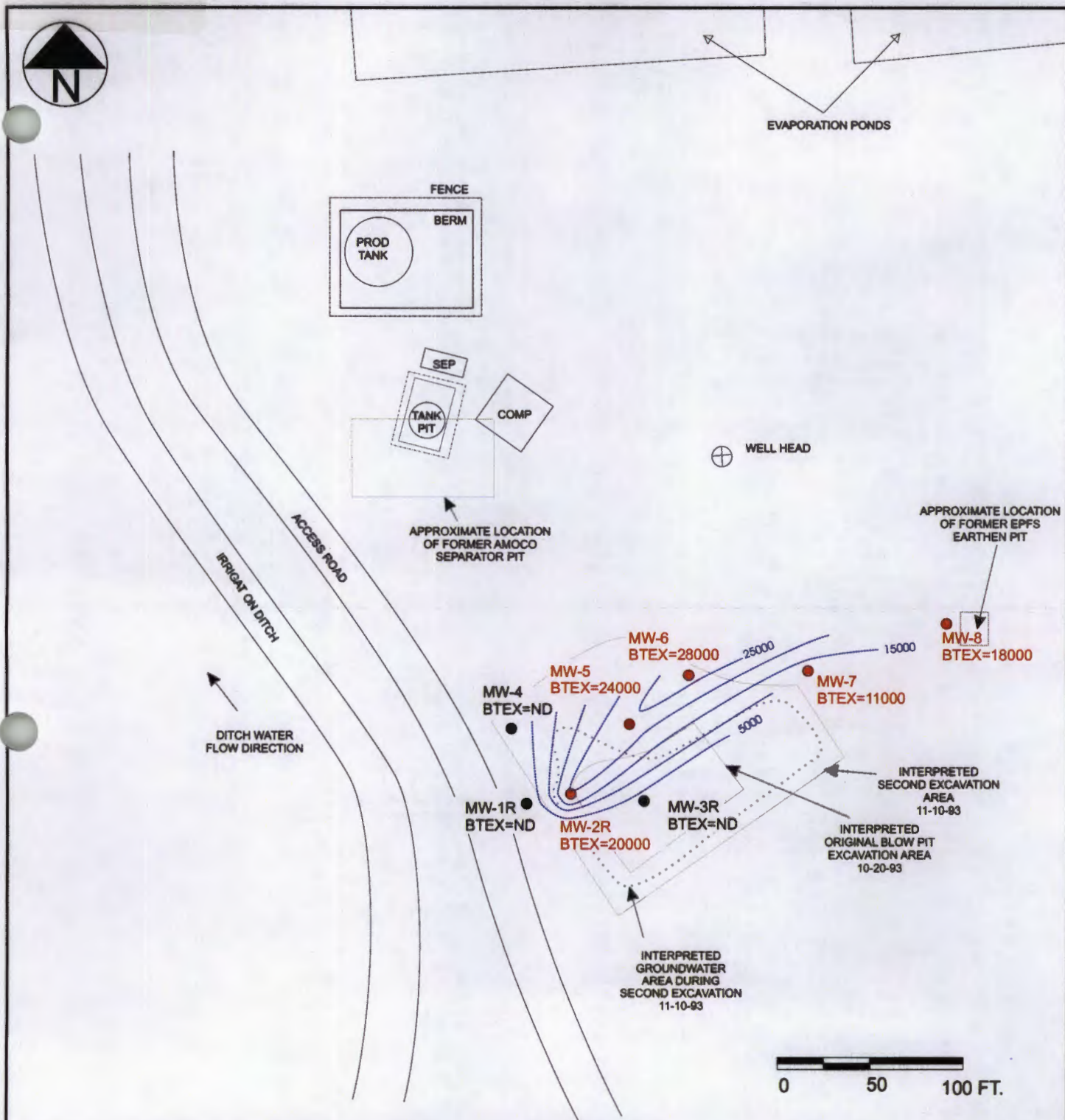
Lodestar Services, Inc
PO Box 3861
Farmington, NM 87499

BRUINGTON GAS COM #1
SW/4 NW/4 SEC. 14, T29N, R11W
SAN JUAN COUNTY, NEW MEXICO

PROJECT: XTO GROUND WATER
DRAWN BY: ADH
REVISED: 25Mar09

TOTALBTEX
ISOPACH MAP
22Sep08

FIGURE 18



— = INFERRED ISOPACH - TOTAL BTEX
 BTEX = TOTAL CONCENTRATION OF BENZENE, TOLUENE, ETHYLBENZENE AND XYLENES (ug/L) DETECTED IN LABORATORY SAMPLES
 ND = NOT DETECTED

NOTES:

1. Monitoring well locations are only as accurate as the GPS instruments and software used to plot their positions. All other structures displayed on the site map are solely for reference and may not be to scale.
2. MW-3 was damaged and a water level could not be measured.

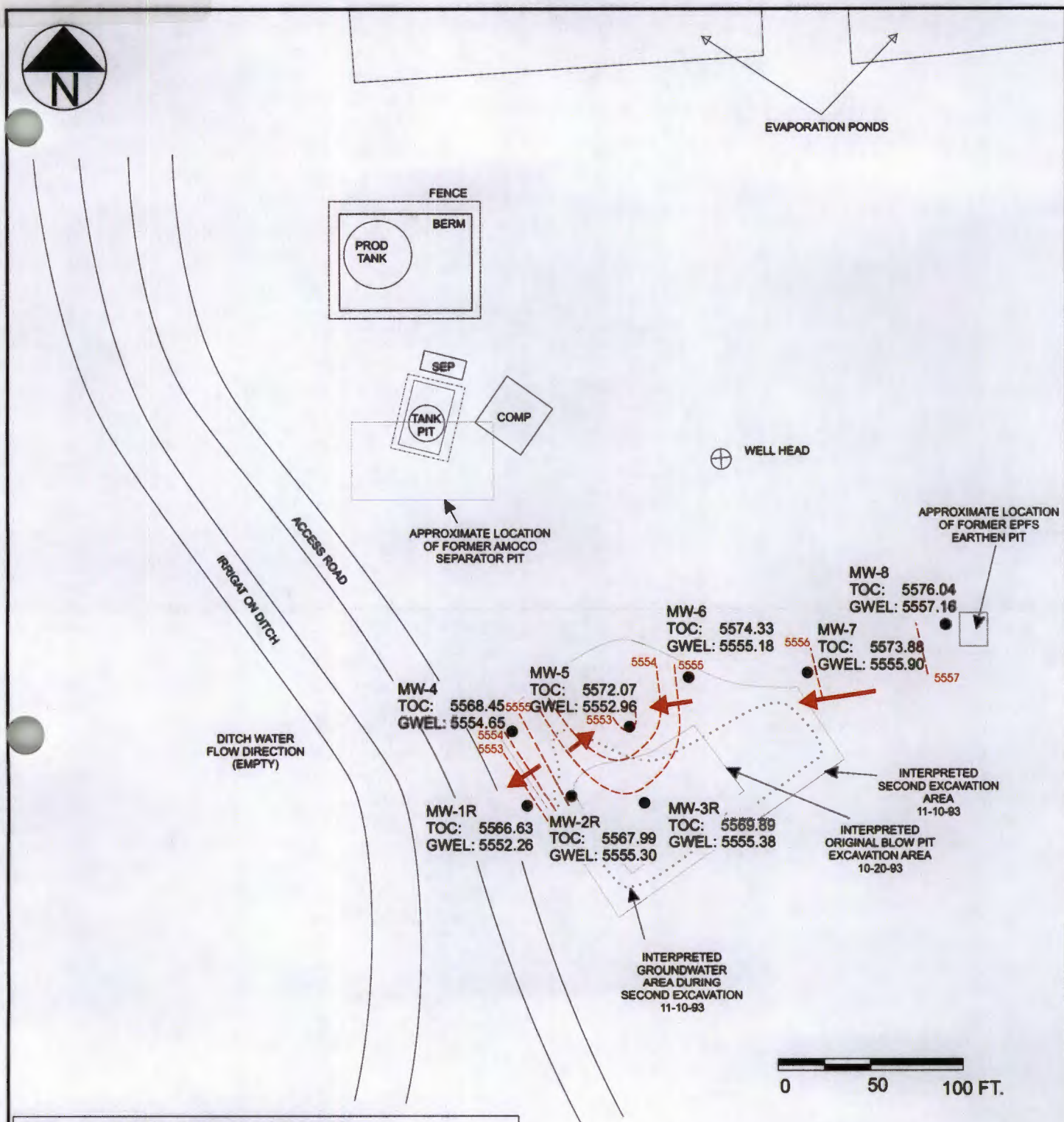
Lodestar Services, Inc
 PO Box 3861
 Farmington, NM 87499

BRUINGTON GAS COM #1
 SW/4 NW/4 SEC. 14, T29N, R11W
 SAN JUAN COUNTY, NEW MEXICO

PROJECT: XTO GROUND WATER
 DRAWN BY: ADH
 REVISED: 24Mar09

TOTAL BTEX
 ISOPACH MAP
 05Dec08

FIGURE 19



TOC = TOP OF CASING ELEVATION
 GWEL = GROUNDWATER ELEVATION
 --- = INFERRED GROUNDWATER CONTOUR LINE
 B = BENZENE (ug/L)
 T = TOLUENE (ug/L)
 E = ETHYLBENZENE (ug/L)
 X = TOTAL XYLENES (ug/L)
 ND = NOT DETECTED

NOTES:

1. Monitoring well locations are only as accurate as the GPS instruments and software used to plot their positions. All other structures displayed on the site map are solely for reference and may not be to scale.

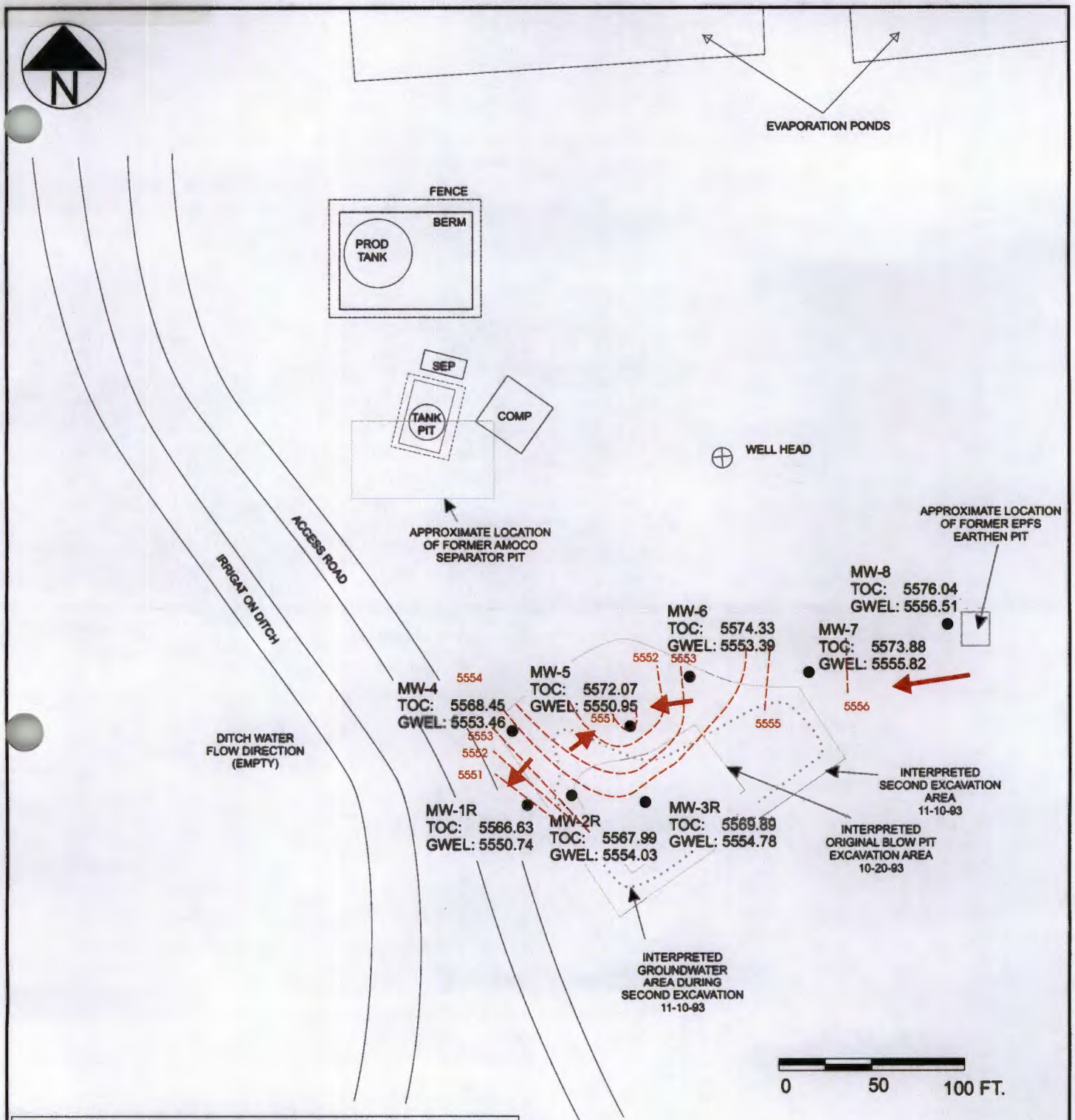
Lodestar Services, Inc
 PO Box 3861
 Farmington, NM 87499

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: 01/11/08

GROUNDWATER GRADIENT
 MAP
 01/08/08

FIGURE 20



TOC = TOP OF CASING ELEVATION
 GWEL = GROUNDWATER ELEVATION
 - - - = INFERRED GROUNDWATER CONTOUR LINE
 B = BENZENE (ug/L)
 T = TOLUENE (ug/L)
 E = ETHYLBENZENE (ug/L)
 X = TOTAL XYLENES (ug/L)
 ND = NOT DETECTED

NOTES:

1. Monitoring well locations are only as accurate as the GPS instruments and software used to plot their positions. All other structures displayed on the site map are solely for reference and may not be to scale.

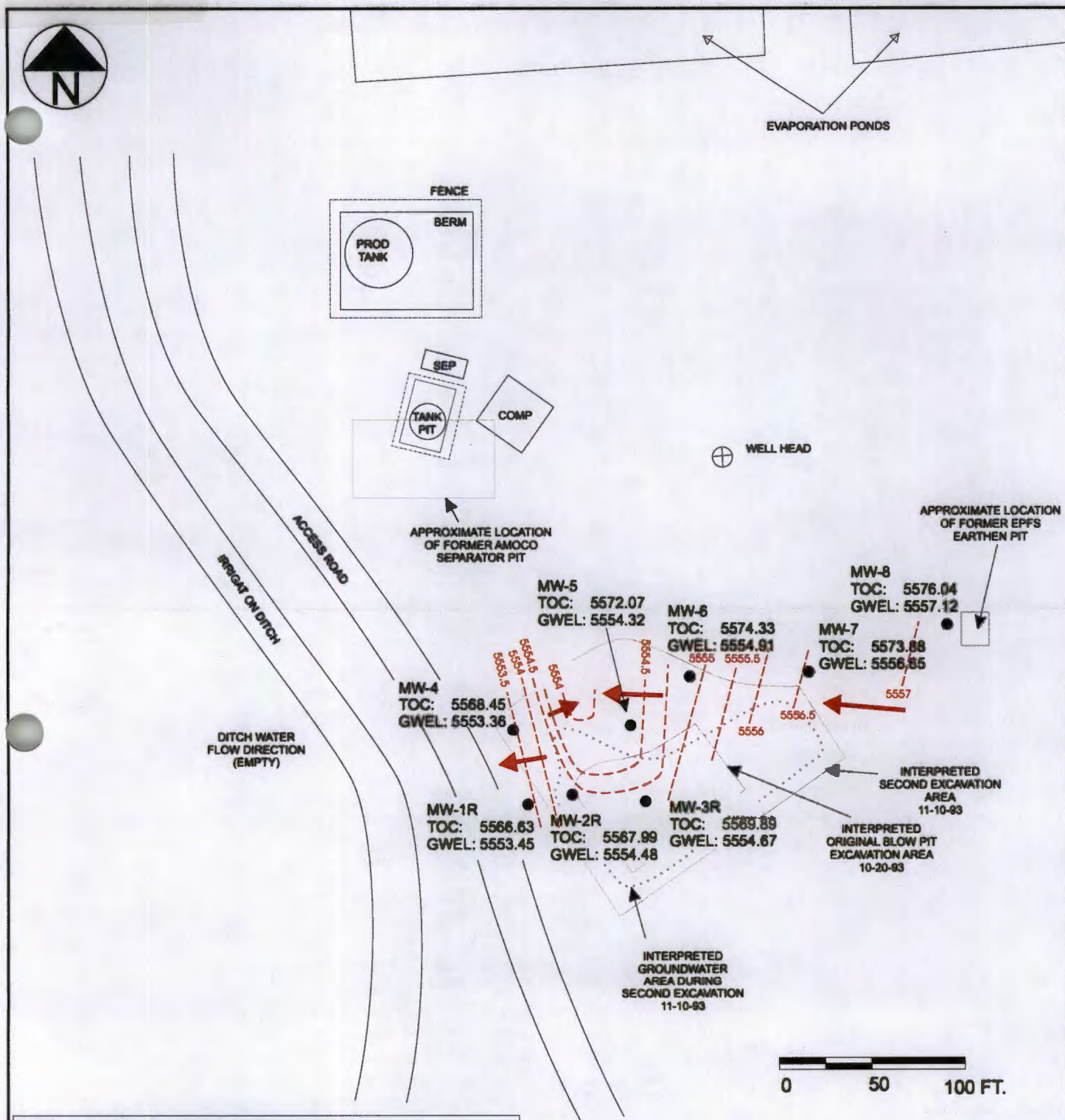
Lodestar Services, Inc
 PO Box 3861
 Farmington, NM 87499

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: 02/28/08

GROUNDWATER GRADIENT
 MAP
 02/26/08

FIGURE 21



TOC = TOP OF CASING ELEVATION
 GWEL = GROUNDWATER ELEVATION
 - - - = INFERRED GROUNDWATER CONTOUR LINE
 B = BENZENE (ug/L)
 T = TOLUENE (ug/L)
 E = ETHYLBENZENE (ug/L)
 X = TOTAL XYLENES (ug/L)
 ND = NOT DETECTED

NOTES:

1. Monitoring well locations are only as accurate as the GPS instruments and software used to plot their positions. All other structures displayed on the site map are solely for reference and may not be to scale.

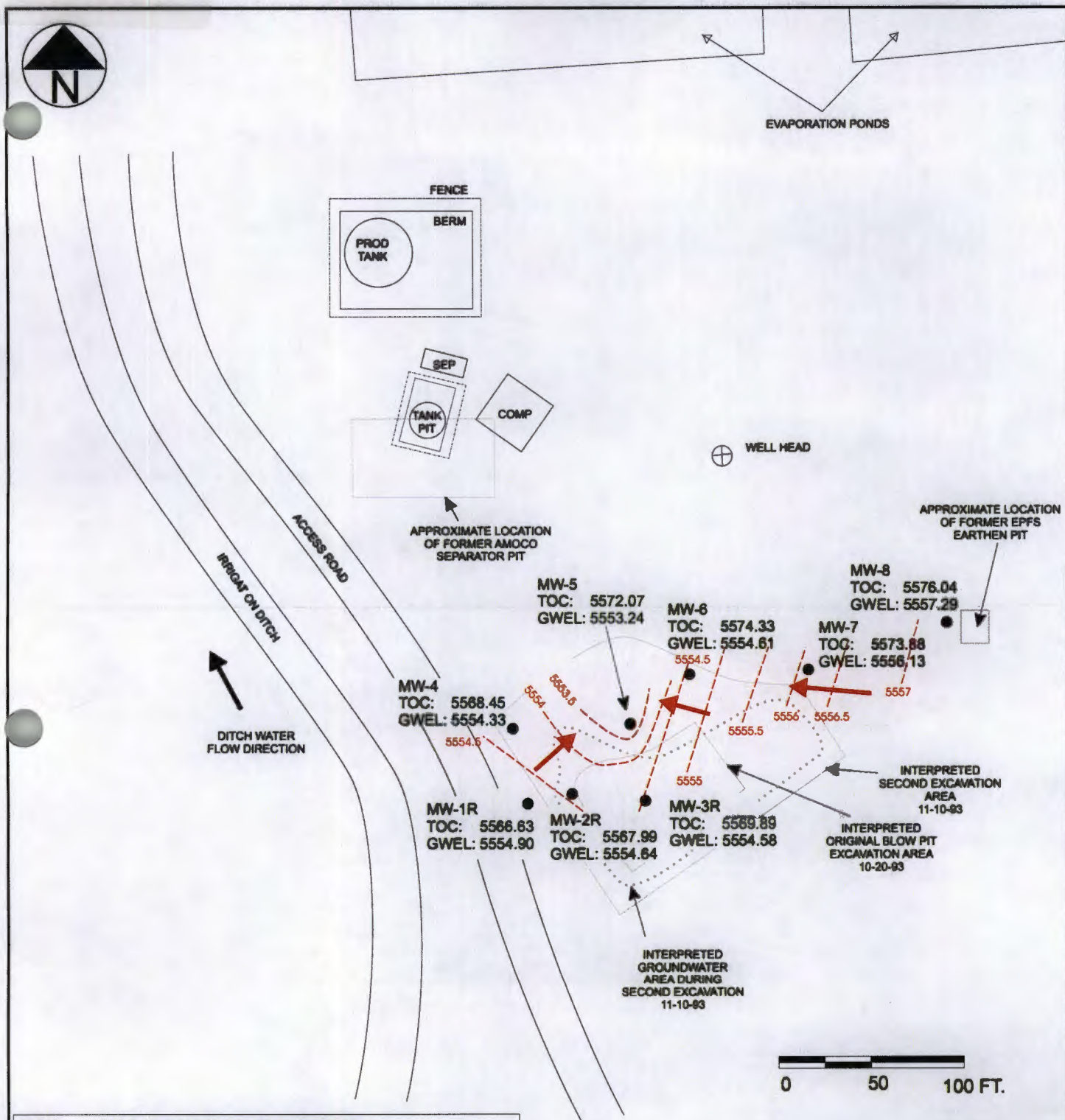
Lodestar Services, Inc
 PO Box 3861
 Farmington, NM 87499

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: 03/18/08

GROUNDWATER GRADIENT
 MAP
 03/12/2008

FIGURE 22



TOC = TOP OF CASING ELEVATION
 GWEL = GROUNDWATER ELEVATION
 - - - = INFERRED GROUNDWATER CONTOUR LINE
 B = BENZENE (ug/L)
 T = TOLUENE (ug/L)
 E = ETHYLBENZENE (ug/L)
 X = TOTAL XYLENES (ug/L)
 ND = NOT DETECTED

NOTES:

1. Monitoring well locations are only as accurate as the GPS instruments and software used to plot their positions. All other structures displayed on the site map are solely for reference and may not be to scale.

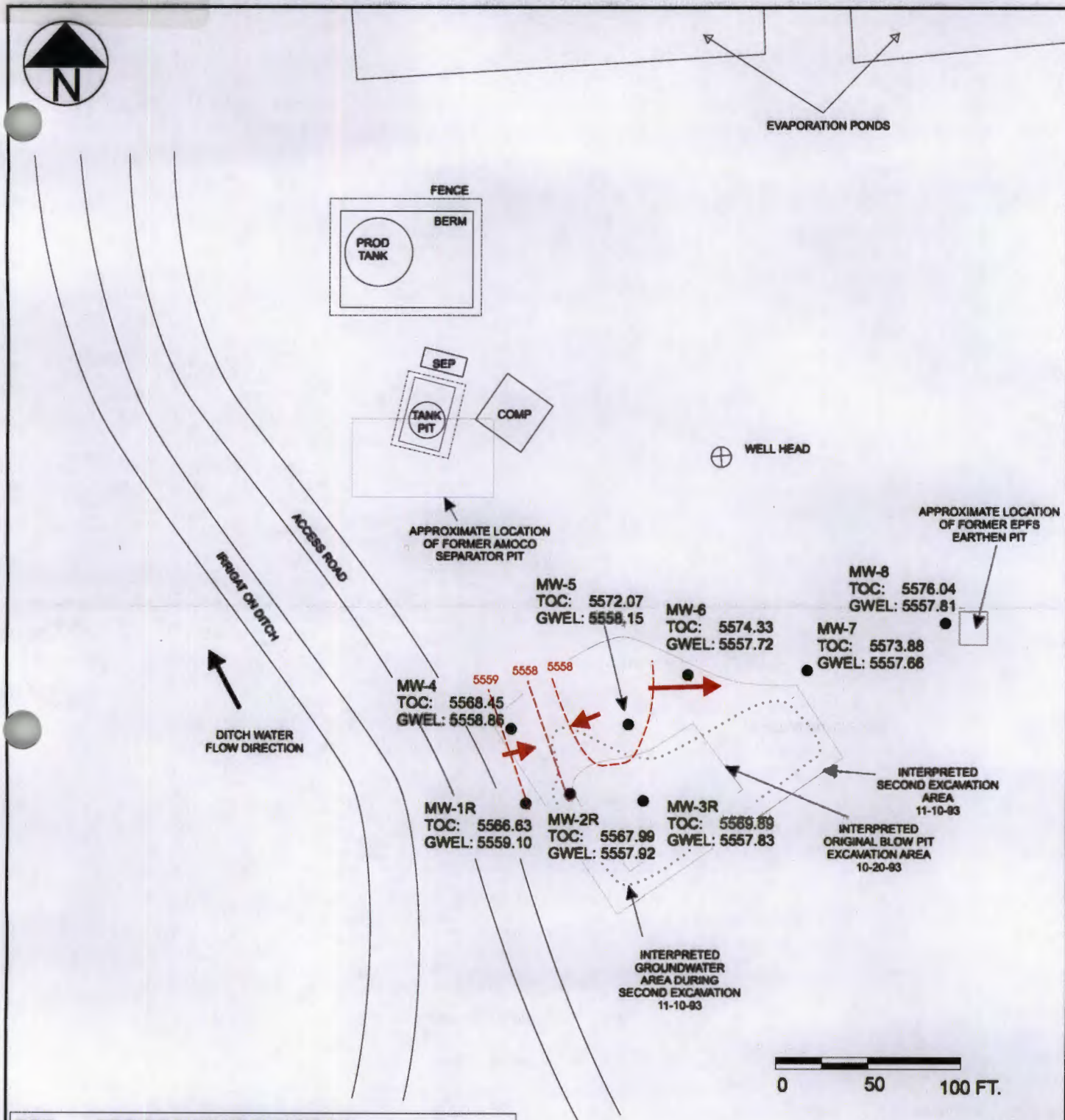
Lodestar Services, Inc
 PO Box 3861
 Farmington, NM 87499

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: 04/30/08

GROUNDWATER GRADIENT
 MAP
 04/07/2008

FIGURE 23



NOTES:

1. Monitoring well locations are only as accurate as the GPS instruments and software used to plot their positions. All other structures displayed on the site map are solely for reference and may not be to scale.

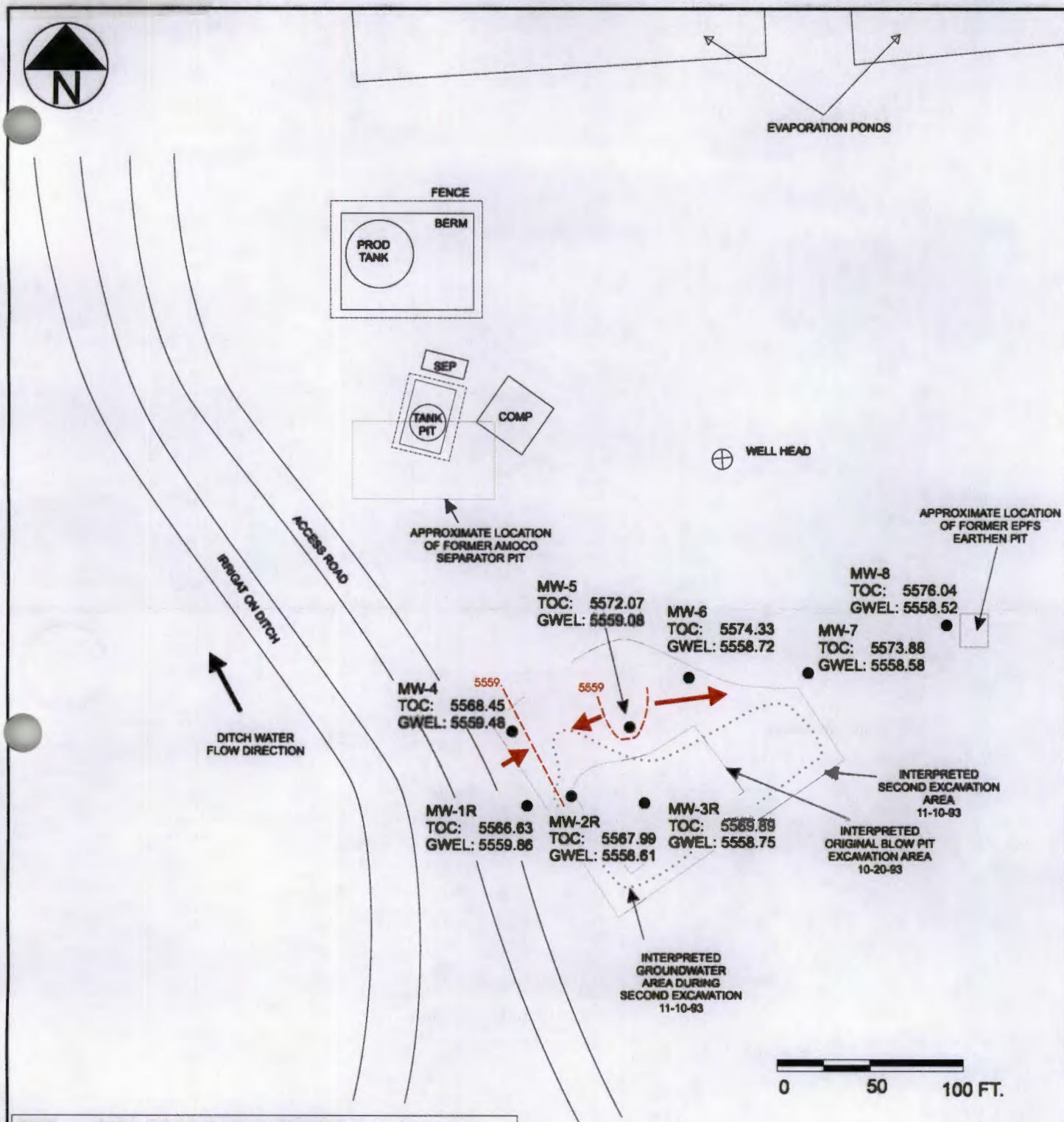
Lodestar Services, Inc
PO Box 3861
Farmington, NM 87499

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: 06/30/08

GROUNDWATER GRADIENT
MAP
06/02/2008

FIGURE 24



TOC = TOP OF CASING ELEVATION
 GWEL = GROUNDWATER ELEVATION
 --- = INFERRED GROUNDWATER CONTOUR LINE
 B = BENZENE (ug/L)
 T = TOLUENE (ug/L)
 E = ETHYLBENZENE (ug/L)
 X = TOTAL XYLENES (ug/L)
 ND = NOT DETECTED

NOTES:

1. Monitoring well locations are only as accurate as the GPS instruments and software used to plot their positions. All other structures displayed on the site map are solely for reference and may not be to scale.

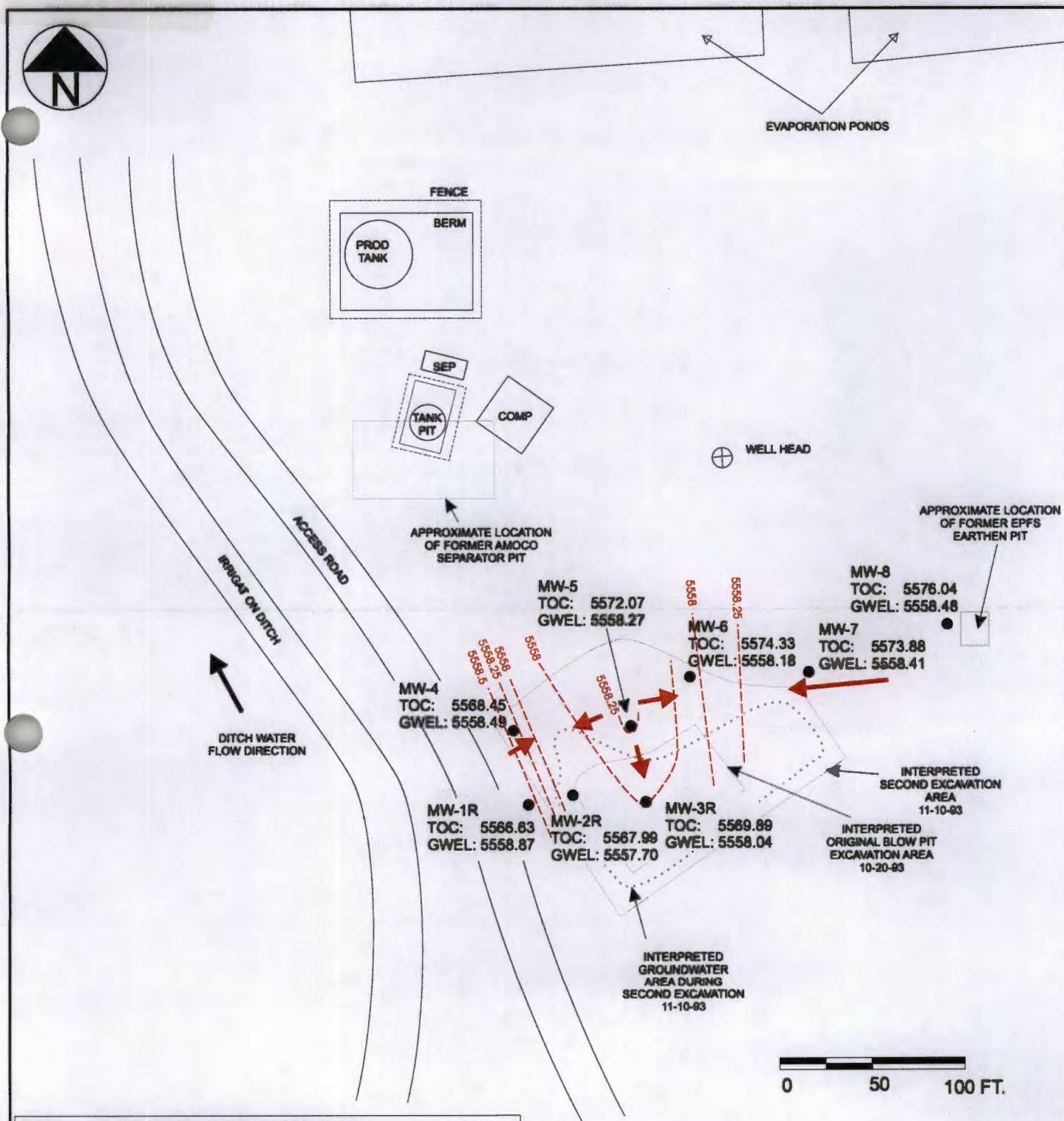
Lodestar Services, Inc
 PO Box 3861
 Farmington, NM 87499

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: 08/12/08

GROUNDWATER GRADIENT
 MAP
 08/12/2008

FIGURE 25



TOC = TOP OF CASING ELEVATION
 GWEL = GROUNDWATER ELEVATION
 --- = INFERRED GROUNDWATER CONTOUR LINE
 B = BENZENE (ug/L)
 T = TOLUENE (ug/L)
 E = ETHYLBENZENE (ug/L)
 X = TOTAL XYLENES (ug/L)
 ND = NOT DETECTED

NOTES:

1. Monitoring well locations are only as accurate as the GPS instruments and software used to plot their positions. All other structures displayed on the site map are solely for reference and may not be to scale.

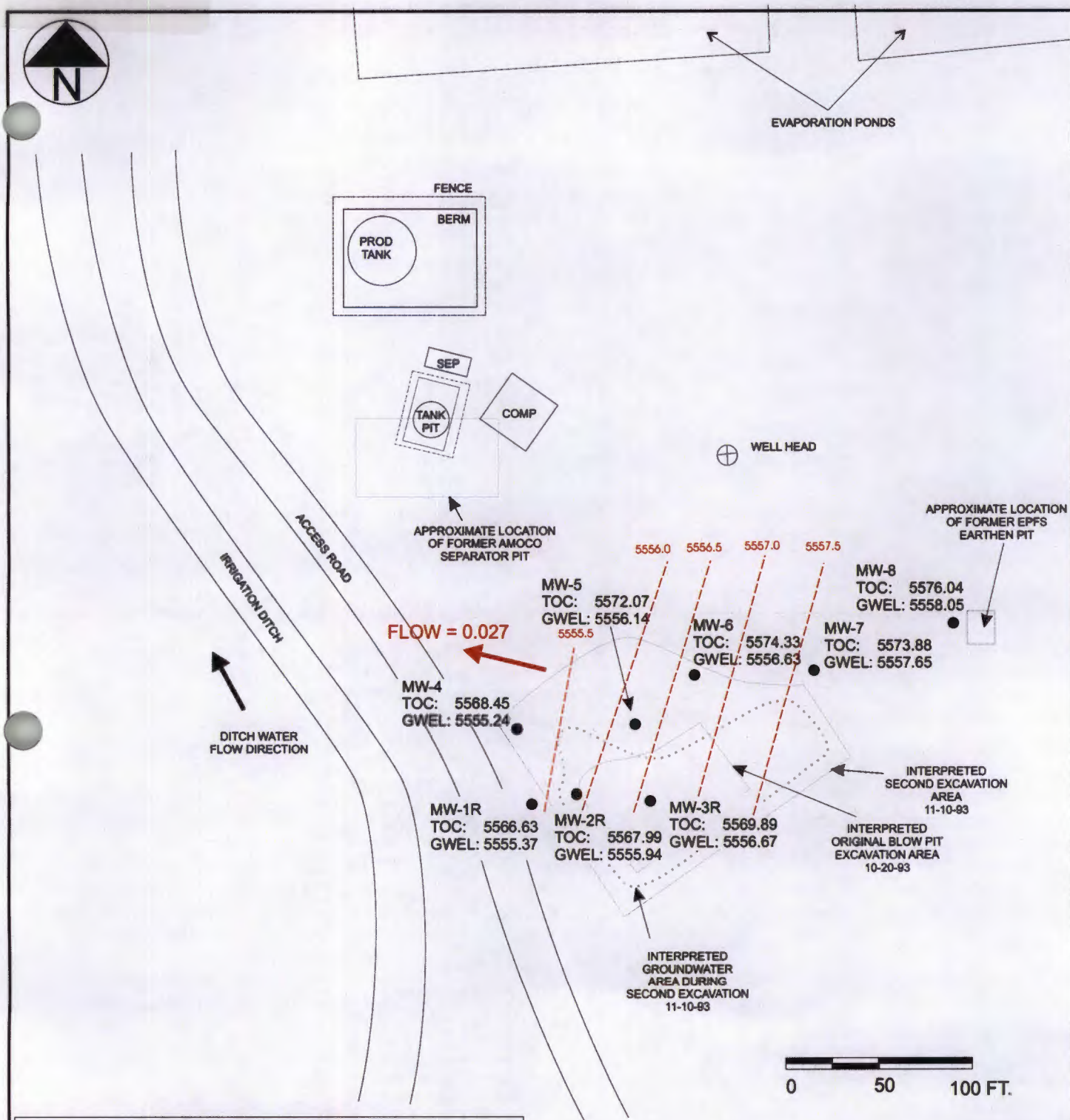
Lodestar Services, Inc
 PO Box 3861
 Farmington, NM 87499

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: 09/22/08

GROUNDWATER GRADIENT
 MAP
 09/30/08

FIGURE 26



TOC = TOP OF CASING ELEVATION
 GWEL = GROUNDWATER ELEVATION
 --- = INFERRED GROUNDWATER CONTOUR LINE
 B = BENZENE (ug/L)
 T = TOLUENE (ug/L)
 E = ETHYLBENZENE (ug/L)
 X = TOTAL XYLENES (ug/L)
 ND = NOT DETECTED

NOTES:

1. Monitoring well locations are only as accurate as the GPS instruments and software used to plot their positions. 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: 12/5/08

GROUNDWATER GRADIENT
 MAP
 12/22/08

LAB RESULTS TO PAUL V. ON 11-3-93. SOIL OK, WATER CONTAMINATED.
OVM RESULTS TO PAUL V. ON 10-20-93

(VERY CONTAMINATED)

ENVIROTECH Inc.

5706 US HWY 84, FARMINGTON, NM 87401
(505) 832-0615

PIT NO: C4948C.O.C. NO: 3141

FIELD REPORT: CLOSURE VERIFICATION

JOB No: 92140PAGE No: 1 of 1

LOCATION: LEASE: BRUINGTON GAS WELL #1 QD SW/4, NW/4 (E)
SEC 14 TWP 29 N RNG: 11 W BM. NM CNTY: SJ ST NM PIT BLOW
CONTRACTOR: PAUL VELASQUEZ
EQUIPMENT USED: EXCAVATOR

DATE STARTED: 10-20-93DATE FINISHED: 10-27-93ENVIRONMENTAL
SPECIALIST: REOSOIL REMEDIATION: QUANTITY: EXCAVATION APPROX. 40' x 75' x 20' MAX. DEEP.DISPOSAL FACILITY: CROUCH MESALAND USE: RESIDENTIAL/INDUSTRIALSURFACE CONDITIONS: EXCAVATED PRIOR TO ARRIVAL

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 125 FEET SOUTH FROM WELLHEAD.
EXCAVATION 18-20' DEEP - TOP 8-10' APPEARS UNCONTAMINATED. FROM 8'-10' DOWN,
HEAVY CONTAMINATION EVIDENCED BY DARK GRAY TO BLACK, WITH HEAVY PETROLEUM ODOOR.
SOIL IS SILTY SAND, BOTTOM @ 18-20' IS SANDSTONE BEDROCK. WATER SLOWLY
SEEPING INTO EXCAVATION.

IRRIGATION CANAL ~ 100 DOWNGRADIENT TO THE SOUTHWEST.

EXCAVATION CONTINUING ON WEST END OF PIT AT THIS TIME,

10/27: LEDGE ROCK ON SOUTH EDGE OF EXCAVATION @ ~ 12' DEEP. COARSE SANDY SOIL.

FIELD 4181 CALCULATIONS

SAMPLE I.D.	LAB No.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. ppm

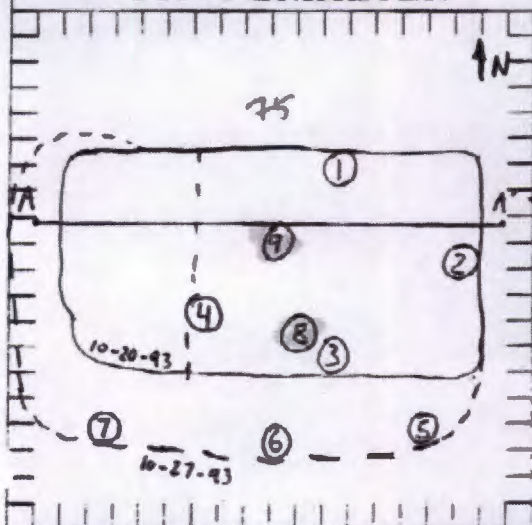
DEPTH TO GROUNDWATER:
NEAREST WATER SOURCE CANAL ~ 100'
NEAREST SURFACE WATER:
WMOO PARKING SCORE:
UNDER TEST CLOSURE STD 100 PPM TPH

SCALE



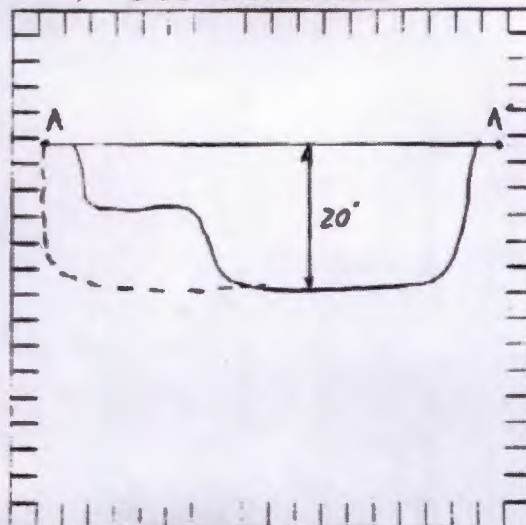
0 10 20 FEET

PIT PERIMETER

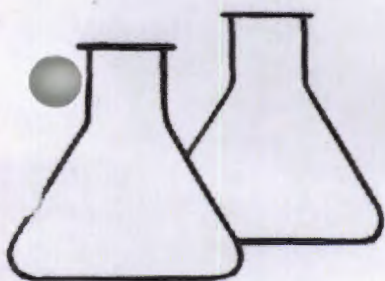
OVM
RESULTS

SAMPLE ID	FIELD HEADSPACE (ft)
① NS@15'	62.5
② ESE@14'	59.8
③ SSE@15'	71.0
④ WSS@15'	73.6
⑤ SES@12'	6.0
⑥ SSE@12'	ND
⑦ SWS@12'	ND
⑧ SSE@17'	3.6
⑨ CB@14'	water
LAB	
⑧	418.1 Soil
⑨	82.3 water

PIT PROFILE



TRAVEL NOTES CALCUT. 10-20-93 ONSITE 10-20-93 1500 HRS. 1-4
10-27-93 10-27-93 1030 HRS. 5-9



ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Amoco	Project #:	92140
Sample ID:	8 SB @ 17'	Date Sampled:	10-27-93
Laboratory Number:	6409	Date Received:	10-27-93
Sample Matrix:	Soil	Date Analyzed:	11-02-93
Preservative:	Cool	Date Reported:	11-02-93
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter -----	Concentration (mg/kg) -----	Det. Limit (mg/kg) -----
Total Petroleum Hydrocarbons	ND	10.0

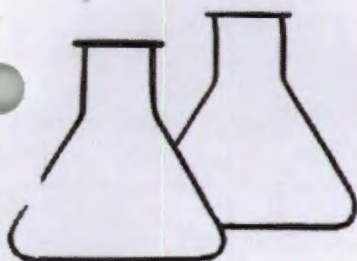
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments: Bruington GC #1, Blow Pit, C4948.

Tony Tistano
Analyst

Marion Young
Review



ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	9 CB @ 18'	Date Reported:	10-28-93
Laboratory Number:	6410	Date Sampled:	10-27-93
Sample Matrix:	Water	Date Received:	10-27-93
Preservative:	HgCl and Cool	Date Analyzed:	10-28-93
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	3.320	1.0
Toluene	3.500	2.0
Ethylbenzene	87	1.0
p,m-Xylene	2.010	1.5
o-Xylene	448	1.5

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	101 %
	Bromofluorobenzene	102 %

Method: Method 5030A, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

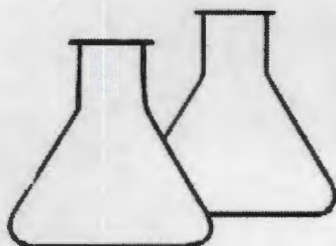
Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

Comments: Bruington GC #1 Blow Pit C4948

Dennis L. O'Brien
Analyst

Tony Tristano
Review



ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Amoco	Project #:	92140
Sample ID:	4 NB @ 8'	Date Sampled:	10-29-93
Laboratory Number:	6417	Date Received:	10-29-93
Sample Matrix:	Soil	Date Analyzed:	11-02-93
Preservative:	Cool	Date Reported:	11-02-93
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	ND	10.0

ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments: Bruington GC #1, Sep. Pit, C4950

Tony Tristano
Analyst

Marion Young
Review

LM Results Reported to P. Velasquez on 12/21/82 by Rmy. Recommended additional Soil/Groundwater Remediation.

ENVIROTECH Inc

5796 US HWY 84 FARMINGTON NM 87401
(505) 832-0615

C4948

COC 3179

FIELD REPORT CLOSURE VERIFICATION

DATE 9/21/80
PAGE 1 of 1

LOCATION LEASE BRVINGTON GAS CO. WELL #1 QD SW 1/4 NW 1/4 (E)
SEC 14 TWP 25N RNG 11W BM NM 100 CNTY ST STA NA PIT BLOW
CONTRACTOR PAUL VELASQUEZ
EQUIPMENT USED TRACK HOE

DATE STARTED 4/1/83
DATE FIELD-ED 4/1/83
ENVIRONMENTAL SPECIALIST Rmy

QUANTITY
DISPOSAL FACILITY CROUCH MESA
LAND USE RESIDENTIAL/INDUSTRIAL
EXCAVATION PRIOR TO REMEDIAL

FIELD NOTES & REMARKS PIT LOCATED APPROXIMATELY 4050 YARDS S40W FROM WELLHEAD

DEPTH TO GROUNDWATER 12'-15'
NEAREST WATER SOURCE UNKNOWN
NEAREST SURFACE WATER 100' CANAL

ACCORDING TO MR. VELASQUEZ, ALL AREAS OF PET HAVE BEEN PREVIOUSLY CLOSED WITH THE EXCEPTION OF THE 2 SANDSTONE benches and the bottom (below GROUNDWATER)

THIS PIT IS A CONCRETE EXCAVATION OF BOTH THE BLOW PET AND THE Separator Pit.

* Sample locations per MR. Velasquez.

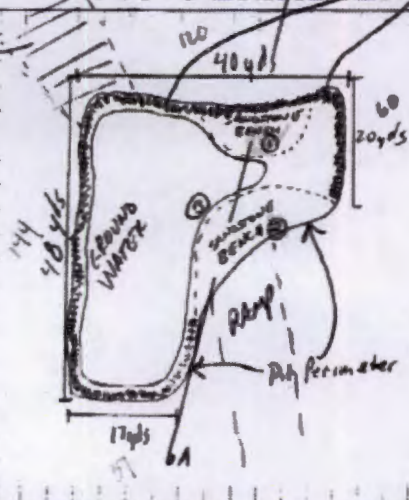
- ① SAMPLE OF TOP 1' SANDSTONE (GRAY DISCOLORATION) (BTEX/TPH LAB)
- ② SAMPLE OF SAND 1 FOOT ABOVE SANDSTONE (GRAY DISCOLORATION) (BTEX/TPH LAB)
- ③ SAMPLE OF GROUNDWATER FOR LABORATORY ANALYSIS

Recommend Conditional Closure Pending Removal of 2'-3' Contaminated Sand layer directly above Sandstone @ Sample Point ②, covering entire bench area on north side.

Recommend Monitor Wells for Groundwater Verification.

SCALE

FEET
PIT PERIMETER

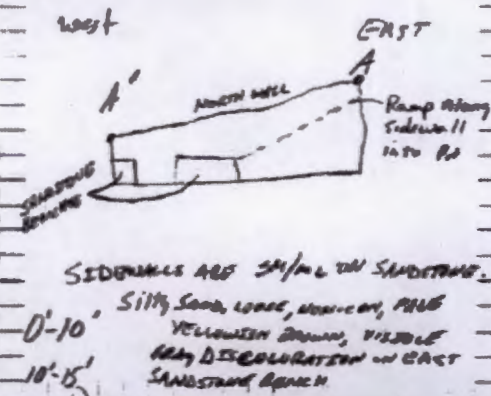


AREAS THAT HAVE BEEN REPORTED AS CLOSED, THEN BACK FILLED

OVM RESULTS

SAMPLE FIELD MEASUREMENTS
DATE 9/21/80
TIME 10:00 AM

PIT PROFILE

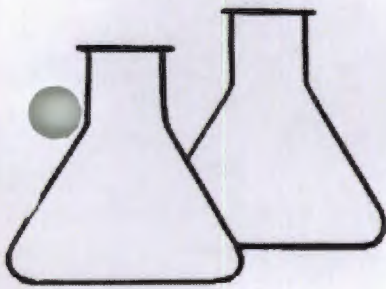


TRAVEL NOTES CALLOUT:

ONSITE

SANDSTONE: Pale Yellow Brown, Gray on top 1'-2'

11-21-80 (AS REQUIRED) BY MR. VELASQUEZ
AS Suggested Remedial Contamination
Working under a Roadway to be Remediated



ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Amoco	Project #:	92140
Sample ID:	#1 • 10' bgs	Date Sampled:	11-10-93
Laboratory Number:	6476	Date Received:	11-10-93
Sample Matrix:	Soil	Date Analyzed:	11-12-93
Preservative:	Cool	Date Reported:	11-12-93
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter -----	Concentration (mg/kg) -----	Det. Limit (mg/kg) -----
Total Petroleum Hydrocarbons	310	10.0

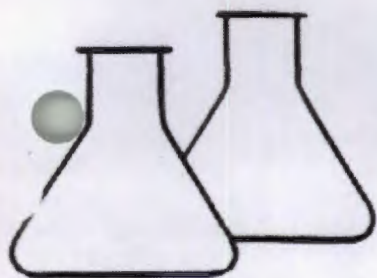
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments: Bruington GC #1, Blow Pit, C4948

Tony Tristano
Analyst

Maris D. Young
Review



ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	#1 @ 10' bgs	Date Reported:	11-11-93
Laboratory Number:	6476	Date Sampled:	11-10-93
Sample Matrix:	Soil	Date Received:	11-10-93
Preservative:	Cool	Date Extracted:	11-11-93
Condition:	Cool & Intact	Date Analyzed:	11-11-93
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	192	13.2
Toluene	2,180	19.8
Ethylbenzene	2,360	13.2
p,m-Xylene	29,700	19.8
o-Xylene	14,100	19.8

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	101 %
	Bromofluorobenzene	102 %

Method: Method 5030, Purge-and-Trap, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, July 1992

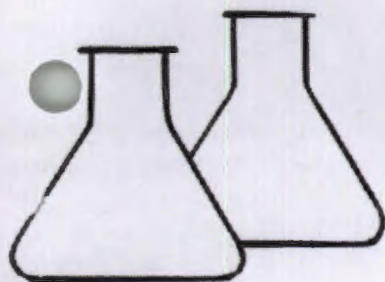
Method 8020, Aromatic Volatile Organics, Test Methods
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Bruington GC #1 Blow Pit C4948

Analyst

Review



ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	Amoco	Project #:	92140
Sample ID:	#2 • 9' bgs	Date Sampled:	11-10-93
Laboratory Number:	6477	Date Received:	11-10-93
Sample Matrix:	Soil	Date Analyzed:	11-12-93
Preservative:	Cool	Date Reported:	11-12-93
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter -----	Concentration (mg/kg) -----	Det. Limit (mg/kg) -----
Total Petroleum Hydrocarbons	358	10.0

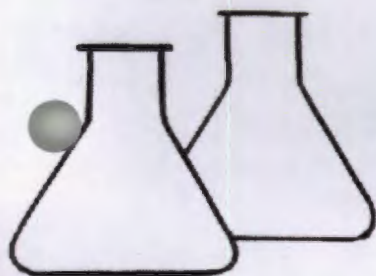
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments: Bruington GC #1, Blow Pit, C4948

Tony Tristano
Analyst

Margaret D. Young
Review



ENVIROTECH LABS

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PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	#2 @ 9' bgs	Date Reported:	11-11-93
Laboratory Number:	6477	Date Sampled:	11-10-93
Sample Matrix:	Soil	Date Received:	11-10-93
Preservative:	Cool	Date Extracted:	11-11-93
Condition:	Cool & Intact	Date Analyzed:	11-11-93
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	61	13.1
Toluene	940	19.6
Ethylbenzene	890	13.1
p,m-Xylene	5,000	19.6
o-Xylene	1,530	19.6

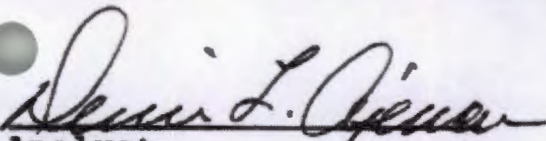
SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	98 %
	Bromofluorobenzene	101 %

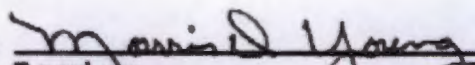
Method: Method 5030, Purge-and-Trap, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, July 1992

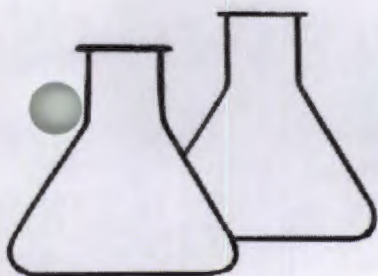
Method 8020, Aromatic Volatile Organics, Test Methods
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

ND - Parameter not detected at the stated detection limit.

Comments: Bruington GC #1 Blow Pit C4948


Analyst


Review



ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	Pit Water	Date Reported:	11-11-93
Laboratory Number:	6478	Date Sampled:	11-10-93
Sample Matrix:	Water	Date Received:	11-10-93
Preservative:	HgCl and Cool	Date Analyzed:	11-11-93
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	5,500	1.0
Toluene	4,380	1.5
Ethylbenzene	438	1.0
p,m-Xylene	2,660	1.5
o-Xylene	790	1.5

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	102 %

Method: Method 5030A, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

Comments: Bruington GC #1 Blow Pit C4948

Kevin L. Givner
Analyst

Kevin D. Young
Review

CHAIN OF CUSTODY RECORD

[illegible]

ENVIROTECH INC.

5796 U.S. Highway 64-3014

Farmington, New Mexico 87401

(505) 632-0615

FIELD PIT SITE ASSESSMENT FORM

GENERAL

Meter: 73746 Location: BRUINGTON GAS COM #1
 Operator #: D203 Operator Name: AMOCO P/L District: BLOOMFIELD
 Coordinates: Letter: E Section 14 Township: 29 Range: 11
 Or Latitude _____ Longitude _____
 Pit Type: Dehydrator ☒ Location Drip: _____ Line Drip: _____ Other: _____
 Site Visit Date: 4.14.94 Run: 10 81

SITE ASSESSMENT

NMOCD Zone: Inside Land Type: BLM ☐
 (From NMOCD Vulnerable State ☐
 Maps) Zone ☒ Fee ☒
 Outside ☐ 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 ^{CITIZENS} IRRIGATION DITCH

(Surface Water Body : Perennial Rivers, Major Wash, Streams, Creeks, Irrigation Canals, Ditches, Lakes, Ponds)

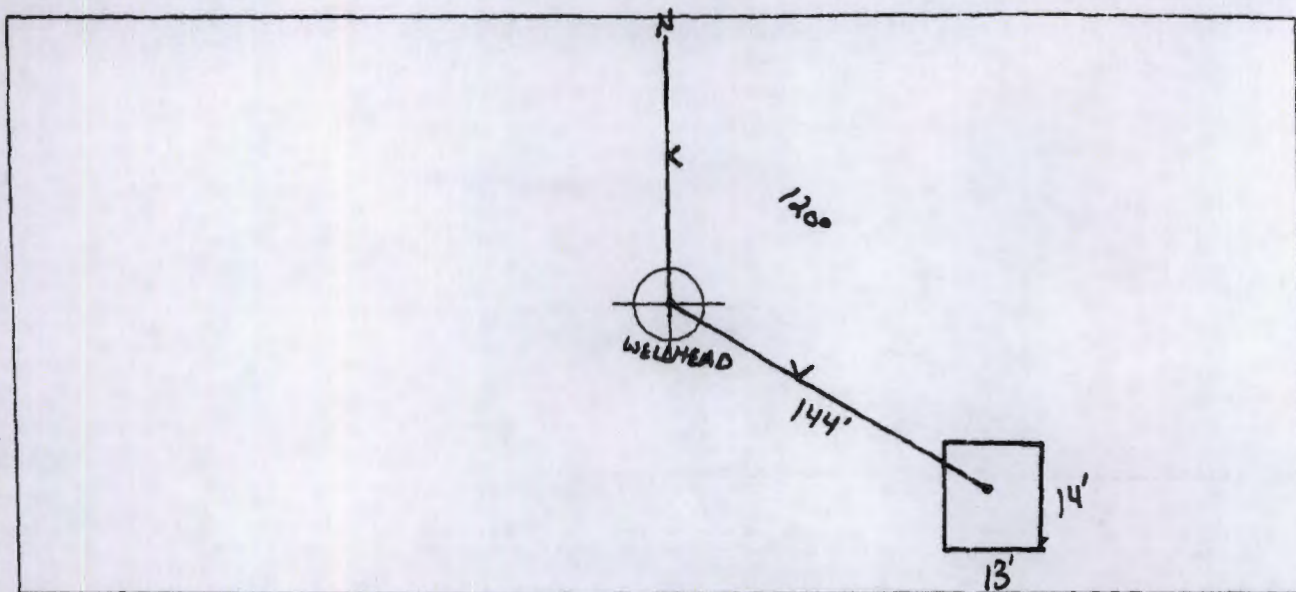
TOTAL HAZARD RANKING SCORE: 20 POINTS

REMARKS

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

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 :

STARTED TAKING PICTURES AT 10:06 A.M.
END DUMP

Completed By:

Robert Thompson

Signature

4.14.04

Date

PHASE I EXCAVATION

FIELD REMEDIATION/CLOSURE FORM

GENERAL	Meter: <u>73746</u> Location: <u>Brewington Gas Cam #1</u> Coordinates: Letter: <u>E</u> Section <u>14</u> Township: <u>29</u> Range: <u>11</u> Or Latitude _____ Longitude _____ Date Started : <u>4-28-94</u> Area: <u>10</u> Run: <u>81</u>
FIELD OBSERVATIONS	Sample Number(s): ⁹⁴⁵⁰³⁶ <u>4P5</u> Sample Depth: <u>12</u> Feet Final PID Reading <u>0410 ppm</u> PID Reading Depth <u>12</u> Feet Yes No Groundwater Encountered ☐ (1) ☒ (2) Approximate Depth _____ Feet
CLOSURE	Remediation Method : Excavation ☒ (1) Approx. Cubic Yards <u>75</u> Onsite Bioremediation ☐ (2) Backfill Pit Without Excavation ☐ (3) Soil Disposition: Envirotech ☐ (1) ☒ (3) Tierra Other Facility ☐ (2) Name: _____ Pit Closure Date: <u>4-28-94</u> Pit Closed By: <u>BEI</u>
REMARKS	Remarks : <u>Dug test hole to 10' took Initial Ptd reading was 210 ppm at 75'. Remediated pit to 12' took VC sample PTD reading was 410 ppm at 75' pit size is 12x16x12 closed pit side walls + Floor still read black.</u> Signature of Specialist: <u>James J. Fenner</u>



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)	433	MG/KG			2.63	28
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 Farchi

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

04/03/02 12:25

* Sample Identification

945032

* Initial mass of sample, g

2.030

* Volume of sample after extraction, ml

25.000

* Petroleum hydrocarbons, ppm

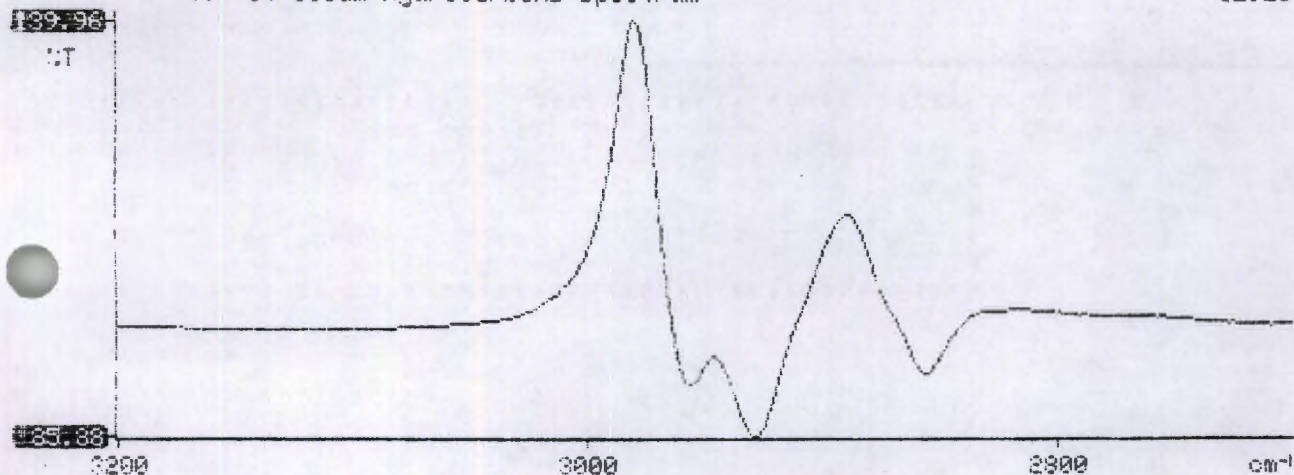
432.945

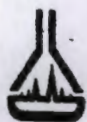
* Net absorbance of hydrocarbons (2930 cm^{-1})

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





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.

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

Remit To:
Analytical Technologies, Inc.
P. O. Box 840438
Dallas, Texas 75284-0438

COPY

**ORIGINAL
INVOICE**
AL 72053

Billed to: EL PASO NATURAL GAS COMPANY Accession No.: 9405-313
P.O. BOX 4990 Date: 05/13/94
FARMINGTON, NM 87499 Client No.: 850-020
810

Attention: ACCOUNTS PAYABLE

Telephone: 505-325-2841 EPA6 Sample # 945008
to
945027

Authorized by: JOHN LAMBDIN

P.O. Number: 38822 945032, 945033, 945035 to 945039, 945040
to 945050, 945034 and 945040
received 05/03/94

Samples: 39 NON-AQ

Project: PIT CLOSURE
Project No.: 24324

EPNG SAMPLE # 945008
to
945027

945032, 945033, 945035 to 945039, 945041
to 945050, 945034 and 945040
received 05/03/94

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 5/17/94 108-52452-24-0001-0012-SI-2010

CHARGE 5/17/94 108-51570-24-0001-0012-SI-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

PHILIP ENVIRONMENTAL

4000 Monroe Road

Farmington, New Mexico 87401

326-2262 FAX (505) 326-2388

Borehole # BH-1

Well # _____

Page 1 of 1

Project Name

EPNG PITS

Project Number

14509

Phase

6000 / 77

Project Location

Bringingan Gas (perm #) 73746

Well Logged By

CM Chance

Personnel On-Site

K. Padilla, F. Rivera, D. Tsalatsis

Contractors On-Site

Client Personnel On-Site

Drilling Method

4 1/4" ID HSA

Air Monitoring Method

PID, CGI

Elevation _____

Borehole Location _____

GWL Depth _____

Logged By

CM CHANCE

Drilled By

MBONHUE K. Padilla

Date/Time Started

6/13/95-0930

Date/Time Completed

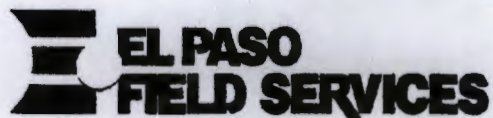
6/13/95-1050

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring			Drilling Conditions & Blow Counts
							Units: PPM	S	HS	
BZ	BH	HS								
0				Backfill to 12'						
5										
10										
15	1	13-17	6"	Blk silty CLAY, with xstn parting, med stiff, sl moist, ader			0	26	292 298	2940 hr
20	2	20-22	6"	Blk silty SAND, vf-f sand, r med sand med dense, sl moist, ader			3	69	28 232	0949
25	3	25-25.5	3"	lt br SANDSTONE, med sand, sl xstn, v. hard			0	40	17	hard drilling 1007 - 2.5 in! @ 25.5
30				TDB 25.5						
35										
40										

Comments:

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

Geologist Signature _____



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	Field ID CMC50	Lab ID 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:

= Dilution Factor Used

Approved By:

INGVZPIT.XLS

Date:

6/28/95
7/17/97



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

Phase II

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	~~6220250~~ CMC50	~~946892~~
MTR CODE SITE NAME:	~~809380~~ 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)	~~1.00~~ 23.2	MG/KG			2.0	28
HEADSPACE PID	~~1~~ 1	PPM				
PERCENT SOLIDS	94.1 ~~50.0~~	%				

-- 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.

= Dilution Factor Used

Approved By:

J.F.

Date:

6/28/95

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



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.

نقصه

Kimberly D. McNeill
Project Manager

MR:jt

Enclosure

H. Mitchell Smith

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager



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

Denny
EL PASO FIELD SERVICES
PRODUCTION PIT CLOSURE
DEPUTY OIL & GAS INSPECTOR

DEC 21 1993

BRUINGTON GAS COM #1
Meter/Line ID - 73746

RECEIVED
JUL 2 1993

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.

Hall Environmental Analysis Laboratory, Inc.

Date: 24-Mar-08

CLIENT: XTO Energy
Project: Ground Water

Lab Order: 0803131

Lab ID: 0803131-01

Collection Date: 3/12/2008 6:08:00 PM

Client Sample ID: ~~Sullivan GCD1 MW-1~~

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	3/20/2008 5:56:49 PM
Toluene	ND	1.0		µg/L	1	3/20/2008 5:56:49 PM
Ethylbenzene	ND	1.0		µg/L	1	3/20/2008 5:56:49 PM
Xylenes, Total	ND	2.0		µg/L	1	3/20/2008 5:56:49 PM
Surr: 4-Bromofluorobenzene	104	68.9-122		%REC	1	3/20/2008 5:56:49 PM

Lab ID: 0803131-02

Collection Date: 3/12/2008 4:52:00 PM

Client Sample ID: ~~Snyder 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	3/20/2008 6:27:04 PM
Toluene	ND	1.0		µg/L	1	3/20/2008 6:27:04 PM
Ethylbenzene	ND	1.0		µg/L	1	3/20/2008 6:27:04 PM
Xylenes, Total	ND	2.0		µg/L	1	3/20/2008 6:27:04 PM
Surr: 4-Bromofluorobenzene	99.7	68.9-122		%REC	1	3/20/2008 6:27:04 PM

Lab ID: 0803131-03

Collection Date: 3/12/2008 8:42:00 AM

Client Sample ID: Bruington GC1 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	3/20/2008 6:57:15 PM
Toluene	ND	1.0		µg/L	1	3/20/2008 6:57:15 PM
Ethylbenzene	ND	1.0		µg/L	1	3/20/2008 6:57:15 PM
Xylenes, Total	ND	2.0		µg/L	1	3/20/2008 6:57:15 PM
Surr: 4-Bromofluorobenzene	102	68.9-122		%REC	1	3/20/2008 6:57:15 PM

Lab ID: 0803131-04

Collection Date: 3/12/2008 9:25:00 AM

Client Sample ID: Bruington GC1 MW-2R

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	2800	50		µg/L	50	3/20/2008 7:57:29 PM
Toluene	890	50		µg/L	50	3/20/2008 7:57:29 PM
Ethylbenzene	760	50		µg/L	50	3/20/2008 7:57:29 PM
Xylenes, Total	5300	100		µg/L	50	3/20/2008 7:57:29 PM
Surr: 4-Bromofluorobenzene	118	68.9-122		%REC	50	3/20/2008 7:57:29 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: 24-Mar-08

CLIENT: XTO Energy
Project: Ground Water

Lab Order: 0803131

Lab ID: 0803131-05
Client Sample ID: Bruington GC1 MW-3R

Collection Date: 3/12/2008 9:58:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	3/20/2008 8:57:43 PM
Toluene	ND	1.0		µg/L	1	3/20/2008 8:57:43 PM
Ethylbenzene	ND	1.0		µg/L	1	3/20/2008 8:57:43 PM
Xylenes, Total	ND	2.0		µg/L	1	3/20/2008 8:57:43 PM
Surr: 4-Bromofluorobenzene	106	68.9-122		%REC	1	3/20/2008 8:57:43 PM

Lab ID: 0803131-06
Client Sample ID: Bruington GC1 MW-4

Collection Date: 3/12/2008 10:33:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	3/20/2008 9:27:49 PM
Toluene	ND	1.0		µg/L	1	3/20/2008 9:27:49 PM
Ethylbenzene	ND	1.0		µg/L	1	3/20/2008 9:27:49 PM
Xylenes, Total	ND	2.0		µg/L	1	3/20/2008 9:27:49 PM
Surr: 4-Bromofluorobenzene	107	68.9-122		%REC	1	3/20/2008 9:27:49 PM

Lab ID: 0803131-07
Client Sample ID: Bruington GC1 MW-5

Collection Date: 3/12/2008 11:25:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	28000	500		µg/L	500	3/20/2008 9:57:57 PM
Toluene	110	50		µg/L	50	3/20/2008 10:28:06 PM
Ethylbenzene	1200	50		µg/L	50	3/20/2008 10:28:06 PM
Xylenes, Total	2300	100		µg/L	50	3/20/2008 10:28:06 PM
Surr: 4-Bromofluorobenzene	110	68.9-122		%REC	50	3/20/2008 10:28:06 PM

Lab ID: 0803131-08
Client Sample ID: Bruington GC1 MW-6

Collection Date: 3/12/2008 12:10:00 PM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	21000	500		µg/L	500	3/21/2008 1:59:17 AM
Toluene	21000	500		µg/L	500	3/21/2008 1:59:17 AM
Ethylbenzene	1200	50		µg/L	50	3/21/2008 2:29:25 AM
Xylenes, Total	11000	100		µg/L	50	3/21/2008 2:29:25 AM
Surr: 4-Bromofluorobenzene	117	68.9-122		%REC	50	3/21/2008 2:29:25 AM

Qualifiers: * Value exceeds Maximum Contaminant Level
B 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: 24-Mar-08

CLIENT: XTO Energy
Project: Ground Water

Lab Order: 0803131

Lab ID: 0803131-09
Client Sample ID: Bruington GC1 MW-7

Collection Date: 3/12/2008 12:45:00 PM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: BDH
Benzene	14000	500		µg/L	500	3/21/2008 2:34:00 PM
Toluene	9200	500		µg/L	500	3/21/2008 2:34:00 PM
Ethylbenzene	830	50		µg/L	50	3/21/2008 3:29:36 AM
Xylenes, Total	4800	100		µg/L	50	3/21/2008 3:29:36 AM
Surr: 4-Bromofluorobenzene	116	68.9-122		%REC	50	3/21/2008 3:29:36 AM

Lab ID: 0803131-10
Client Sample ID: Bruington GC1 MW-8

Collection Date: 3/12/2008 1:25:00 PM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: BDH
Benzene	730	10		µg/L	10	3/21/2008 3:06:40 PM
Toluene	64	10		µg/L	10	3/21/2008 3:06:40 PM
Ethylbenzene	ND	10		µg/L	10	3/21/2008 3:06:40 PM
Xylenes, Total	2000	20		µg/L	10	3/21/2008 3:06:40 PM
Surr: 4-Bromofluorobenzene	90.8	68.9-122		%REC	10	3/21/2008 3:06:40 PM

Lab ID: 0803131-11
Client Sample ID: TRIP BLANK

Collection Date:

Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: BDH
Benzene	ND	1.0		µg/L	1	3/21/2008 4:07:04 PM
Toluene	ND	1.0		µg/L	1	3/21/2008 4:07:04 PM
Ethylbenzene	ND	1.0		µg/L	1	3/21/2008 4:07:04 PM
Xylenes, Total	ND	2.0		µg/L	1	3/21/2008 4:07:04 PM
Surr: 4-Bromofluorobenzene	83.1	68.9-122		%REC	1	3/21/2008 4:07:04 PM

Lab ID: 0803131-12
Client Sample ID: ~~Rowland GC1 MW-5~~

Collection Date: 3/13/2008 10:22:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	28	1.0		µg/L	1	3/21/2008 5:29:56 AM
Toluene	3.6	1.0		µg/L	1	3/21/2008 5:29:56 AM
Ethylbenzene	88	1.0		µg/L	1	3/21/2008 5:29:56 AM
Xylenes, Total	290	20		µg/L	10	3/21/2008 4:39:54 PM
Surr: 4-Bromofluorobenzene	86.4	68.9-122		%REC	10	3/21/2008 4:39:54 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: 0803131

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 0803131-01A MSD		MSD							
					Batch ID: R27804		Analysis Date: 3/21/2008 12:28:54 AM		
Benzene	21.54	µg/L	1.0	104	85.9	113	0.409	27	
Toluene	20.86	µg/L	1.0	103	86.4	113	1.83	19	
Ethylbenzene	20.70	µg/L	1.0	103	83.5	118	0.523	10	
Xylenes, Total	61.20	µg/L	2.0	101	83.4	122	0.357	13	
Sample ID: 5ML RB		MBLK							
					Batch ID: R27804		Analysis Date: 3/20/2008 6:53:24 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: R27826		Analysis Date: 3/21/2008 10:56:55 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		LCS							
					Batch ID: R27804		Analysis Date: 3/21/2008 12:59:07 AM		
Benzene	21.41	µg/L	1.0	107	85.9	113			
Toluene	21.41	µg/L	1.0	107	86.4	113			
Ethylbenzene	21.55	µg/L	1.0	108	83.5	118			
Xylenes, Total	63.70	µg/L	2.0	106	83.4	122			
Sample ID: 100NG BTEX CCV		LCS							
					Batch ID: R27826		Analysis Date: 3/21/2008 11:27:08 AM		
Benzene	20.48	µg/L	1.0	101	85.9	113			
Toluene	21.13	µg/L	1.0	102	86.4	113			
Ethylbenzene	20.46	µg/L	1.0	101	83.5	118			
Xylenes, Total	62.14	µg/L	2.0	102	83.4	122			
Sample ID: 0803131-01A MS		MS							
					Batch ID: R27804		Analysis Date: 3/20/2008 11:58:40 PM		
Benzene	21.48	µg/L	1.0	103	85.9	113			
Toluene	20.49	µg/L	1.0	101	86.4	113			
Ethylbenzene	20.80	µg/L	1.0	102	83.5	118			
Xylenes, Total	60.98	µg/L	2.0	101	83.4	122			

Qualifiers:

E 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:

3/14/2008

Work Order Number 0803131

Received by: TLS

Checklist completed by:

James Shomin

3/14/08

Sample ID labels checked by:

Initials

AT

Matrix:

Carrier name Grayhound

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?

4°

<6° C Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

Kim Chomolun

A2cc NM 874D

email or Fax#:

☒ Standard ☐ Level 4 (Full Validation)

□ **END**

□ **FINNO**

□ EDD (1 type)

Date	Time	Sample Request ID
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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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03/208	1208	Sullivan GCD MW-
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831208	1652	SNYDER	MW-3
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31208	0842	Bruington MW-1R ⁺
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31208	0925	Brington Hwy-2R
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0958	Brington CCI MW ⁰
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31208	1033	Bridgton C-1 MW-
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11208	1125	Bruington GC1 MW-
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31208	1210	Brington GC/mw-
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31208	1245	Brington G-C1 MW-
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13208	1325	Brünington-Gl m.w.
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31268	0700	TRIP BLANK
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31308	1022	Rowland GC1MW-S
-------	------	-----------------

Date:	1/13/68	Time:	11:45	Reinquished by:	Tom H. T.
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11/12/00	Time:	Relinquished by:
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if necessary, samples submitted to Hall Environmental may be

Please copy results to
ALA@lodesar-services.com

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 notated on the analytical report.

Hall Environmental Analysis Laboratory, Inc.

Date: 12-Jun-08

CLIENT: XTO Energy
Project: Ground Water

Lab Order: 0806025

Lab ID: 0806025-01

Collection Date: 6/2/2008 10:42:00 AM

Client Sample ID: Bruington GC #1 MW-1R

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						
Benzene	ND	1.0		µg/L	1	6/9/2008 10:40:19 PM
Toluene	ND	1.0		µg/L	1	6/9/2008 10:40:19 PM
Ethylbenzene	ND	1.0		µg/L	1	6/9/2008 10:40:19 PM
Xylenes, Total	ND	2.0		µg/L	1	6/9/2008 10:40:19 PM
Surr: 4-Bromofluorobenzene	85.3	68.9-122		%REC	1	6/9/2008 10:40:19 PM

Analyst: NSB

Lab ID: 0806025-02

Collection Date: 6/2/2008 11:24:00 AM

Client Sample ID: Bruington GC #1 MW-2R

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						
Benzene	5900	100		µg/L	100	6/10/2008 2:41:37 PM
Toluene	430	50		µg/L	50	6/9/2008 11:12:58 PM
Ethylbenzene	510	50		µg/L	50	6/9/2008 11:12:58 PM
Xylenes, Total	2200	100		µg/L	50	6/9/2008 11:12:58 PM
Surr: 4-Bromofluorobenzene	103	68.9-122		%REC	50	6/9/2008 11:12:58 PM

Analyst: NSB

Lab ID: 0806025-03

Collection Date: 6/2/2008 12:05:00 PM

Client Sample ID: Bruington GC #1 MW-3R

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						
Benzene	ND	1.0		µg/L	1	6/10/2008 3:41:46 PM
Toluene	ND	1.0		µg/L	1	6/10/2008 3:41:46 PM
Ethylbenzene	ND	1.0		µg/L	1	6/10/2008 3:41:46 PM
Xylenes, Total	ND	2.0		µg/L	1	6/10/2008 3:41:46 PM
Surr: 4-Bromofluorobenzene	91.7	68.9-122		%REC	1	6/10/2008 3:41:46 PM

Analyst: NSB

Lab ID: 0806025-04

Collection Date: 6/2/2008 1:02:00 PM

Client Sample ID: Bruington GC #1 MW-4

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						
Benzene	ND	1.0		µg/L	1	6/10/2008 12:13:11 AM
Toluene	ND	1.0		µg/L	1	6/10/2008 12:13:11 AM
Ethylbenzene	ND	1.0		µg/L	1	6/10/2008 12:13:11 AM
Xylenes, Total	ND	2.0		µg/L	1	6/10/2008 12:13:11 AM
Surr: 4-Bromofluorobenzene	91.2	68.9-122		%REC	1	6/10/2008 12:13:11 AM

Analyst: NSB

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: 12-Jun-08

CLIENT: XTO Energy
Project: Ground Water**Lab Order:** 0806025**Lab ID:** 0806025-05**Collection Date:** 6/2/2008 1:41:00 PM**Client Sample ID:** Bruington GC #1 MW-5**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	25000	400		µg/L	400	6/10/2008 12:43:15 AM
Toluene	ND	100		µg/L	100	6/10/2008 4:14:40 PM
Ethylbenzene	1100	100		µg/L	100	6/10/2008 4:14:40 PM
Xylenes, Total	1300	200		µg/L	100	6/10/2008 4:14:40 PM
Surr: 4-Bromofluorobenzene	98.8	68.9-122		%REC	100	6/10/2008 4:14:40 PM

Lab ID: 0806025-06**Collection Date:** 6/2/2008 2:12:00 PM**Client Sample ID:** Bruington GC #1 MW-6**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	19000	400		µg/L	400	6/10/2008 1:13:17 AM
Toluene	16000	400		µg/L	400	6/10/2008 1:13:17 AM
Ethylbenzene	870	400		µg/L	400	6/10/2008 1:13:17 AM
Xylenes, Total	9000	800		µg/L	400	6/10/2008 1:13:17 AM
Surr: 4-Bromofluorobenzene	85.3	68.9-122		%REC	400	6/10/2008 1:13:17 AM

Lab ID: 0806025-07**Collection Date:** 6/2/2008 2:57:00 PM**Client Sample ID:** Bruington GC #1 MW-8**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	12000	200		µg/L	200	6/11/2008 11:36:15 AM
Toluene	7100	100		µg/L	100	6/10/2008 5:17:44 PM
Ethylbenzene	490	100		µg/L	100	6/10/2008 5:17:44 PM
Xylenes, Total	5300	200		µg/L	100	6/10/2008 5:17:44 PM
Surr: 4-Bromofluorobenzene	104	68.9-122		%REC	100	6/10/2008 5:17:44 PM

Lab ID: 0806025-08**Collection Date:** 6/2/2008 3:33:00 PM**Client Sample ID:** Bruington GC #1 MW-7**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	8800	200		µg/L	200	6/10/2008 2:16:09 AM
Toluene	5300	200		µg/L	200	6/10/2008 2:16:09 AM
Ethylbenzene	560	200		µg/L	200	6/10/2008 2:16:09 AM
Xylenes, Total	3100	400		µg/L	200	6/10/2008 2:16:09 AM
Surr: 4-Bromofluorobenzene	95.3	68.9-122		%REC	200	6/10/2008 2:16:09 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: Ground Water

Work Order: 0806025

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 8021B: Volatiles

Sample ID: 5ML RB

MBLK

Batch ID: R28852 Analysis Date: 6/9/2008 12:34:56 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: 5ML RB

MBLK

Batch ID: R28877 Analysis Date: 6/10/2008 9:38:14 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: R28897 Analysis Date: 6/11/2008 9:05:26 AM

Benzene	ND	µg/L	1.0
Toluene	ND	µg/L	1.0
Ethylbenzene	ND	µg/L	1.0
Xylenes, Total	ND	µg/L	2.0

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R28852 Analysis Date: 6/9/2008 9:39:56 PM

Benzene	18.32	µg/L	1.0	91.6	85.9	113
Toluene	18.15	µg/L	1.0	90.7	86.4	113
Ethylbenzene	18.24	µg/L	1.0	91.2	83.5	118
Xylenes, Total	54.80	µg/L	2.0	91.0	83.4	122

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R28877 Analysis Date: 6/10/2008 6:50:34 PM

Benzene	18.63	µg/L	1.0	93.2	85.9	113
Toluene	18.61	µg/L	1.0	93.0	86.4	113
Ethylbenzene	18.57	µg/L	1.0	92.8	83.5	118
Xylenes, Total	55.89	µg/L	2.0	93.1	83.4	122

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R28897 Analysis Date: 6/12/2008 6:23:00 AM

Benzene	21.45	µg/L	1.0	107	85.9	113
Toluene	21.73	µg/L	1.0	109	86.4	113
Ethylbenzene	22.21	µg/L	1.0	111	83.5	118
Xylenes, Total	65.49	µg/L	2.0	111	83.4	122

Modifiers:

E 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:

6/3/2008

Work Order Number 0808025

Received by: TLS

Sample ID labels checked by:

Checklist completed by: Jonas Shomin 6/3/08
Signature Date

Initials TLS

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?

5° <6° C Acceptable
If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Kim Champion

Aztec, Nm 87410

email or Fax#:

QAVOC Package:☒ Standard ☐ Level 4 (Full Validation)☐ Other☐ EDD (Type)

Date _____

Time

Sample Request ID

060208	1042	Brington Gc#1 MWIR
--------	------	--------------------

060208	1124	Bruington GC #1 MW-2R
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060208	1205	Broughton GC#1 MW-3R
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060208	1302	Braington CC #1	MW-4
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066208	1341	Brington AC th 1 MW-5
--------	------	----------------------------------

060208	1412	Brington C-L #1 MW-6
--------	------	----------------------

060208	1457	Brington GC#1 MW-8 TM
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060208	1533	Brington GC #1 MW-7
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0602081652	Rowland G-C#1 MWS
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[illegible][illegible]

Relinquished by:

Twenty-two

Relinquished by:

60/3/08

175

Remarks

3

A74

[illegible]

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: 06-Oct-08

CLIENT: XTO Energy
Lab Order: 0809507
Project: Groundwater
Lab ID: 0809507-01

Client Sample ID: Bruington GC #1 MW-1R
Collection Date: 9/22/2008 10:46:00 AM
Date Received: 9/23/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	9/29/2008 11:33:33 PM
Benzene	ND	1.0		µg/L	1	9/29/2008 11:33:33 PM
Toluene	ND	1.0		µg/L	1	9/29/2008 11:33:33 PM
Ethylbenzene	ND	1.0		µg/L	1	9/29/2008 11:33:33 PM
Xylenes, Total	ND	2.0		µg/L	1	9/29/2008 11:33:33 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/29/2008 11:33:33 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/29/2008 11:33:33 PM
Surr: 4-Bromofluorobenzene	94.6	65.9-130		%REC	1	9/29/2008 11:33:33 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: 06-Oct-08

CLIENT: XTO Energy
Lab Order: 0809507
Project: Groundwater
Lab ID: 0809507-02

Client Sample ID: Bruington GC #1 MW-2R
Collection Date: 9/22/2008 11:48:00 AM
Date Received: 9/23/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	250		µg/L	100	9/30/2008 12:03:48 AM
Benzene	18000	400		µg/L	400	9/30/2008 12:48:04 PM
Toluene	920	100		µg/L	100	9/30/2008 12:03:48 AM
Ethylbenzene	950	100		µg/L	100	9/30/2008 12:03:48 AM
Xylenes, Total	4900	200		µg/L	100	9/30/2008 12:03:48 AM
1,2,4-Trimethylbenzene	590	100		µg/L	100	9/30/2008 12:03:48 AM
1,3,5-Trimethylbenzene	130	100		µg/L	100	9/30/2008 12:03:48 AM
Surr: 4-Bromofluorobenzene	85.9	85.9-130		%REC	100	9/30/2008 12:03:48 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: 06-Oct-08

CLIENT: XTO Energy
Lab Order: 0809507
Project: Groundwater
Lab ID: 0809507-03

Client Sample ID: Bruington GC #1 MW-3R
Collection Date: 9/22/2008 11:10:00 AM
Date Received: 9/23/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	9/30/2008 12:17:39 PM
Benzene	ND	1.0		µg/L	1	9/30/2008 12:17:39 PM
Toluene	ND	1.0		µg/L	1	9/30/2008 12:17:39 PM
Ethylbenzene	ND	1.0		µg/L	1	9/30/2008 12:17:39 PM
Xylenes, Total	ND	2.0		µg/L	1	9/30/2008 12:17:39 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/30/2008 12:17:39 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/30/2008 12:17:39 PM
Surr: 4-Bromofluorobenzene	83.9	85.9-130		%REC	1	9/30/2008 12:17:39 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: 06-Oct-08

CLIENT: XTO Energy
Lab Order: 0809507
Project: Groundwater
Lab ID: 0809507-04

Client Sample ID: Bruington GC #1 MW-4
Collection Date: 9/22/2008 11:30:00 AM
Date Received: 9/23/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	9/30/2008 1:04:35 AM
Benzene	ND	1.0		µg/L	1	9/30/2008 1:04:35 AM
Toluene	ND	1.0		µg/L	1	9/30/2008 1:04:35 AM
Ethylbenzene	ND	1.0		µg/L	1	9/30/2008 1:04:35 AM
Xylenes, Total	ND	2.0		µg/L	1	9/30/2008 1:04:35 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/30/2008 1:04:35 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/30/2008 1:04:35 AM
Surr: 4-Bromofluorobenzene	88.5	65.9-130		%REC	1	9/30/2008 1:04:35 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: 06-Oct-08

CLIENT: XTO Energy
Lab Order: 0809507
Project: Groundwater
Lab ID: 0809507-05

Client Sample ID: Bruington GC #1 MW-5
Collection Date: 9/22/2008 12:10:00 PM
Date Received: 9/23/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	500		µg/L	200	9/30/2008 1:18:28 PM
Benzene	20000	400		µg/L	400	9/30/2008 1:35:05 AM
Toluene	ND	200		µg/L	200	9/30/2008 1:18:28 PM
Ethylbenzene	780	200		µg/L	200	9/30/2008 1:18:28 PM
Xylenes, Total	1100	400		µg/L	200	9/30/2008 1:18:28 PM
1,2,4-Trimethylbenzene	250	200		µg/L	200	9/30/2008 1:18:28 PM
1,3,5-Trimethylbenzene	ND	200		µg/L	200	9/30/2008 1:18:28 PM
Surr: 4-Bromofluorobenzene	97.8	65.9-130		%REC	200	9/30/2008 1:18:28 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: 06-Oct-08

CLIENT: XTO Energy
Lab Order: 0809507
Project: Groundwater
Lab ID: 0809507-06

Client Sample ID: Bruington GC #1 MW-6
Collection Date: 9/22/2008 12:30:00 PM
Date Received: 9/23/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	500		µg/L	200	10/1/2008 12:57:46 AM
Benzene	15000	200		µg/L	200	10/1/2008 12:57:46 AM
Toluene	14000	200		µg/L	200	10/1/2008 12:57:46 AM
Ethylbenzene	770	200		µg/L	200	10/1/2008 12:57:46 AM
Xylenes, Total	8500	400		µg/L	200	10/1/2008 12:57:46 AM
1,2,4-Trimethylbenzene	490	200		µg/L	200	10/1/2008 12:57:46 AM
1,3,5-Trimethylbenzene	290	200		µg/L	200	10/1/2008 12:57:46 AM
Surr: 4-Bromofluorobenzene	97.4	65.9-130		%REC	200	10/1/2008 12:57:46 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: 06-Oct-08

CLIENT: XTO Energy
Lab Order: 0809507
Project: Groundwater
Lab ID: 0809507-07

Client Sample ID: Bruington GC #1 MW-7
Collection Date: 9/22/2008 12:50:00 PM
Date Received: 9/23/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	250		µg/L	100	10/1/2008 1:58:07 AM
Benzene	7100	100		µg/L	100	10/1/2008 1:58:07 AM
Toluene	4800	100		µg/L	100	10/1/2008 1:58:07 AM
Ethylbenzene	450	100		µg/L	100	10/1/2008 1:58:07 AM
Xylenes, Total	2800	200		µg/L	100	10/1/2008 1:58:07 AM
1,2,4-Trimethylbenzene	290	100		µg/L	100	10/1/2008 1:58:07 AM
1,3,5-Trimethylbenzene	ND	100		µg/L	100	10/1/2008 1:58:07 AM
Surr: 4-Bromofluorobenzene	92.1	65.9-130		%REC	100	10/1/2008 1:58:07 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: 06-Oct-08

CLIENT: XTO Energy
Lab Order: 0809507
Project: Groundwater
Lab ID: 0809507-08

Client Sample ID: Bruington GC #1 MW-8
Collection Date: 9/22/2008 1:23:00 PM
Date Received: 9/23/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	500		µg/L	200	10/1/2008 2:28:20 AM
Benzene	15000	200		µg/L	200	10/1/2008 2:28:20 AM
Toluene	13000	200		µg/L	200	10/1/2008 2:28:20 AM
Ethylbenzene	520	200		µg/L	200	10/1/2008 2:28:20 AM
Xylenes, Total	7200	400		µg/L	200	10/1/2008 2:28:20 AM
1,2,4-Trimethylbenzene	380	200		µg/L	200	10/1/2008 2:28:20 AM
1,3,5-Trimethylbenzene	ND	200		µg/L	200	10/1/2008 2:28:20 AM
Surr: 4-Bromofluorobenzene	89.1	65.9-130		%REC	200	10/1/2008 2:28:20 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: 06-Oct-08

CLIENT: XTO Energy
Lab Order: 0809507
Project: Groundwater
Lab ID: 0809507-12

Client Sample ID: Trip Blank
Collection Date:
Date Received: 9/23/2008
Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	10/1/2008 3:59:29 AM
Benzene	ND	1.0		µg/L	1	10/1/2008 3:59:29 AM
Toluene	ND	1.0		µg/L	1	10/1/2008 3:59:29 AM
Ethylbenzene	ND	1.0		µg/L	1	10/1/2008 3:59:29 AM
Xylenes, Total	ND	2.0		µg/L	1	10/1/2008 3:59:29 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	10/1/2008 3:59:29 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	10/1/2008 3:59:29 AM
Surr: 4-Bromofluorobenzene	85.2	85.9-130		%REC	1	10/1/2008 3:59:29 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: Groundwater

Work Order: 0809507

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 8021B: Volatiles

Sample ID: 0809507-10A MSD

MSD

Batch ID: R30439 Analysis Date: 9/30/2008 4:07:13 AM

Methyl tert-butyl ether (MTBE)	18.33	µg/L	2.5	81.8	51.2	138	10.1	28	
Benzene	20.33	µg/L	1.0	101	85.9	113	0.393	27	
Toluene	20.11	µg/L	1.0	101	86.4	113	0.0897	19	
Ethylbenzene	20.50	µg/L	1.0	102	83.5	118	1.51	10	
Xylenes, Total	62.27	µg/L	2.0	104	83.4	122	1.08	13	
1,2,4-Trimethylbenzene	20.61	µg/L	1.0	103	83.5	115	1.64	21	
1,3,5-Trimethylbenzene	20.49	µg/L	1.0	102	85.2	113	0.865	10	

Sample ID: b 5

MBLK

Batch ID: R30439 Analysis Date: 9/29/2008 11:11:28 AM

Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5						
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						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						

Sample ID: 5ML RB

MBLK

Batch ID: R30439 Analysis Date: 9/30/2008 9:14:37 AM

Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5						
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						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R30439 Analysis Date: 9/30/2008 4:37:39 AM

Methyl tert-butyl ether (MTBE)	15.54	µg/L	2.5	77.7	51.2	138			
Benzene	19.76	µg/L	1.0	98.8	85.9	113			
Toluene	19.47	µg/L	1.0	97.4	86.4	113			
Ethylbenzene	20.41	µg/L	1.0	102	83.5	118			
Xylenes, Total	61.43	µg/L	2.0	102	83.4	122			
1,2,4-Trimethylbenzene	21.16	µg/L	1.0	106	83.5	115			
1,3,5-Trimethylbenzene	20.95	µg/L	1.0	105	85.2	113			

Sample ID: 0809507-10A MS

MS

Batch ID: R30439 Analysis Date: 9/30/2008 3:36:51 AM

Methyl tert-butyl ether (MTBE)	14.75	µg/L	2.5	73.8	51.2	138			
Benzene	20.41	µg/L	1.0	101	85.9	113			
Toluene	20.09	µg/L	1.0	100	86.4	113			
Ethylbenzene	20.81	µg/L	1.0	104	83.5	118			
Xylenes, Total	62.94	µg/L	2.0	105	83.4	122			
1,2,4-Trimethylbenzene	20.95	µg/L	1.0	105	83.5	115			
1,3,5-Trimethylbenzene	20.67	µg/L	1.0	103	85.2	113			

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

QA/QC SUMMARY REPORT

Client: XTO Energy
Project: Groundwater

Work Order: 0809507

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SM 2540C Total Dissolved Solids									
Sample ID: MB-17178		MBLK					Batch ID: 17178	Analysis Date:	9/26/2008
Total Dissolved Solids	ND	mg/L	20						
Sample ID: LCS-17178		LCS					Batch ID: 17178	Analysis Date:	9/26/2008
Total Dissolved Solids	1005	mg/L	20	101	80	120			

Qualifiers:

E 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:

9/23/2008

Work Order Number 0809507

Received by: ARS

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?

13°

<5° C 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: 12-Dec-08

CLIENT: XTO Energy
Lab Order: 0812172
Project: XTO Ground Water
Lab ID: 0812172-01

Client Sample ID: Bruington Gas Com 1:MW6
Collection Date: 12/5/2008 10:20:00 AM
Date Received: 12/8/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	28000	400		µg/L	400	12/10/2008 11:18:10 PM
Toluene	27000	400		µg/L	400	12/10/2008 11:18:10 PM
Ethylbenzene	1100	400		µg/L	400	12/10/2008 11:18:10 PM
Xylenes, Total	12000	800		µg/L	400	12/10/2008 11:18:10 PM
Surr. 4-Bromofluorobenzene	94.8	65.9-130		%REC	400	12/10/2008 11:18:10 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E 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

Hall Environmental Analysis Laboratory, Inc.

Date: 12-Dec-08

CLIENT: XTO Energy
Lab Order: 0812172
Project: XTO Ground Water
Lab ID: 0812172-02

Client Sample ID: Bruington Gas Com1: MW-4
Collection Date: 12/5/2008 10:43:00 AM
Date Received: 12/8/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	1.0		µg/L	1	12/10/2008 11:49:37 PM
Toluene	ND	1.0		µg/L	1	12/10/2008 11:49:37 PM
Ethylbenzene	ND	1.0		µg/L	1	12/10/2008 11:49:37 PM
Xylenes, Total	ND	2.0		µg/L	1	12/10/2008 11:49:37 PM
Surr: 4-Bromofluorobenzene	85.9	85.9-130		%REC	1	12/10/2008 11:49:37 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

Hall Environmental Analysis Laboratory, Inc.

Date: 12-Dec-08

CLIENT: XTO Energy
Lab Order: 0812172
Project: XTO Ground Water
Lab ID: 0812172-03

Client Sample ID: Bruington Gas Com1: MW-1R
Collection Date: 12/5/2008 11:00:00 AM
Date Received: 12/8/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	1.0		µg/L	1	12/11/2008 12:19:55 AM
Toluene	ND	1.0		µg/L	1	12/11/2008 12:19:55 AM
Ethylbenzene	ND	1.0		µg/L	1	12/11/2008 12:19:55 AM
Xylenes, Total	ND	2.0		µg/L	1	12/11/2008 12:19:55 AM
Surr: 4-Bromofluorobenzene	81.4	65.9-130		%REC	1	12/11/2008 12:19:55 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E 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

Hall Environmental Analysis Laboratory, Inc.

Date: 12-Dec-08

CLIENT: XTO Energy
Lab Order: 0812172
Project: XTO Ground Water
Lab ID: 0812172-04

Client Sample ID: Bruington Gas Com1: MW-3R
Collection Date: 12/5/2008 11:20:00 AM
Date Received: 12/8/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	1.0		µg/L	1	12/11/2008 12:50:16 AM
Toluene	ND	1.0		µg/L	1	12/11/2008 12:50:16 AM
Ethylbenzene	ND	1.0		µg/L	1	12/11/2008 12:50:16 AM
Xylenes, Total	ND	2.0		µg/L	1	12/11/2008 12:50:16 AM
Surr: 4-Bromofluorobenzene	83.8	65.9-130		%REC	1	12/11/2008 12:50:16 AM

Qualifiers: * Value exceeds Maximum Contaminant Level
E 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

Hall Environmental Analysis Laboratory, Inc.

Date: 12-Dec-08

CLIENT: XTO Energy
Lab Order: 0812172
Project: XTO Ground Water
Lab ID: 0812172-05

Client Sample ID: Bruington Gas Com1: MW-5
Collection Date: 12/5/2008 12:05:00 PM
Date Received: 12/8/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	24000	400		µg/L	400	12/11/2008 1:20:25 AM
Toluene	ND	100		µg/L	100	12/11/2008 1:23:02 PM
Ethylbenzene	580	100		µg/L	100	12/11/2008 1:23:02 PM
Xylenes, Total	1400	200		µg/L	100	12/11/2008 1:23:02 PM
Surr: 4-Bromofluorobenzene	80.9	65.9-130		%REC	100	12/11/2008 1:23:02 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E 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

Hall Environmental Analysis Laboratory, Inc.

Date: 12-Dec-08

CLIENT: XTO Energy

Client Sample ID: Bruington Gas Com1: MW-2R

Lab Order: 0812172

Collection Date: 12/5/2008 11:55:00 AM

Project: XTO Ground Water

Date Received: 12/8/2008

Lab ID: 0812172-06

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	20000	400		µg/L	400	12/11/2008 2:23:52 PM
Toluene	1700	100		µg/L	100	12/11/2008 1:50:29 AM
Ethylbenzene	1100	100		µg/L	100	12/11/2008 1:50:29 AM
Xylenes, Total	5300	200		µg/L	100	12/11/2008 1:50:29 AM
Surr: 4-Bromofluorobenzene	98.0	65.9-130		%REC	100	12/11/2008 1:50:29 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E 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

Hall Environmental Analysis Laboratory, Inc.

Date: 12-Dec-08

CLIENT: XTO Energy
Lab Order: 0812172
Project: XTO Ground Water
Lab ID: 0812172-07

Client Sample ID: Bruington Gas Com1: MW-7
Collection Date: 12/5/2008 12:25:00 PM
Date Received: 12/8/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	11000	200		µg/L	200	12/11/2008 2:20:38 AM
Toluene	9300	200		µg/L	200	12/11/2008 2:20:38 AM
Ethylbenzene	680	200		µg/L	200	12/11/2008 2:20:38 AM
Xylenes, Total	5200	400		µg/L	200	12/11/2008 2:20:38 AM
Surr: 4-Bromofluorobenzene	94.3	65.9-130		%REC	200	12/11/2008 2:20:38 AM

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

Hall Environmental Analysis Laboratory, Inc.

Date: 12-Dec-08

CLIENT: XTO Energy
Lab Order: 0812172
Project: XTO Ground Water
Lab ID: 0812172-08

Client Sample ID: Bruington Gas Com1: MW-8
Collection Date: 12/5/2008 12:53:00 PM
Date Received: 12/8/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	18000	200		µg/L	200	12/11/2008 2:50:57 AM
Toluene	15000	200		µg/L	200	12/11/2008 2:50:57 AM
Ethylbenzene	810	200		µg/L	200	12/11/2008 2:50:57 AM
Xylenes, Total	7700	400		µg/L	200	12/11/2008 2:50:57 AM
Surr: 4-Bromofluorobenzene	93.2	85.9-130		%REC	200	12/11/2008 2:50:57 AM

Qualifiers: * Value exceeds Maximum Contaminant Level
E 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: XTO Energy
 Project: XTO Ground Water

Work Order: 0812172

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 0812172-03A MSD		MSD	Batch ID: R31560 Analysis Date: 12/11/2008 4:25:08 AM						
Benzene	21.23	µg/L	1.0	106	85.9	113	1.52	27	
Toluene	20.90	µg/L	1.0	106	86.4	113	2.54	19	
Ethylbenzene	20.49	µg/L	1.0	102	83.5	118	2.67	10	
Xylenes, Total	61.66	µg/L	2.0	103	83.4	122	1.89	13	
Sample ID: 5ML RB		MBLK	Batch ID: R31560 Analysis Date: 12/10/2008 9:21:44 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		LCS	Batch ID: R31560 Analysis Date: 12/11/2008 4:55:30 AM						
Benzene	21.55	µg/L	1.0	108	85.9	113			
Toluene	21.23	µg/L	1.0	106	86.4	113			
Ethylbenzene	20.91	µg/L	1.0	105	83.5	118			
Xylenes, Total	62.24	µg/L	2.0	104	83.4	122			
Sample ID: 0812172-03A MS		MS	Batch ID: R31560 Analysis Date: 12/11/2008 3:54:37 AM						
Benzene	21.56	µg/L	1.0	108	85.9	113			
Toluene	21.44	µg/L	1.0	107	86.4	113			
Ethylbenzene	21.05	µg/L	1.0	105	83.5	118			
Xylenes, Total	62.76	µg/L	2.0	105	83.4	122			

Qualifiers:

E	Estimated value	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 Received:

12/8/2008

Work Order Number 0812172

Received by: AT

Checklist completed by:

Signature

12/9/08
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?

1°

<5° 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 Champion
 Mailing Address: 382 CR 3100
Artec, NM
 Phone #: 505-333-3207

QA/QC Package:
☒ Standard
☐ Other
☐ EDD (Type) _____
 email or Fax#: _____
 Project Manager: Ashley Ayer
 Sampler: Aire Doyle Hutt

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

XTO Groundwater

Project #:

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	Sample ID
5/20/08	10:20	A9	Brington Gas Com 1: MW-6	glass 1/3	HgCl2	1
"	10:43		Brington Gas Com 1: MW-4	glass 1/3	HgCl2	2
05/20/08	11:00		Brington Gas Com 1: MW-8	glass 1/3	HgCl2	3
05/20/08	11:20		Brington Gas Com 1: MW-3	glass 1/3	HgCl2	4
05/20/08	12:05		Brington Gas Com 1: MW-5	glass 1/3	none	5
05/20/08	11:55		Brington Gas Com 1: MW-2	glass 1/3	none	6
05/20/08	12:25		Brington Gas Com 1: MW-7	glass 1/3	none	7
05/20/08	12:53		Brington Gas Com 1: MW-8	glass 1/3	none	8
05/20/08	14:05	✓	Rowland Gas Com 1: MW-5	glass 1/3	none HCL	9

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO3, NO2, PO4, SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	8021 BTEX	Air Bubbles (Y or N)
											X	
											X	
											X	
											X	
											X	
											X	
											X	
											X	
											X	

Date: 05/20/08 Time: 0600 Relinquished by: Aire Doyle Hutt
 Date: 05/20/08 Time: 1640 Relinquished by: Aire Doyle Hutt

Remarks: Please copy results to aia@lodestarservices.com adhc@lodestarservices.com