

3RP-106



Annual Groundwater
Remediation Reports
For Year 2009

March 2010



March 8, 2010

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 our Annual Groundwater Remediation Reports for year ending 2009, in accordance with the New Mexico Oil Conservation Division (NMOCD) approved Groundwater Management Plan (GWMP). 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**
- Federal Gas Com #H1- 3RP110
- McCoy GC D #1E- 3RP414
- OH Randel #7- 3RP386
- 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 GWMP. XTO respectfully requests closure of:

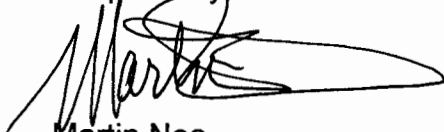
- EJ Johnson C #1E- 3RP385
- Frost, Jack B #2- 3RP416
- PO Pipken #3E- 3RP409

In previously submitted reports, eighteen sites met the closure requirements outlined in the GWMP. XTO has requested closure of these sites annually since 2006. The reports for the below listed sites are being submitted again for your review.

- Abrams J #1- 3RP100
Closure Requested 01-2007
- Armenta Gas Com C #1E- 3RP394
Closure Requested 01-2006
- Baca Gas Com A #1A- 3RP104
Closure Requested 03-2008
- Bergin Gas Com #1E- 3RP105
Closure Requested 01-2006
- Carson Gas Com #1E- 3RP415
Closure Requested 04-2009
- Garcia Gas Com B #1- 3RP111
Closure Requested 03-2008
- Haney Gas Com B #1E- 3RP113
Closure Requested 03-2008
- Hare Gas Com B #1- 3RP413
Closure Requested 03-2008
- Hare Gas Com B #1E- 3RP384
Closure Requested 03-2008
- Hare Gas Com I #1- 3RP412
Closure Requested 03-2008
- Masden Gas Com #1E- 3RP120
Closure Requested 03-2008
- McDaniel Gas Com B #1E- 3RP121
Closure Requested 03-2008
- Romero Gas Com A #1- 3RP123
Closure Requested 01-2007
- Snyder Gas Com #1A- 3RP126
Closure Requested 04-2009
- State Gas Com BS #1- 3RP127
Closure Requested 01-2006
- Stedje Gas Com #1- 3RP128
Closure Requested 03-2008
- Sullivan Frame A #1E- 3RP130
Closure Requested 03-2008
- Sullivan Gas Com D #1- 3RP131
Closure Requested 04-2009

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, LT Environmental
File- San Juan Groundwater

Bruington Gas Com
1

XTO ENERGY INC.

ANNUAL GROUNDWATER REPORT

2009

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

MARCH 2010

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BRUINGTON GAS COM #1 3RP-106

SITE DETAILS

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

RNG: 11W

SEC: 14 UNIT: E
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 Dakota Sandstone formation and is currently active. The Citizen's Irrigation Ditch runs parallel to this location and flows in the summer months while dry in the winter months. A topographic map and site 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 to include 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. This pit was operated by the gas gathering company. 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 impact was left in place 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. Completion Diagrams and Borehole Logs are presented as Figures 7-9 documenting drilling that occurred on site in April 1996. These monitoring wells were sampled in June 1996. Monitoring wells MW-1 and MW-3 revealed benzene, toluene, ethyl benzene, and total xylene (BTEX) concentrations were non-detect or below New Mexico Water Quality Control Commission (WQCC) standards. Monitor well MW-2 revealed benzene and total xylene concentrations exceeding WQCC standards. At this time it was determined

2009 XTO GROUNDWATER REPORT

monitoring well MW-2 would be sampled annually in accordance with the OCD approved Groundwater Management Plan. After the installation of the three monitoring 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 site.

Upon the purchase of this location by XTO another site assessment was performed in May 1998. Monitoring wells MW-1 and MW-2 were damaged or not functional. Both monitoring wells were replaced (MW-1R & MW-2R) in June 1998. Completion Diagrams and Borehole Logs for the monitoring wells installed during 1998 are presented in Figures 10-11.

An annual groundwater report for 1996-1998 was submitted to the OCD in February 1999 proposing further evaluation of monitoring well MW-2R and annual sampling of monitoring wells MW-1R and MW-3 to verify hydrocarbon impact in monitoring well 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 MW-4, MW-5 and MW-6 in February 2001 in an effort to further delineate the extent of impacted groundwater. Completion Diagrams and Borehole Logs for the monitoring wells installed during 2001 are presented in Figures 12-14. All six monitoring wells were sampled twice in 2001 with the exception of monitoring well MW-4, it was sampled only once. Laboratory results revealed high concentrations of BTEX constituents in monitoring wells MW-1, MW-2R, MW-5 and MW-6. Groundwater from monitoring wells MW-3 and MW-4 was 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). Completion Diagram and Borehole Log for the monitoring well installed during 2003 is presented in Figure 15. All wells continued to be sampled and, with the exception of monitoring wells MW-1R, MW-3R and MW-4, consistently show elevated concentrations of BTEX.

In 2005 XTO initiated further investigation of subsurface conditions. Test holes and trenches were dug to evaluate whether historically impacted soils were fully removed and if the soil was continuing to contribute hydrocarbons to the groundwater. Limited field studies were conducted indicating vadose zone impact at depths below 15 feet (Figures 17-18). This appears to be consistent with the most concentrated area of groundwater impacts around monitoring wells MW-2R, MW-5, MW-6, and MW-7.

The 2005 annual groundwater report was submitted to the OCD in January 2006 proposing possible additional excavation and consideration of an in-situ remediation system.

The 2006 annual groundwater report was submitted to the OCD in February 2007 proposing collection of groundwater levels during months when the unlined Citizen's Irrigation Ditch was 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.

2009 XTO GROUNDWATER REPORT

Monitoring well MW-8 was installed May 2007 adjacent to a former pit operated and closed by El Paso Field Services (EPFS). Completion Diagram and Borehole Log for the monitoring well installed during 2007 is presented in Figure 16. 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 was submitted to the OCD in February 2008 proposing continued investigation including dissolved oxygen readings, water levels and gradient information and requested OCD encourage EPFS conduct an evaluation of groundwater associated with the Risk Based Closure of the production pit at this site.

The 2008 annual groundwater report was submitted to the OCD in April 2009 proposing installation of two 4" recovery wells, installation of two additional monitoring wells, addition of chemical oxygenate and quarterly sampling.

In October 2009 a geoprobe subsurface investigation was conducted in an effort to further delineate the extent of hydrocarbon impacted soil. Impacted soil was identified within the area of impacted groundwater (Attachment 4).

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 2009 are presented as Attachment 5.

METHODOLOGY

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 groundwater, 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.

2009 XTO GROUNDWATER REPORT

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

RESULTS

2009 laboratory results from monitoring wells MW-1R, MW-3R and MW-4 indicate BTEX constituents are below standards or not detectable. Laboratory results from monitoring wells MW-2R, MW-5, MW-6, MW-7 and MW-8 have indicated elevated concentrations of BTEX constituents.

Site monitoring activities indicate a groundwater flow is partially controlled by the adjacent unlined irrigation ditch. When the ditch is dry, during the winter months, the groundwater gradient near the center and eastern portion of the site is towards a small depression in the water table near monitoring well MW-5. Groundwater directly adjacent to the ditch trends 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 3-6 illustrate the estimated groundwater gradients during 2009.

CONCLUSIONS

Additional work is required in the vicinity of monitoring wells MW-2R, MW-5, MW-6, MW-7 and MW-8.

RECOMMENDATIONS

XTO proposes the addition of chemical oxygenate in impacted wells and continued quarterly sampling of all monitoring wells. In addition, XTO would like to meet with OCD to discuss this site.

Table 1

XTO ENERGY INC. GROUNDWATER LAB RESULTS

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

Sample Date	Monitor Well No.	DTW (ft)	TD (ft)	Product (ft)	Dissolved Oxygen (mg/L)	BTEX EPA Method 801 (ppb)			
						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
03-Mar-09		15.24	20.23			ND	ND	ND	ND
24-Jun-09		6.52	20.23			ND	ND	ND	ND
15-Sep-09		6.98	20.23			ND	ND	ND	ND
07-Dec-09		11.22	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
03-Mar-09		15.64	23.15			5,500	1,400	470	2,900

XTO ENERGY INC. GROUNDWATER LAB RESULTS

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

24-Jun-09	MW-#2R	9.16	23.15			18,000	2,200	970	6,500
15-Sep-09		8.37	23.15			18,000	760	850	4,400
07-Dec-09		11.81	23.15			11,000	1,000	720	3,500
07-Jun-96	MW #3	13.05	21.17			ND	1.8	ND	ND
05-May-99		13.64	18.08			73.2	38.3	31.2	200.1
29-Jun-00		13.52				87	ND	3.4	8.3
17-May-01		14.51				ND	0.6	0.7	ND
24-Sep-01		12.15				ND	ND	ND	ND
25-Aug-03	MW #3R	11.81	20.00			ND	ND	1.3	ND
19-Nov-03		12.28				ND	ND	1.4	ND
25-Apr-06		12.56				ND	ND	ND	ND
27-Nov-06		12.60	21.93	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
03-Mar-09		16.37	21.93			ND	ND	ND	ND
24-Jun-09		11.52	21.93			7.2	ND	ND	ND
15-Sep-09		10.66	21.93			ND	ND	ND	ND
07-Dec-09		12.63	21.93			ND	ND	ND	ND
17-May-01	MW #4	10.88	20.00			ND	ND	ND	ND
25-Apr-06		11.11				ND	ND	ND	ND
27-Nov-06		12.41	20.22	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
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
03-Mar-09		17.06	20.22			ND	ND	ND	ND
24-Jun-09		8.10	20.22			ND	ND	ND	ND
15-Sep-09		8.17	20.22			ND	ND	ND	ND
07-Dec-09		13.11	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
03-Mar-09		19.26	25.20			9,800	ND	450	920
24-Jun-09		13.34	25.20			25,000	46	40	1,400
15-Sep-09		12.56	25.20			27,000	ND	770	2,000
07-Dec-09		15.71	25.20			23,000	ND	690	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
03-Mar-09		20.67	25.22			19,000	20,000	880	9,300
24-Jun-09		16.18	25.22			23,000	18,000	900	9,200
15-Sep-09		15.25	25.22			18,000	14,000	740	7,700
07-Dec-09		17.52	25.22			19,000	19,000	1,000	10,000
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
03-Mar-09		18.60	25.34			11,000	7,800	660	4,500
24-Jun-09		16.38	25.34			21,000	14,000	840	6,400
15-Sep-09		15.21	25.34			15,000	4,900	640	3,600
07-Dec-09		16.05	25.34			9,600	7,700	530	4,200
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
03-Mar-09		20.03	26.37			16,000	12,000	660	5,700
24-Jun-09		19.00	26.37			21,000	13,000	690	57,000
15-Sep-09		17.74	26.37			15,000	7,800	590	4,900
07-Dec-09		17.81	26.37			10,000	1,300	570	2,500
NMWQCC GROUNDWATER STANDARDS						10	750	750	620

Table 2

XTO ENERGY INC. GROUNDWATER LAB RESULTS

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

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	562	3,120	1,050	mg/L
TOTAL HARDNESS AS CaCO ₃	1,700	940	1,520	mg/L
BICARBONATE AS HCO ₃	562	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 2

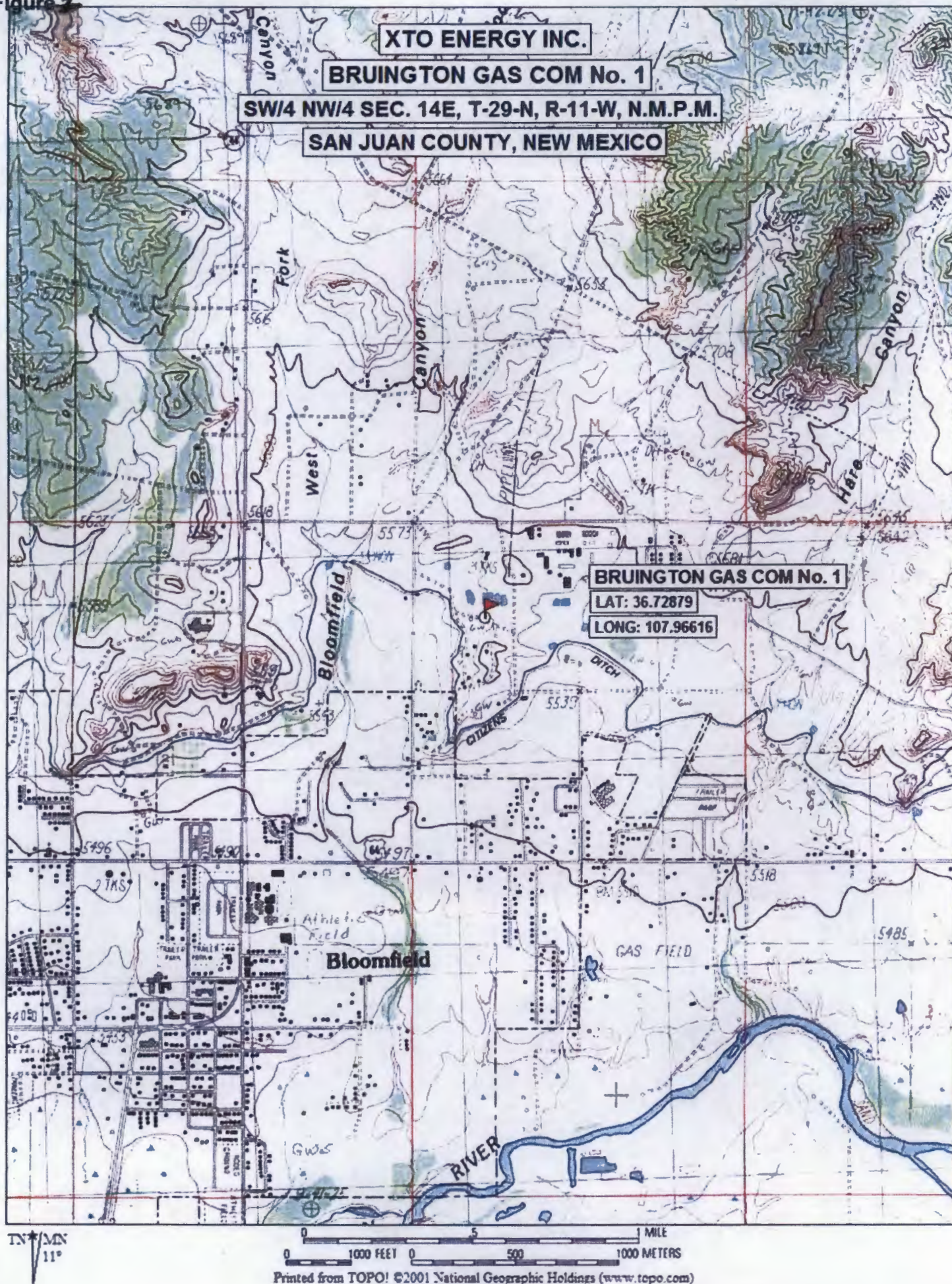
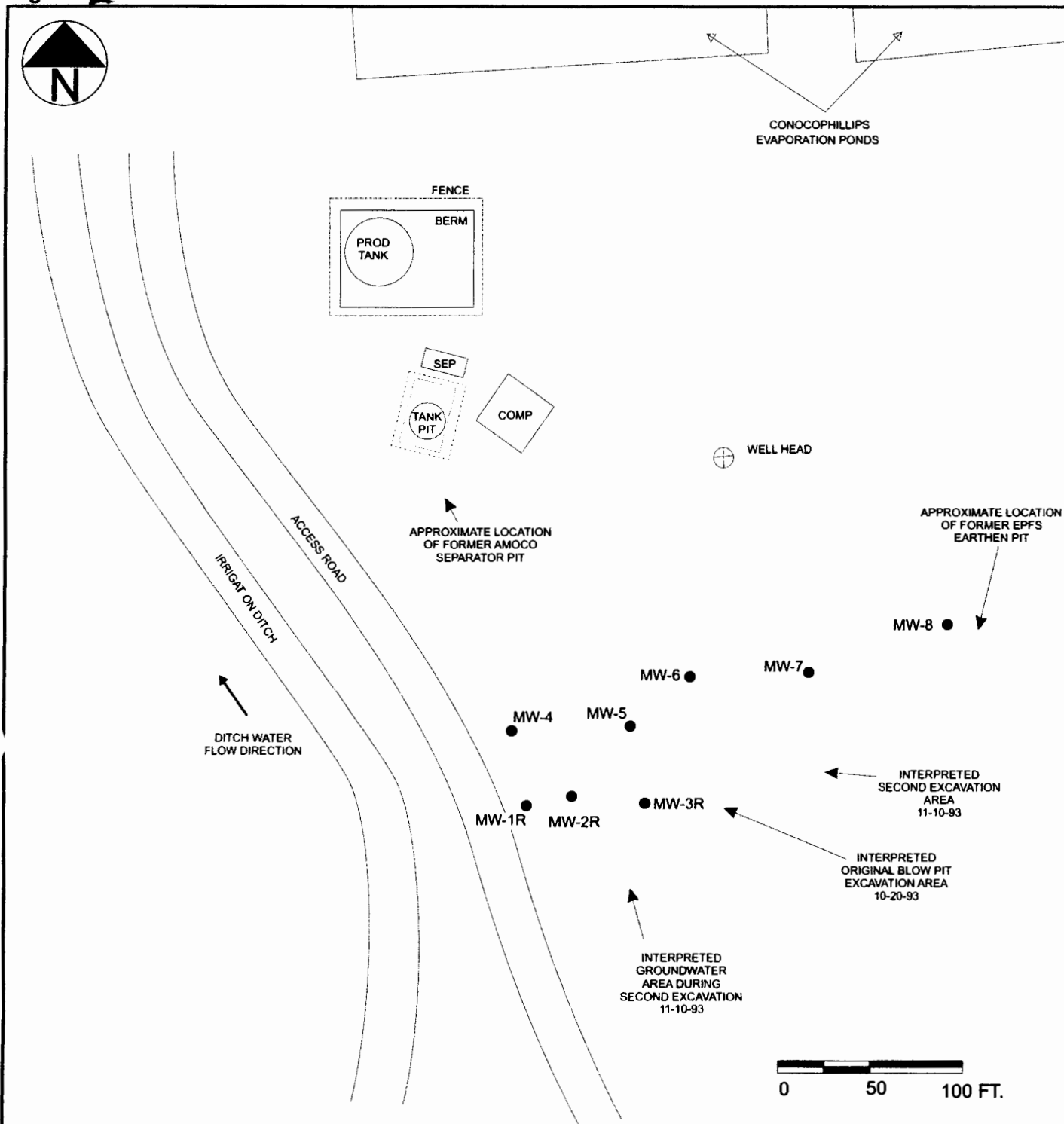


Figure 2



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.

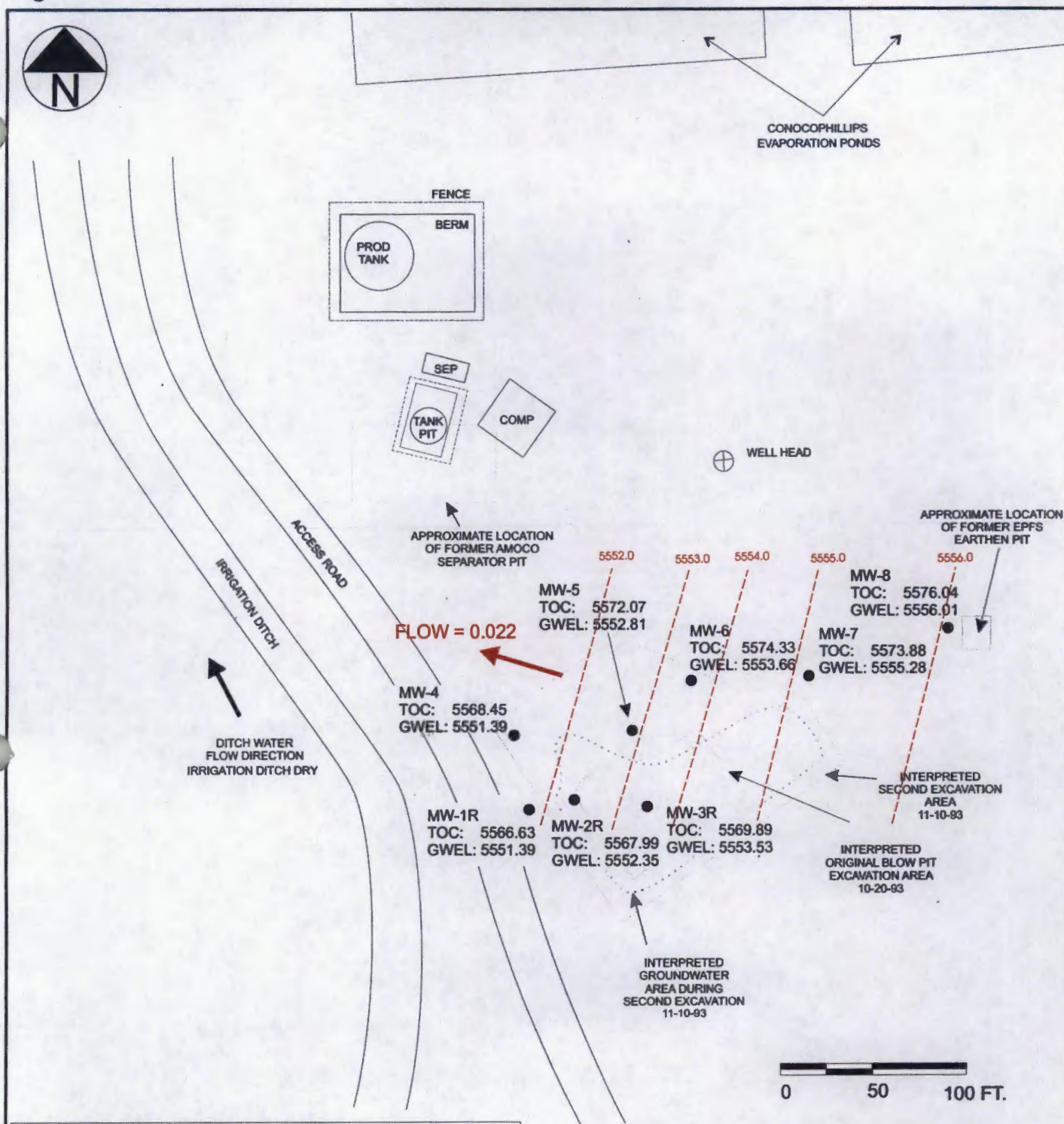
✦ Lodestar Services, Inc
PO Box 3861
Farmington, NM 87499

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 3



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.

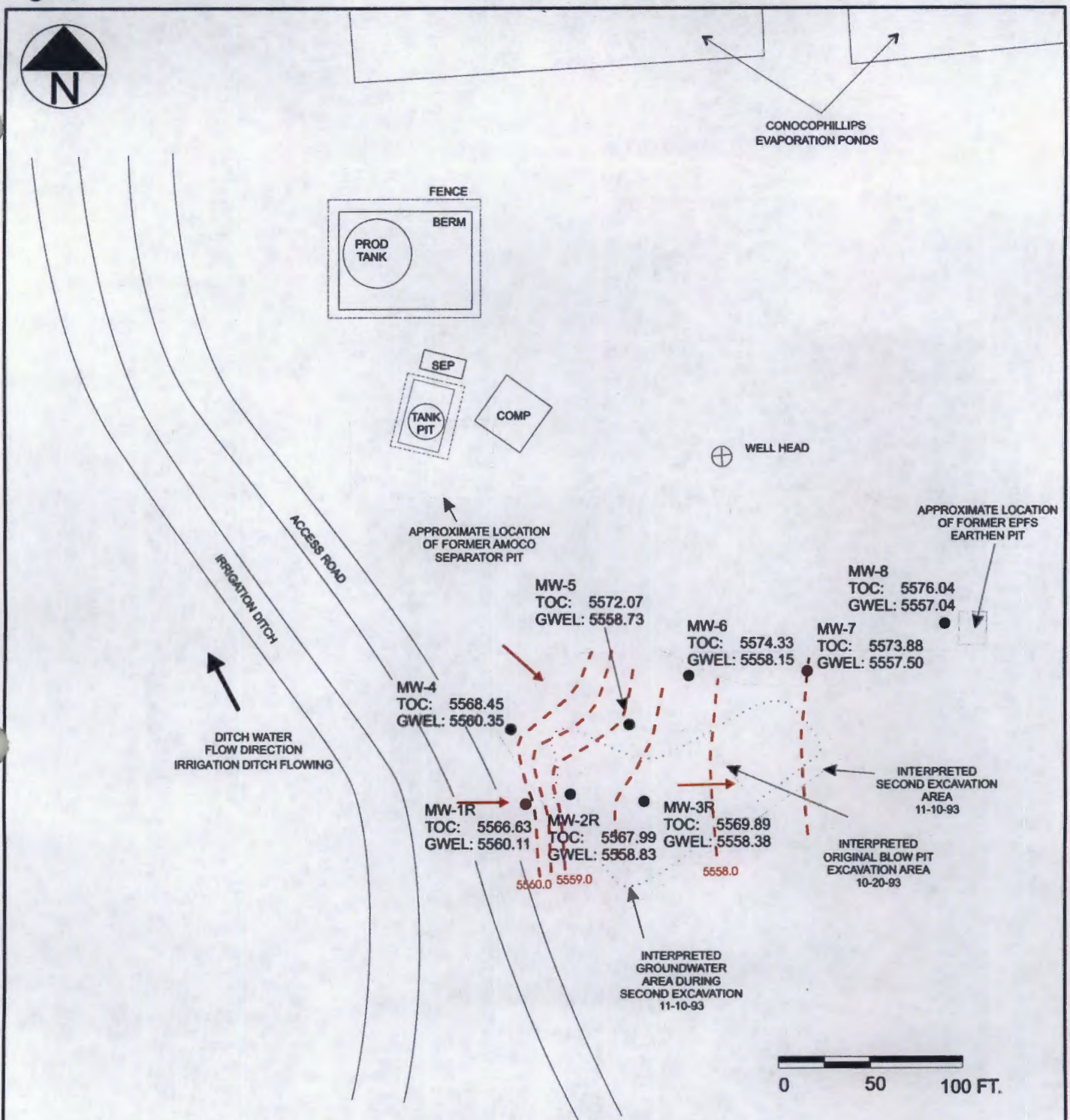
Lodestar Services, Inc
 PO Box 3861
 Farmington, NM 87499

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

PROJECT: XTO GROUND WATER
 DRAWN BY: ADH
 REVISED: 04 Mar 09

GROUNDWATER GRADIENT
 MAP
 03Mar09

Figure 4



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

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.

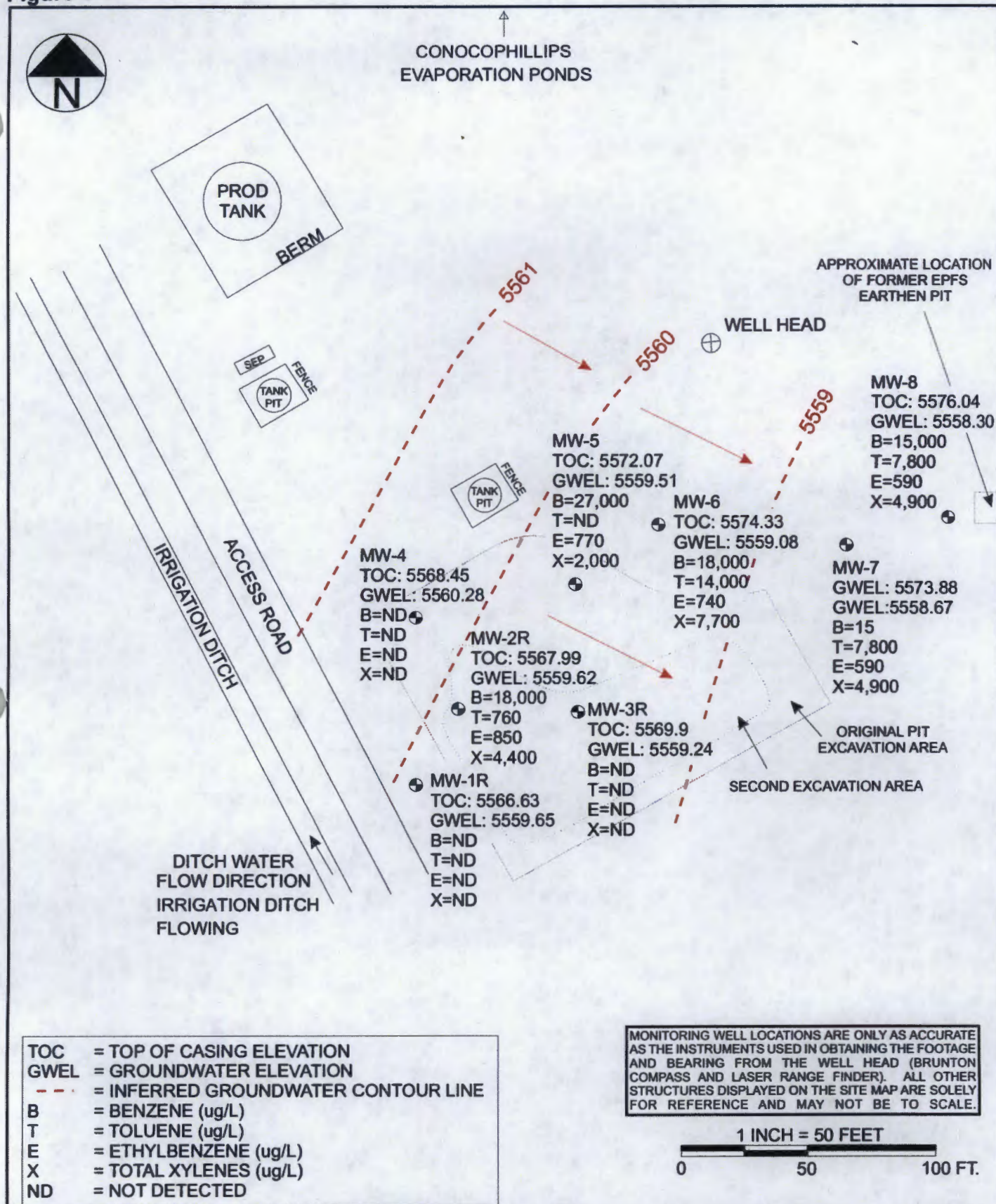
Lodestar Services, Inc
 PO Box 3861
 Farmington, NM 87499

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

PROJECT: XTO GROUND WATER
 DRAWN BY: ADH
 REVISED: 26 Jun 09

GROUNDWATER GRADIENT
 MAP
 24 Jun 09

Figure 5



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

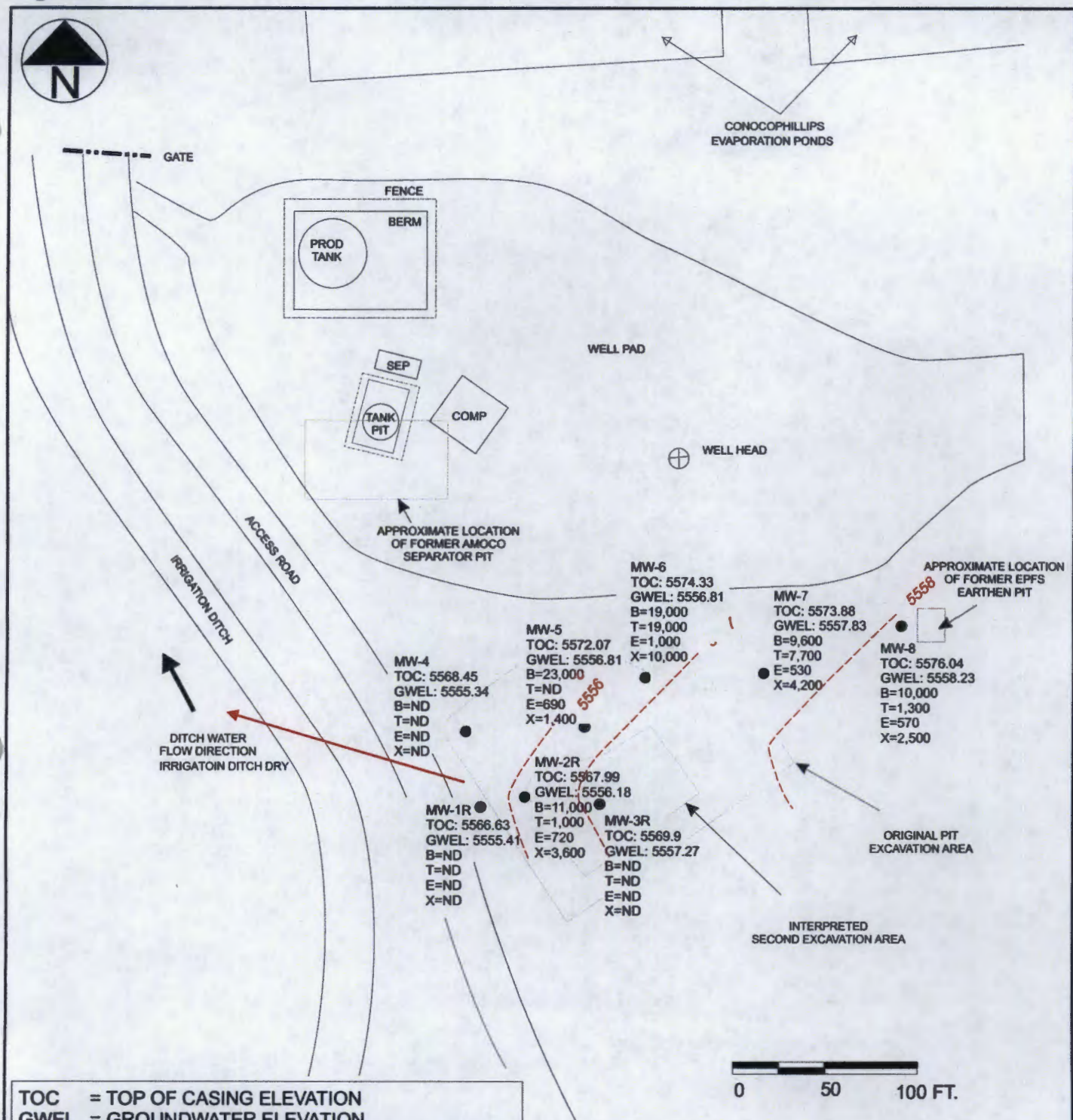
Lodestar Services, Inc
PO Box 3861
Farmington, NM 87499

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

PROJECT: XTO GROUND WATER
DRAWN BY: DMH
REVISED: 09/18/09

Potentiometric Surface Map
09/2009

Figure 6



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
 ● = GROUNDWATER MONITORING WELL

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 GROUNDWATER
 DRAWN BY: DMH
 REVISED: 12/31/09

Potentiometric Surface Map
 12/07/09

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: S20W, 156 FEET FROM WELL HEAD.

BORING #..... BH - 1
MW #..... 1
PAGE #..... 1
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. 2.00 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM. NO APPARENT HYDROCARBON ODOR OBSERVED (0 - 17 FT. INTERVAL).

▼ GW DEPTH ON 6/7/96 = 11.05 FT. (APPROX.) FROM GROUND SURFACE.

DARK YELLOWISH BROWN CLAY, PLASTIC, SATURATED, STIFF TO VERY HARD. NO APPARENT HYDROCARBON ODOR OBSERVED (17 - 17.5 FT. INTERVAL).

DARK YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR OBSERVED (17.5 - 18.8 FT. INTERVAL).

DARK YELLOWISH BROWN BEDROCK OR CLAY, COHESIVE, SLIGHTLY MOIST, VERY HARD. NO APPARENT HYDROCARBON ODOR OBSERVED (18.8 FT. DEPTH).

NOTES:



- SAND TO SILTY SAND.



- CLAY.



- BEDROCK OR VERY HARD CLAY.

TOS

- TOP OF SCREEN FROM GROUND SURFACE.

TD

- TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.

GW

- GROUND WATER.

DRAWING: BRUING-1

DATE: 2/07/97

DWN BY: NJV

Figure 8

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

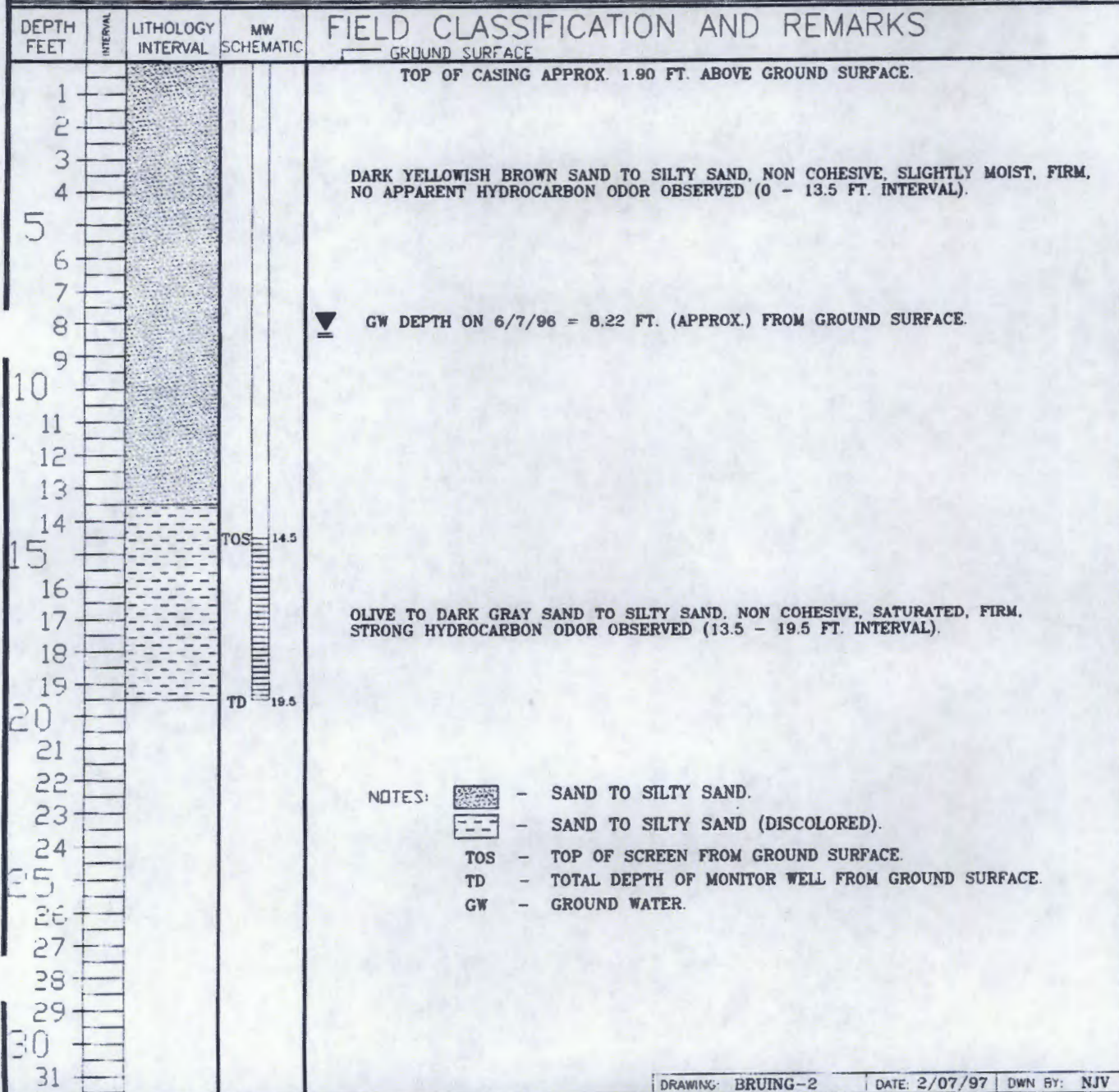


Figure 9

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
1				TOP OF CASING APPROX. 1.25 FT. ABOVE GROUND SURFACE.
2				
3				
4				
5				
6				▼ GW DEPTH ON 6/7/96 = 5.75 FT. (APPROX.) FROM GROUND SURFACE.
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.

Figure 10

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			TOS 5.08	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).
6				
7				
8				▼ GW DEPTH ON 6/20/98 = 8.24 FT. (APPROX.) FROM GROUND SURFACE.
9				
10				
11				
12				
13				
14				
15			TD 15.08	
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.

DRAWING: BRU-1R DATE: 6/22/98 DWN 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: 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

DEPTH FEET	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC	FIELD CLASSIFICATION AND REMARKS
				GROUND SURFACE
				TOP OF CASING APPROX. 2.05 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, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED (0 - 10.0 FT. INTERVAL).

TOS 5.95

▼ GW DEPTH ON 6/12/98 = 8.95 FT. (APPROX.) FROM GROUND SURFACE.

OLIVE TO DARK GRAY SAND TO SILTY SAND, NON COHESIVE, SATURATED, FIRM, STRONG HYDROCARBON ODOR DETECTED (10.0 - 20.95 FT. INTERVAL).

TD 20.95

NOTES:

-  - SAND TO SILTY SAND.
-  - SAND TO SILTY SAND (DISCOLORED).
- TOS - TOP OF SCREEN FROM GROUND SURFACE.
- TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
- GW - GROUND WATER.

DRAWING: BRU-2R DATE: 6/22/98 DWN BY: NJV

Figure 12

BLAGG ENGINEERING, INC.

P.O. BOX 87

BLOOMFIELD, NM 87413

(505) 632-1199

BORE / TEST HOLE REPORT

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

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

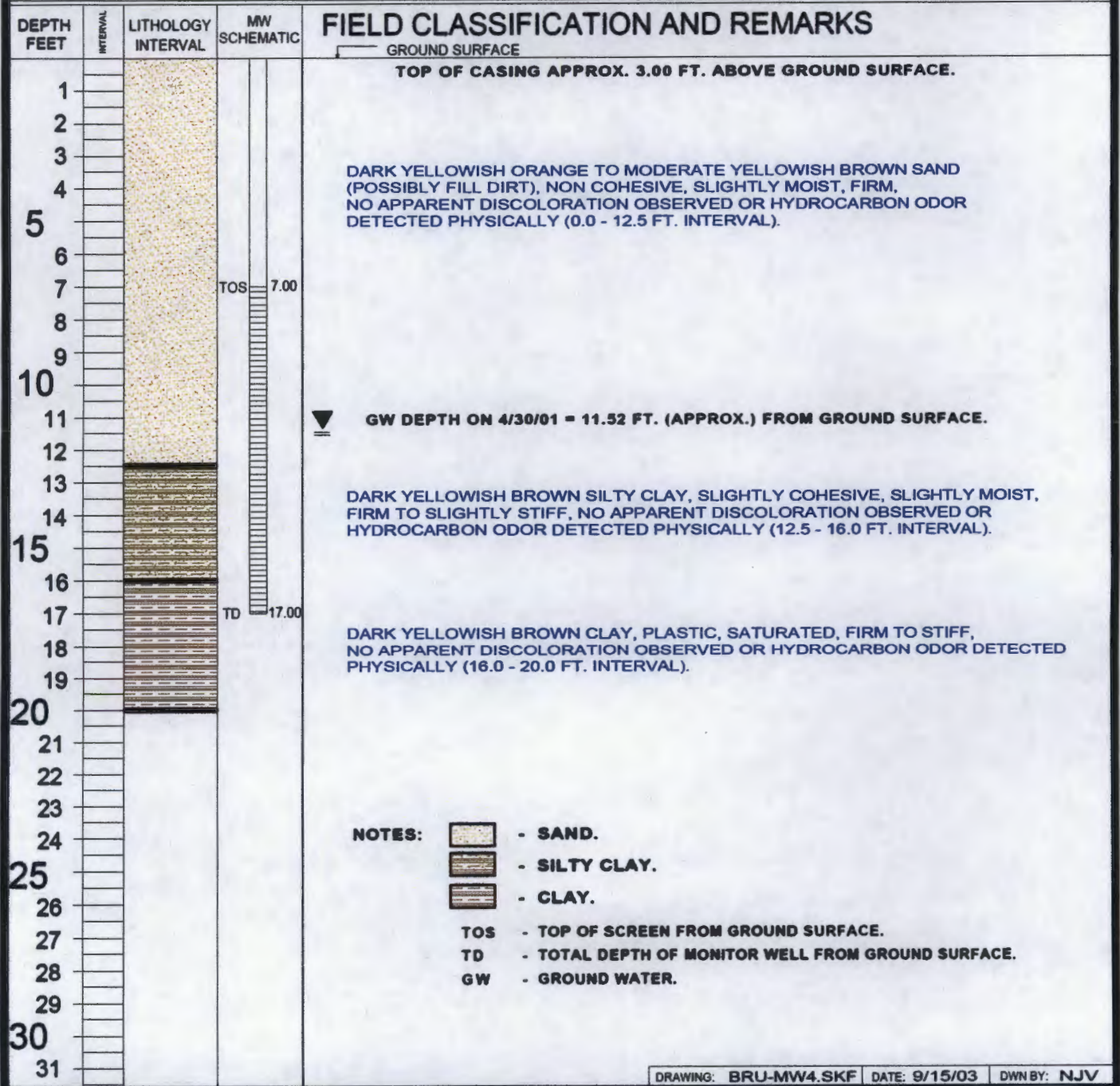


Figure 13

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**

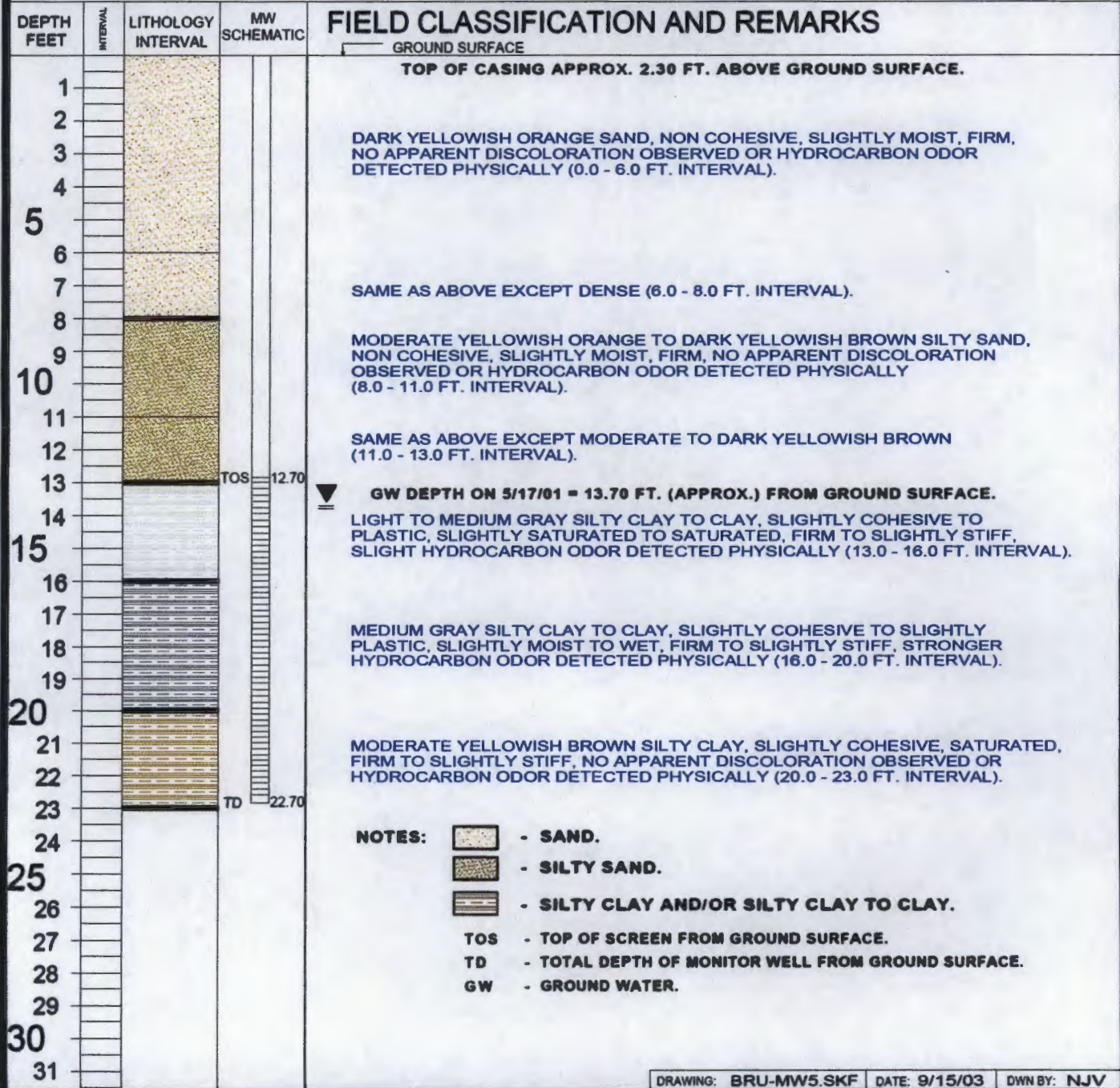


Figure 14

FIGURE 6

BLAGG ENGINEERING, INC.

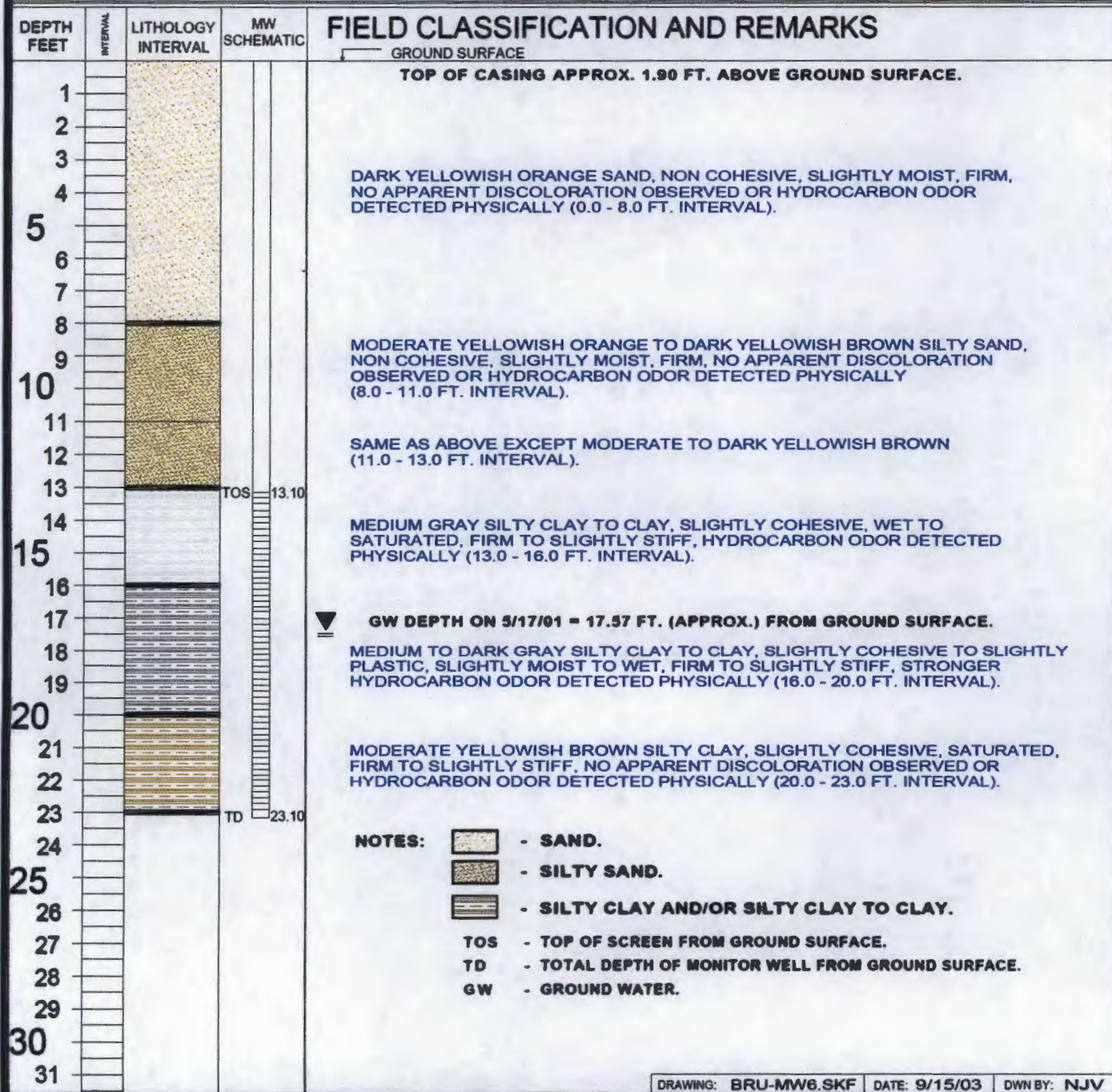
P.O. BOX 87

BLOOMFIELD, NM 87413

(505) 632-1199

BORE / TEST HOLE REPORT

BORING #.....	BH - 6
MW #.....	6
PAGE #.....	6
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: **N47E, 106.8 FEET FROM MW # 2R.**

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

Figure 15

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**

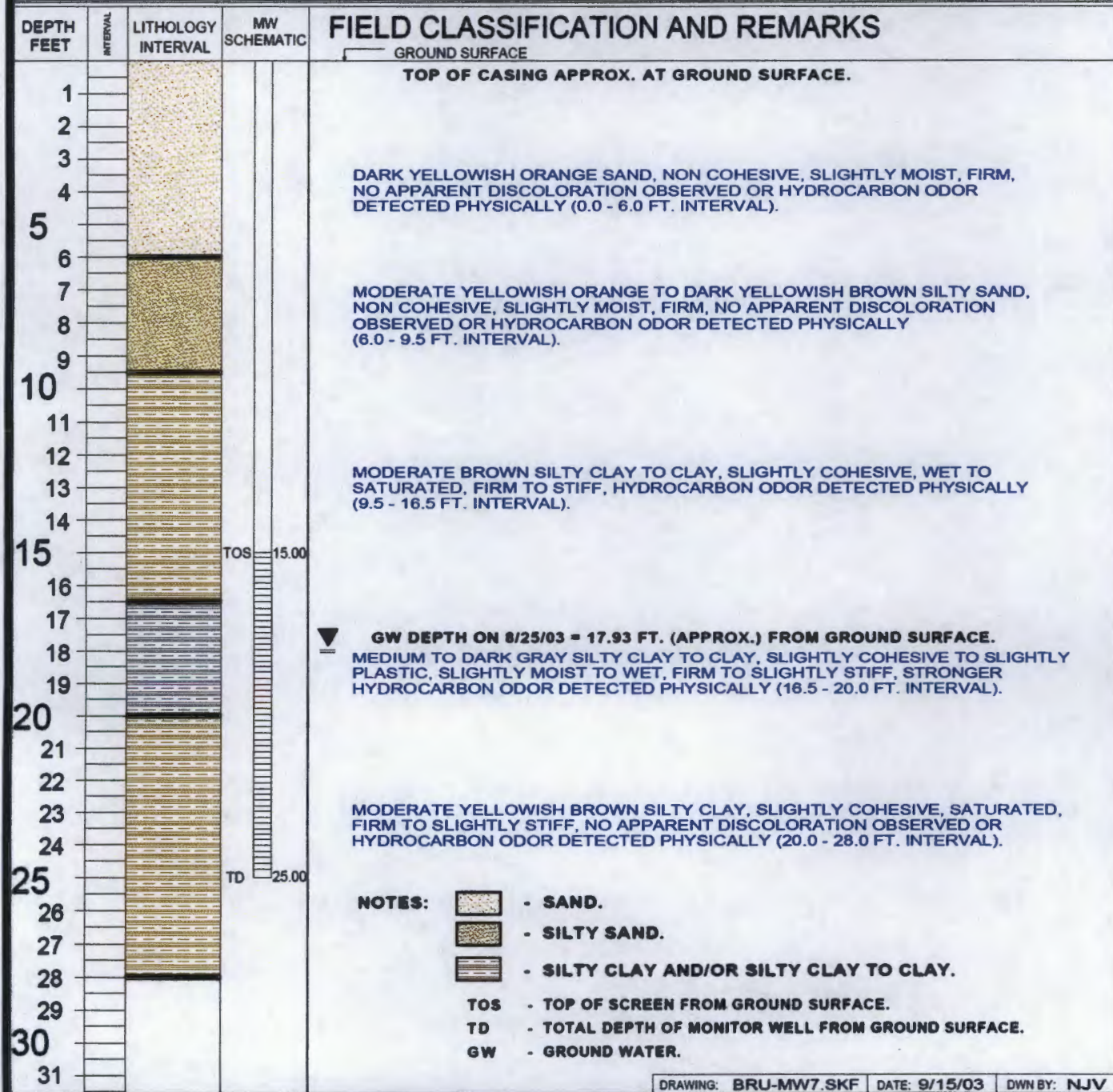


Figure 16

RECORD OF SUBSURFACE EXPLORATION

LodeStar Services
P.O. Box 4485
Durango, CO 81302
303-917-6288

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

Project Number: _____
Project Name: XTO Ground Water
Project Location: Brington 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

Sample						
Depth (feet)	Sample Number	Sample Interval	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

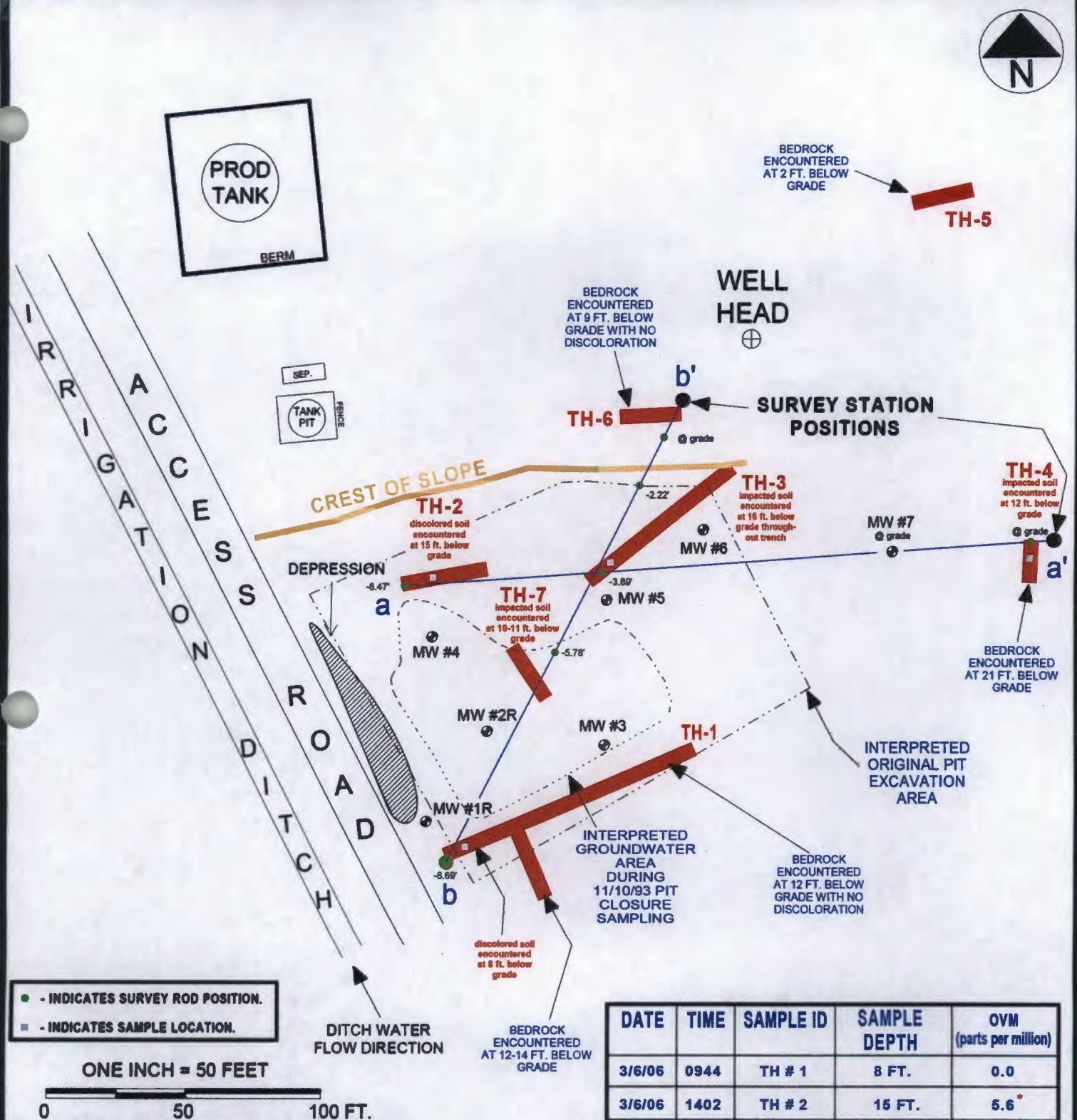
Drilling Method: Hollow Stem Auger
Air Monitoring Method: PID

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 17



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) 632-1100

PROJECT: SITE ASSESSMENT

DRAWN BY: NJV

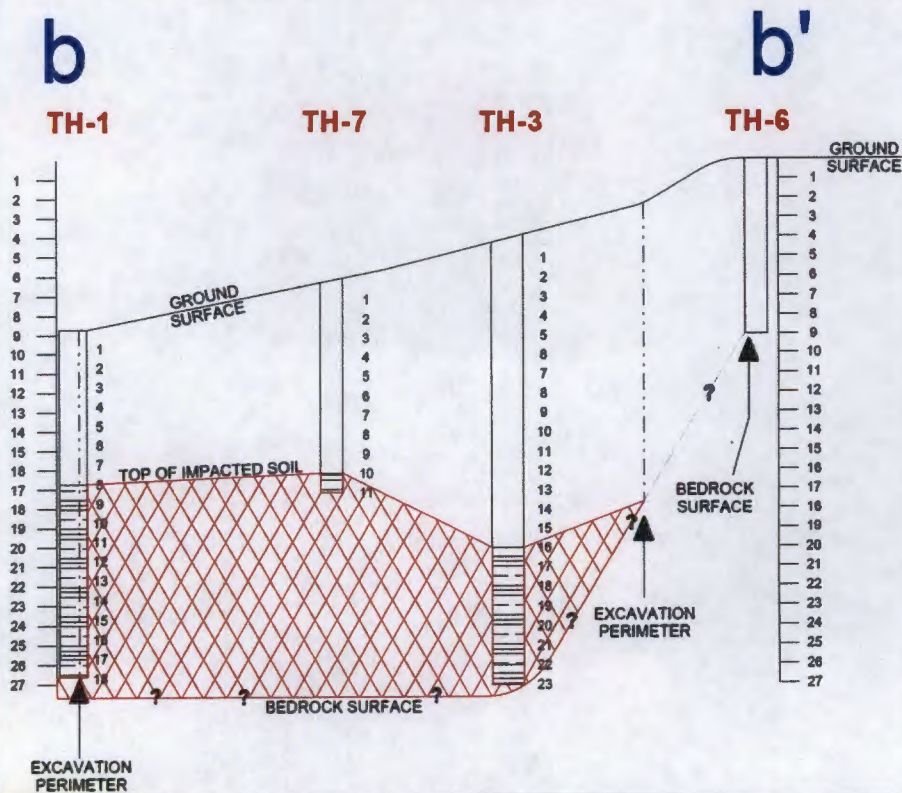
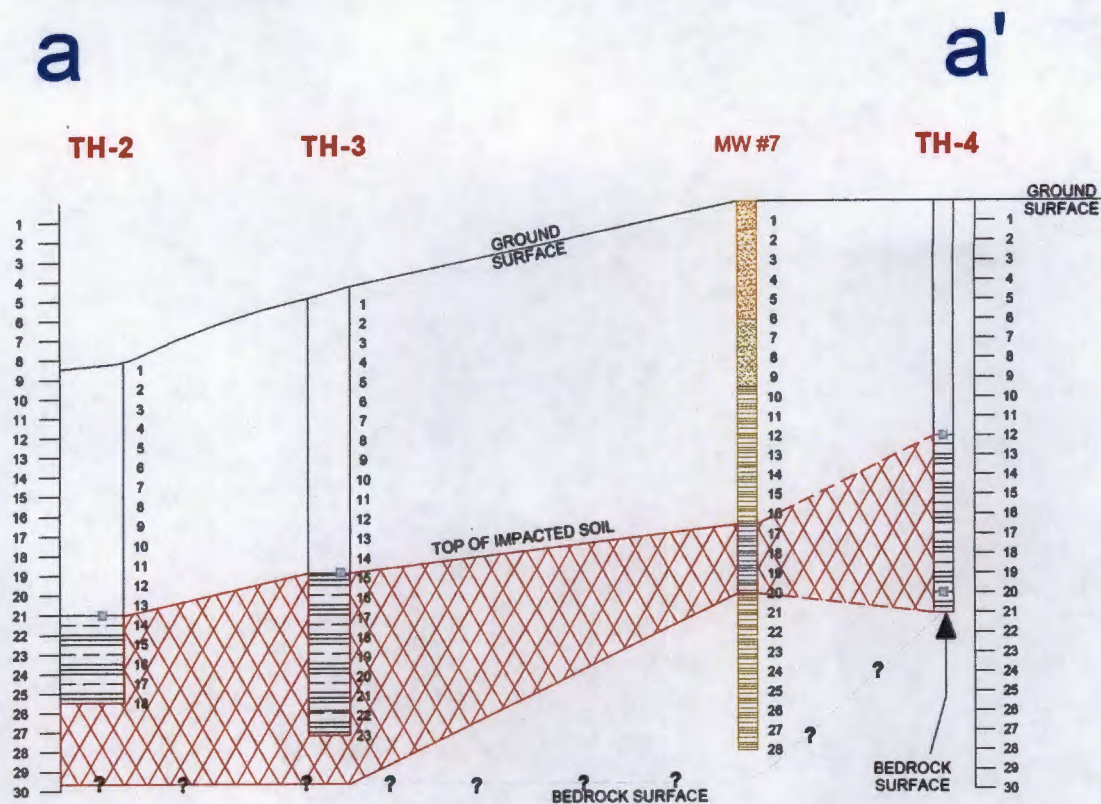
FILENAME: BRUINGTON-SM2.SKf

REVISED: 03/11/06 NJV

TEST HOLES

03/06

Figure 18



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-XSEC-A.SK7

DRAFTED: 03/11/06 NJV

**CROSS
SECTION
VIEWS**

03/06

Attachment 1

LAS RESULTS TO PAUL U. ON 11-3-93. SOIL OK, WATER CONTAMINATED.
OUM RESULTS TO PAUL U. ON 10-20-93

(VERY CONTAMINATED)

ENVIROTECH INC

5796 US HWY 81 FARMINGTON NM 87401
505-632-0613

NO. 49948

3141

FIELD REPORT CLOSURE VERIFICATION

92140

1 = 1

LOCATION: LEASE BRUINGTON GAS WELL #1 AC SW/4 NW/4 (E)
SEC 14 TWP 29 N RND 11 W BM NM ONLY 55 SI NM PIT BLOW
CONTRACTOR: PAUL VELASQUEZ
EQUIPMENT USED: EXCAVATOR
DATE STARTED: 10-20-93
DATE FINISHED: 10-27-93
SAMPLING: RED

SOIL REMEDIATION QUANTITY: EXCAVATION APPROX. 40' x 75' x 20' MAX DEEP.

DISPOSAL FACILITY: CROUCH MESA

LAND USE: RESIDENTIAL/INDUSTRIAL

SURFACE CONDITION: EXCAVATED PRIOR TO ARRIVAL

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 125 FEET SOUTH FROM WELLHEAD. EXCAVATION 15-20' DEEP. TOP 8-10' APPEARS UNCONTAMINATED. FROM 8'-10' DOWN, HEAVY CONTAMINATION EVIDENCED BY DARK GRAY TO BLACK, WITH HEAVY PETROLEUM OIL. SOIL IS SILTY SAND. BOTTOM @ 15-20' 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 SIDE OF EXCAVATION @ 12' DEEP. COARSE SANDY SOIL.

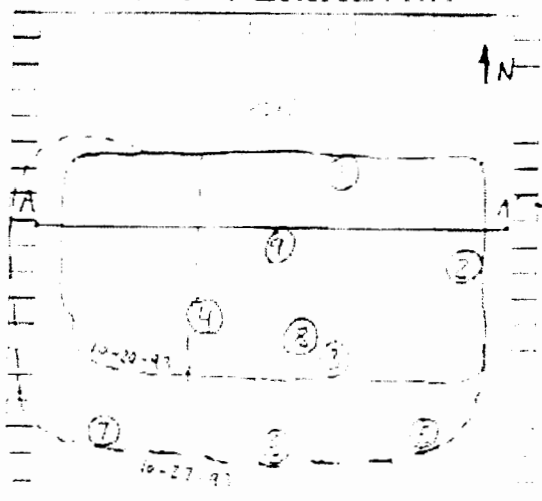
FIELD AIR ANALYSIS

SAMPLE NO.	LAB NO.	WEIGHT OF SOIL SAMPLE	DEPTH TO TOP OF WATER	WELL WATER DEPTH (FEET)	WELL WATER DEPTH (FEET)	WELL WATER DEPTH (FEET)	WELL WATER DEPTH (FEET)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
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92							
93							
94							
95							
96							
97							
98							
99							
100							

SCALE

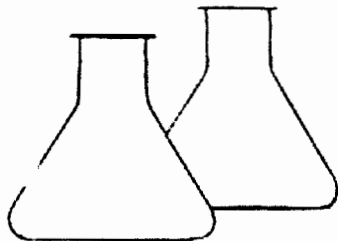
0 10 20 FEET

PIT PERIMETER



OUM RESULTS

DATE	TIME	DEPTH	RESULTS
10-20-93	15:00	0.25	ND
10-20-93	15:00	0.50	ND
10-20-93	15:00	0.75	ND
10-20-93	15:00	1.00	ND
10-20-93	15:00	1.25	ND
10-20-93	15:00	1.50	ND
10-20-93	15:00	1.75	ND
10-20-93	15:00	2.00	ND
10-20-93	15:00	2.25	ND
10-20-93	15:00	2.50	ND
10-20-93	15:00	2.75	ND
10-20-93	15:00	3.00	ND
10-20-93	15:00	3.25	ND
10-20-93	15:00	3.50	ND
10-20-93	15:00	3.75	ND
10-20-93	15:00	4.00	ND
10-20-93	15:00	4.25	ND
10-20-93	15:00	4.50	ND
10-20-93	15:00	4.75	ND
10-20-93	15:00	5.00	ND
10-20-93	15:00	5.25	ND
10-20-93	15:00	5.50	ND
10-20-93	15:00	5.75	ND
10-20-93	15:00	6.00	ND
10-20-93	15:00	6.25	ND
10-20-93	15:00	6.50	ND
10-20-93	15:00	6.75	ND
10-20-93	15:00	7.00	ND
10-20-93	15:00	7.25	ND
10-20-93	15:00	7.50	ND
10-20-93	15:00	7.75	ND
10-20-93	15:00	8.00	ND
10-20-93	15:00	8.25	ND
10-20-93	15:00	8.50	ND
10-20-93	15:00	8.75	ND
10-20-93	15:00	9.00	ND
10-20-93	15:00	9.25	ND
10-20-93	15:00	9.50	ND
10-20-93	15:00	9.75	ND
10-20-93	15:00	10.00	ND
10-20-93	15:00	10.25	ND
10-20-93	15:00	10.50	ND
10-20-93	15:00	10.75	ND
10-20-93	15:00	11.00	ND
10-20-93	15:00	11.25	ND
10-20-93	15:00	11.50	ND
10-20-93	15:00	11.75	ND
10-20-93	15:00	12.00	ND
10-20-93	15:00	12.25	ND
10-20-93	15:00	12.50	ND
10-20-93	15:00	12.75	ND
10-20-93	15:00	13.00	ND
10-20-93	15:00	13.25	ND
10-20-93	15:00	13.50	ND
10-20-93	15:00	13.75	ND
10-20-93	15:00	14.00	ND
10-20-93	15:00	14.25	ND
10-20-93	15:00	14.50	ND
10-20-93	15:00	14.75	ND
10-20-93	15:00	15.00	ND
10-20-93	15:00	15.25	ND
10-20-93	15:00	15.50	ND
10-20-93	15:00	15.75	ND
10-20-93	15:00	16.00	ND
10-20-93	15:00	16.25	ND
10-20-93	15:00	16.50	ND
10-20-93	15:00	16.75	ND
10-20-93	15:00	17.00	ND
10-20-93	15:00	17.25	ND
10-20-93	15:00	17.50	ND
10-20-93	15:00	17.75	ND
10-20-93	15:00	18.00	ND
10-20-93	15:00	18.25	ND
10-20-93	15:00	18.50	ND
10-20-93	15:00	18.75	ND
10-20-93	15:00	19.00	ND
10-20-93	15:00	19.25	ND
10-20-93	15:00	19.50	ND
10-20-93	15:00	19.75	ND
10-20-93	15:00	20.00	ND
10-20-93	15:00	20.25	ND
10-20-93	15:00	20.50	ND
10-20-93	15:00	20.75	ND
10-20-93	15:00	21.00	ND
10-20-93	15:00	21.25	ND
10-20-93	15:00	21.50	ND
10-20-93	15:00	21.75	ND
10-20-93	15:00	22.00	ND
10-20-93	15:00	22.25	ND
10-20-93	15:00	22.50	ND
10-20-93	15:00	22.75	ND
10-20-93	15:00	23.00	ND
10-20-93	15:00	23.25	ND
10-20-93	15:00	23.50	ND
10-20-93	15:00	23.75	ND
10-20-93	15:00	24.00	ND
10-20-93	15:00	24.25	ND
10-20-93	15:00	24.50	ND
10-20-93	15:00	24.75	ND
10-20-93	15:00	25.00	ND
10-20-93	15:00	25.25	ND
10-20-93	15:00	25.50	ND
10-20-93	15:00	25.75	ND
10-20-93	15:00	26.00	ND
10-20-93	15:00	26.25	ND
10-20-93	15:00	26.50	ND
10-20-93	15:00	26.75	ND
10-20-93	15:00	27.00	ND
10-20-93	15:00	27.25	ND
10-20-93	15:00	27.50	ND
10-20-93	15:00	27.75	ND
10-20-93	15:00	28.00	ND
10-20-93	15:00	28.25	ND
10-20-93	15:00	28.50	ND
10-20-93	15:00	28.75	ND
10-20-93	15:00	29.00	ND
10-20-93	15:00	29.25	ND
10-20-93	15:00	29.50	ND
10-20-93	15:00	29.75	ND
10-20-93	15:00	30.00	ND
10-20-93	15:00	30.25	ND
10-20-93	15:00	30.50	ND
10-20-93	15:00	30.75	ND
10-20-93	15:00	31.00	ND
10-20-93	15:00	31.25	ND
10-20-93	15:00	31.50	ND
10-20-93	15:00	31.75	ND
10-20-93	15:00	32.00	ND
10-20-93	15:00	32.25	ND
10-20-93	15:00	32.50	ND
10-20-93	15:00	32.75	ND
10-20-93	15:00	33.00	ND
10-20-93	15:00	33.25	ND
10-20-93	15:00	33.50	ND
10-20-93	15:00	33.75	ND
10-20-93	15:00	34.00	ND
10-20-93	15:00	34.25	ND
10-20-93	15:00	34.50	ND
10-20-93	15:00	34.75	ND
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10-20-93	15:00	36.50	ND
10-20-93	15:00	36.75	ND
10-20-93	15:00	37.00	ND
10-20-93	15:00	37.25	ND
10-20-93	15:00	37.50	ND
10-20-93	15:00	37.75	ND
10-20-93	15:00	38.00	ND
10-20-93	15:00	38.25	ND
10-20-93	15:00	38.50	ND
10-20-93	15:00	38.75	ND
10-20-93	15:00	39.00	ND
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10-20-93	15:00	39.50	ND
10-20-93	15:00	39.75	ND
10-20-93	15:00	40.00	ND
10-20-93	15:00	40.25	ND
10-20-93	15:00	40.50	ND
10-20-93	15:00	40.75	ND
10-20-93	15:00	41.00	ND
10-20-93	15:00	41.25	ND
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10-20-93	15:00	42.50	ND
10-20-93	15:00	42.75	ND
10-20-93	15:00	43.00	ND
10-20-93	15:00	43.25	ND
10-20-93	15:00	43.50	ND
10-20-93	15:00	43.75	ND
10-20-93	15:00	44.00	ND
10-20-93	15:00	44.25	ND
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10-20-93	15:00	44.75	ND
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10-20-93	15:00	46.00	ND
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10-20-93	15:00	47.25	ND
10-20-93	15:00	47.50	ND
10-20-93	15:00	47.75	ND
10-20-93	15:00	48.00	ND
10-20-93	15:00	48.25	ND
10-20-93	15:00	48.50	ND
10-20-93	15:00	48.75	ND
10-20-93	15:00	49.00	ND
10-20-93	15:00	49.25	ND
10-20-93	15:00	49.50	ND
10-20-93	15:00	49.75	ND
10-20-93	15:00	50.00	ND
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10-20-93	15:00	51.25	ND
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10-20-93	15:00	52.75	ND
10-20-93	15:00	53.00	ND
10-20-93	15:00	53.25	ND
10-20-93	15:00	53.50	ND
10-20-93	15:00	53.75	ND
10-20-93	15:00	54.00	ND
10-20-93	15:00	54.25	ND
10-20-93	15:00	54.50	ND
10-20-93	15:00	54.75	ND
10-20-93	15:00	55.00	ND
10-20-93	15:00	55.25	ND
10-20-93	15:00	55.50	ND
10-20-93	15:00	55.75	ND
10-20-93	15:00	56.00	ND
10-20-93	15:00	56.25	ND
10-20-93	15:00	56.50	ND
10-20-93	15:00	56.75	ND
10-20-93	15:00	57.00	ND
10-20-93	15:00	57.25	ND
10-20-93	15:00	57.50	ND
10-20-93	15:00	57.75	ND
10-20-93	15:00	58.00	ND
10-20-93	15:00	58.25	ND
10-20-93	15:00	58.50	ND
10-20-93	15:00	58.75	ND
10-20-93	15:00	59.00	ND
10-20-93	15:00	59.25	ND
10-20-93	15:00	59.50	ND
10-20-93	15:00	59.75	ND
10-20-93	15:00	60.00	ND
10-20-93	15:00	60.25	ND
10-20-93	15:00	60.50	ND
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10-20-93	15:00	61.00	ND
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10-20-93	15:00	61.50	ND
10-20-93	15:00	61.75	ND
10-20-93	15:00	62.00	ND
10-20-93	15:00	62.25	ND
10-20-93	15:00	62.50	ND
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10-20-93	15:00	64.00	ND
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10-20-93	15:00	67.00	ND
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10-20-93	15:00	68.50	ND
10-20-93	15:00	68.75	ND
10-20-93	15:00	69.00	ND
10-20-93	15:00	69.25	ND
10-20-93	15:00	69.50	ND
10-20-93	15:00	69.75	ND
10-20-93	15:00	70.00	ND
10-20-93	15:00	70.25	ND
10-20-93	15:00	70.50	ND
10-20-93	15:00	70.75	ND
10-20-93	15:00	71.00	ND
10-20-93	15:00	71.25	ND
10-20-93	15:00	71.50	ND
10-20-93	15:00	71.75	ND
10-20-93	15:00	72.00	ND
10-20			



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

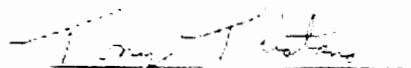
Client:	Amoco	Project #:	92140
Sample ID:	8 SB @ 17'	Date Sampled:	10-27-93
Laboratory Number:	6409	Date Received:	10-27-93
Sample Matrix:	Soil	Date Analyzed:	11-02-93
Preservative:	Cool	Date Reported:	11-02-93
Condition:	Cool & Intact	Analysis Needed:	TPH

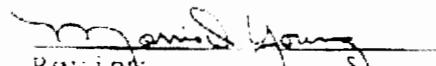
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----	-----	-----
Total Petroleum Hydrocarbons	ND	10.0

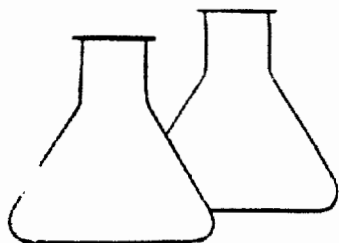
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

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.


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:	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. Jensen
Analyst

Tony Costas
Review

4948

FIVE CO. HWY. 66, FARMINGTON, N.Y. 11737

Doc 3179

FIELD REPORT CLOSURE VERIFICATION

32140

BRUINGTON GAS COM #2 SW 1/4 NW 1/4 (E)
 14 29N R12W 01M NPM 155 57 NM BLOW
 PAUL VILLAGUEZ
 - PAK MOG

11/10/93

12/15

Результаты

QUANTITY
SPECIAL EQUIP. CROUCH MESE
EQUIP. PRESIDENTIAL / INDUSTRIAL
EXCAVATOR PRIOR TO SPECIAL

PM LOCATED APPROXIMATELY 40 ⁵⁰YARDS S40W FROM WELL HEAD

100-443887-100
-R-15
NEWSP
21-200

According to Mr. VORSHOVER, ALL AREAS OF PIT HAVE BEEN PREVIOUSLY CLOSED WITH THE EXCEPTION OF THE 2 SANDSTONE BENCHES AND THE BOTTOM (BELOW GROUNDWATER).

THIS PIT IS A MARGINAL
EXCAVATION OF BOTH THE
BROWN PIT AND THE
OPPOSITE PIT

sample locations for
C. Velasquez

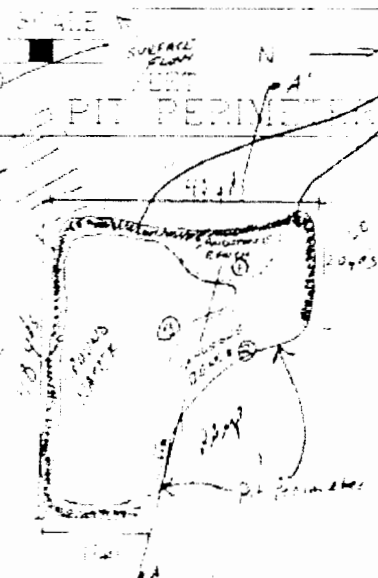
① SAMPLE OF TOP 1' SANDSTONE (VERY DISCONTINUOUS) (30% / 10% LAB)

② Sample 1: Sandstone (Gray discoloration) (Bentonite lag)

2. Sample of Groundwater For Laboratory Analysis

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

Recommend
agonist wells
for ground-
water fix-
ations.



AREAS THAT HAVE BEEN REPORTED AS CLOSED, THEN BACK FILLED.

Year	Age	Sex	Occupation	Education	Income	Health	Family	Social	Environment
1990	25	Male	Teacher	High School	\$15,000	Good	2 Children	Married	Urban
1995	30	Female	Nurse	College	\$20,000	Good	1 Child	Married	Urban
2000	35	Male	Engineer	University	\$25,000	Good	2 Children	Married	Urban
2005	40	Female	Manager	University	\$30,000	Good	1 Child	Married	Urban
2010	45	Male	Doctor	University	\$40,000	Good	2 Children	Married	Urban
2015	50	Female	Lawyer	University	\$50,000	Good	1 Child	Married	Urban
2020	55	Male	Executive	University	\$60,000	Good	2 Children	Married	Urban
2025	60	Female	Professor	University	\$70,000	Good	1 Child	Married	Urban
2030	65	Male	Retired	University	\$80,000	Good	2 Children	Married	Urban
2035	70	Female	Retired	University	\$90,000	Good	1 Child	Married	Urban
2040	75	Male	Retired	University	\$100,000	Good	2 Children	Married	Urban
2045	80	Female	Retired	University	\$110,000	Good	1 Child	Married	Urban
2050	85	Male	Retired	University	\$120,000	Good	2 Children	Married	Urban
2055	90	Female	Retired	University	\$130,000	Good	1 Child	Married	Urban
2060	95	Male	Retired	University	\$140,000	Good	2 Children	Married	Urban
2065	100	Female	Retired	University	\$150,000	Good	1 Child	Married	Urban

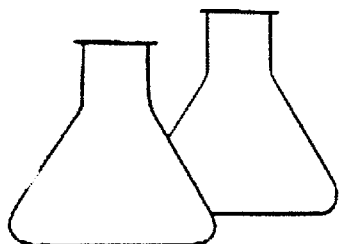
0010 107 PM
000 104 PM



10' 15' 20' 25' 30' 35' 40' 45' 50' 55' 60' 65' 70' 75' 80' 85' 90' 95' 100'

TRAVEL NOTES:

LAURENCE: Pale Yellow Crown, GRAY on
top 1" 2"



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

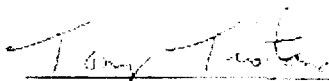
Client:	Amoco	Project #:	92140
Sample ID:	#1 @ 10' bgs	Date Sampled:	11-10-93
Laboratory Number:	6476	Date Received:	11-10-93
Sample Matrix:	Soil	Date Analyzed:	11-12-93
Preservative:	Cool	Date Reported:	11-12-93
Condition:	Cool & Intact	Analysis Needed:	TPH

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

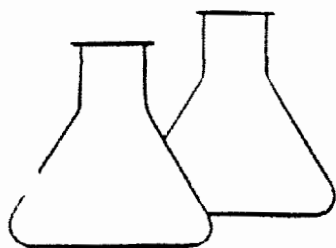
Comments: Bruington GC #1, Blow Pit, C4948



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:	#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

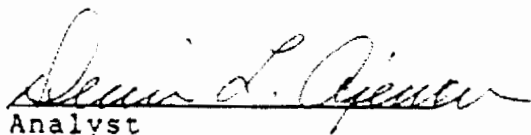
SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	101 %
	Bromofluorobenzene	102 %

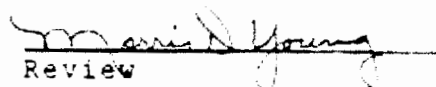
Method: Method 5030, Purge-and-Trap, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, July 1992

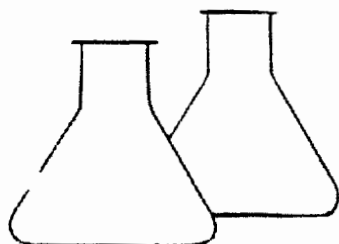
Method 8020, Aromatic Volatile Organics, Test Methods
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

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

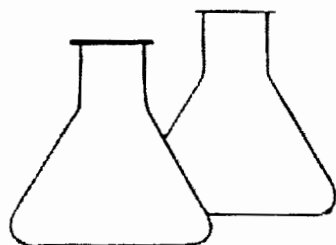
ND = Parameter not detected at the stated detection limit.
N/A = Not applicable

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 T. Tostano
Analyst

Maria 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:	#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

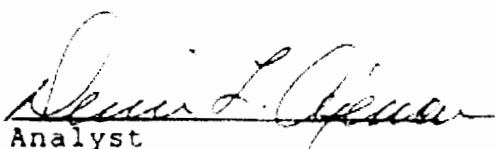
SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	98 %
	Bromofluorobenzene	101 %

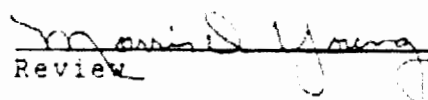
Method: Method 5030, Purge-and-Trap, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, July 1992

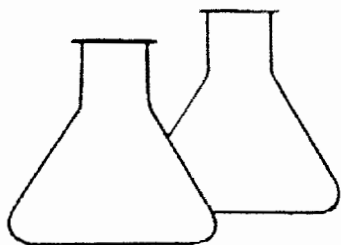
Method 8020, Aromatic Volatile Organics, Test Methods
for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

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

Devin L. Givens
Analyst

Morgan S. Young
Review

LMA REQUESTS TO PAUL U. ON 11-3-93: MPA IS O.K., OVM HIGH - CONTINUE EXCAVATION.

ENVIROTECH INC.

3798 US HWY. 81, FARMINGTON, NM 87401
505-633-0815

PIT NO. C4950

DATE 3146

FIELD REPORT CLOSURE VERIFICATION

NO. 92140
DATE 1-1-94

PROJECT: LEASE BRUINGTON G.C. WELL #1 SW/4, NW/4 (E) TWP. 29N R. 10W S. 10E
SEC. 14 TWP. 29N R. 10W S. 10E
CONTRACT: PAUL DELACROIX
EQUIPMENT: EXCAVATOR ENVIRONMENTAL: RED

SOIL REMEDIATION QUANTITY: EXCAVATION APPROX: 65' x 15' x 2' MAX. DEPTH
DISPOSAL FACILITY: CRASH MESA?
LAND USE: RESIDENTIAL CATTLE / INDUSTRIAL CATTLE
SURFACE CONDITION: EXCAVATED PRIOR TO ARRIVAL

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 160 FEET WEST FROM WELLHEAD. PIT IS EXCAVATED TO BEDROCK SANDSTONE. APPROX. 2' DEEP ON NORTH END TO APPROX 2' DEEP ON SOUTH END. - MINOR TRACES OF CONTAMINATION IN SANDSTONE SURFACE. VERIFICATION CANAL APPROX. 40' WEST OF PIT.

PIT SOILS CONSIST OF A WHITE GRAY CLAY SANDSTONE BEDROCK - SPAT CONTAMINATION STAIN APPARENT IN SURFACE OF SANDSTONE - DISAPPEARS DEEPER INTO THE ROCK.

FIELD VIDEO DESCRIPTION

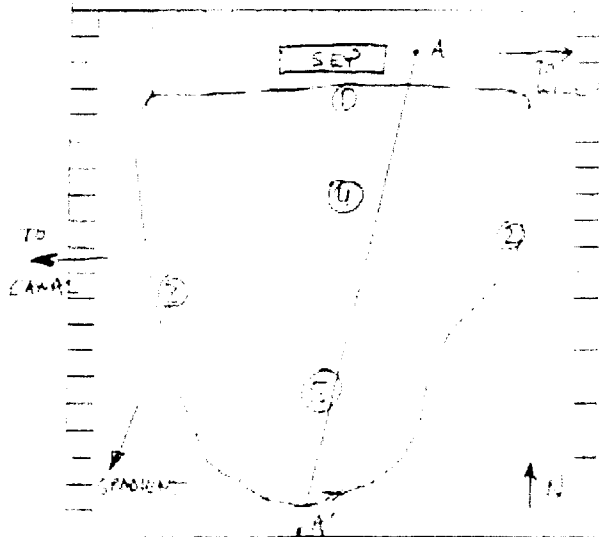
SAMPLE 2 CARBON WEIGHT, 100 FEET, 100 FEET, 100 FEET, 100 FEET, 100 FEET

DEPTH TO WATER ~ 20'
DIRECTION OF FLOW CANAL ~ 40'
FLOW IN THE WATER CANAL -
WATER LEVEL ~ 230
TIME OF DAY ~ 1000 PM 304.

SCALE

0 10 20 FEET

PIT PERIMETER



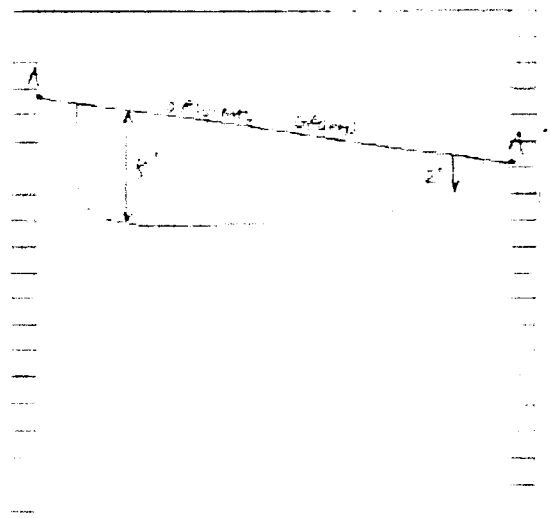
OVM RESULTS

NO.	DATE	TIME	DEPTH	WATER
1	N306'	4.12		
2	E304'	1717		
3	W303'	24		
4	N308'	555		
5	E304'	605		

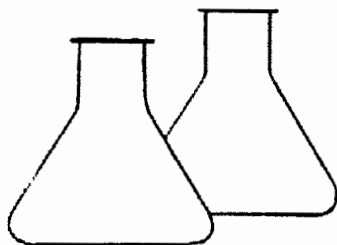
LAS

② 412.1

PIT PROFILE



TRAVEL NOTES: 10-29-93 0910 10-29-93 0830



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 Tistone
Analyst

Maris Young
Review

Denney
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.

FIELD PIT SITE ASSESSMENT FORM

GENERAL

Meter: 73746 Location: BRUINGTON GAS COM #1
 Operator #: 0203 Operator Name: AMOCO P/L District: BLOOMFIELD
 Coordinates: Letter: E Section 14 Township: 29 Range: 11
 Or Latitude _____ Longitude _____
 Pit Type: Dehydrator ☒ 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)

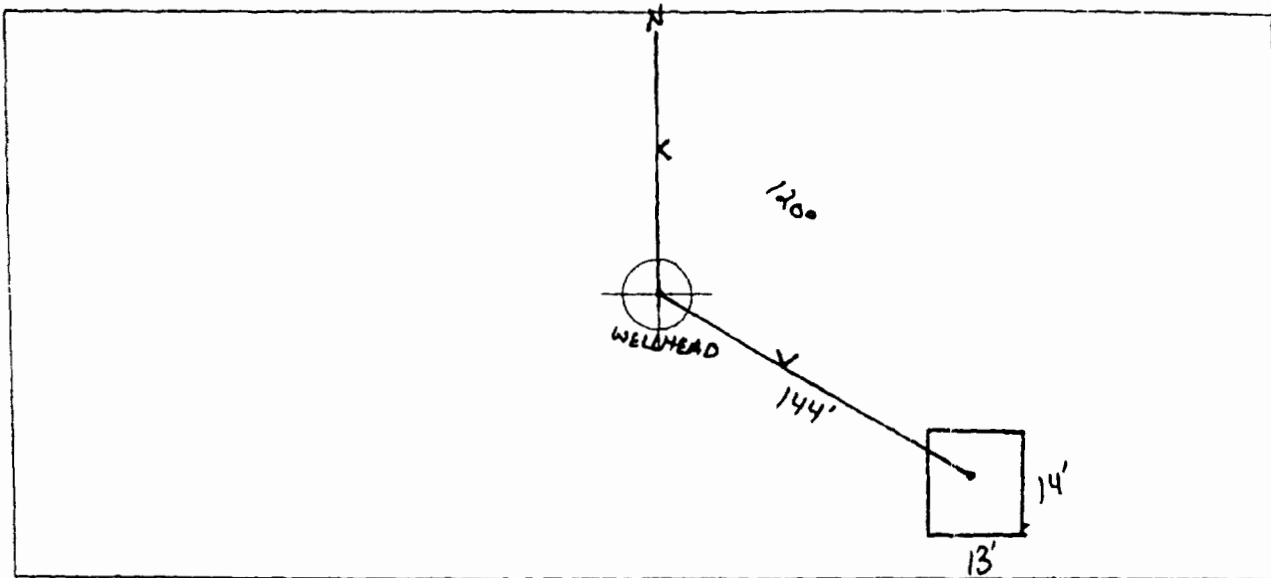
TOTAL HAZARD RANKING SCORE: 20 POINTS

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:

Bob Champion
 Signature

4.14.04
 Date

PHASE I EXCAVATION

FIELD REMEDIATION/CLOSURE FORM

GENERAL	Meter: <u>73746</u> Location: <u>Brownington 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): ⁹⁴³⁰³⁶ <u>JP5</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 PFD reading was 410 ppm at 75° pit size is 17x16x12 closed pit side walls + Floor still read Black.</u> Signature of Specialist: <u>James J. Penno</u>



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Soil

SAMPLE IDENTIFICATION

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

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	2.6	MG/KG				
TOLUENE	59	MG/KG				
ETHYL BENZENE	8.8	MG/KG				
TOTAL XYLENES	110	MG/KG				
TOTAL BTEX	180	MG/KG				
TPH (418.1)	432	MG/KG			2.63	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 Fard

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

04/15/92 12:25

Sample identification

945036

Initial mass of sample, g

2.030

Volume of sample after extraction, ml

29.000

Petroleum hydrocarbons, ppm

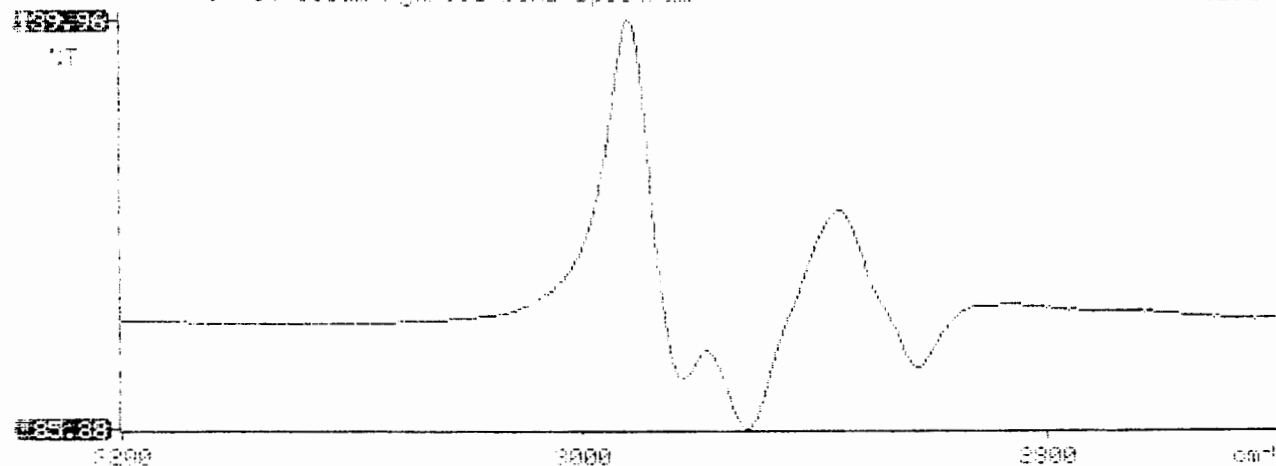
432.945

Net absorbance of hydrocarbons (2930 cm⁻¹)

0.068

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.

COPY

ORIGINAL
INVOICE

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

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

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 EPA Sample # 945008
to 945027
Authorized by: JOHN LAMBDIN
P.O. Number: 38822 945032, 945033, 945035 to 945039, 945041
to 945050, 945034 and 945040
Samples: 39 NON-AQ received 05/03/94
Project: PIT CLOSURE
Project No.: 24324

TEST DESCRIPTION	QUANTITY	PRICE	TOTAL
EPA METHOD 8015M/8020	-10 % 1	125.00	112.50
BTEX/MTBE (8020)	-10 % 38	80.00	2736.00
NM GROSS RECEIPTS TAX	1	165.57	165.57
***** Amount due: 3014.07 ***** APPROVED FOR PAYMENT DATE 5/17/94 CHARGE 108-52452-24-0001-0012-SI-2010 541-3531 RECEIVED MAY 1994			

TERMS: Net 30 Days - 1%% Finance Charge on Balance Due over 30 days.

PHASE II

RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL

4000 Monroe Road

Albuquerque, New Mexico 87401

(505) 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 Berington Gas Com #1 73746

Well Logged By CM Chance

Personnel On-Site K. Padilla, F. Rivera, D. Tsalatzis

Contractors On-Site

Client Personnel On-Site

Elevation

Borehole Location

GWL Depth

Logged By CM CHANCE

Drilled By M. Bonohus, K. Padilla

Date/Time Started 6/13/95 - 0930

Date/Time Completed 6/13/95 - 1050

Drilling Method 4 1/4" ID HSA

Air Monitoring Method PID, CGI

Depth (feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: PPM			Drilling Conditions & Blow Counts
							BZ	BH	HS	
0				Backfill to 12'						
5										
10										
15	1	15-17	6"	Blk silty CLAY, with xtn parting, med stiff, sl moist, ader			0	26	$\frac{291}{298}$	0940 hr
20	2	20-22	6"	Blk silty SAND, vf-f sand, tr med sand med dens, sl moist, ader			3	69	$\frac{28}{222}$	0949
25	3	25-25.5	3"	lt br SANDSTONE, med sand, sl xtn, v. hard			0	40	$\frac{12}{1007}$	hard drilling Ref-sol @ 25.5
30				TOB 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

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

Field Remarks:

RESULTS

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

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

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

DF = Dilution Factor Used

Approved By:

INGVZPIT.XLS

Date:

6/28/95
7/17/97



FIELD SERVICES LABORATORY
ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

Phase II

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	602000 CMC50	946892
MTR CODE SITE NAME:	602000 73746	N/A
SAMPLE DATE TIME (Hrs):	6-13-95	602000 1007
Project SAMPLED BY:	602000 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	602000 Light tan Fine Sand

REMARKS:

RESULTS

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

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

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

All Results attached.

F = Dilution Factor Used

Approved By: J.F.

Date: 6/28/95



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : EL PASO NATURAL GAS CO. ATI I.D.: 506376
PROJECT # : 24324
PROJECT NAME : PIT CLOSURE/PHASE II

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

PARAMETER	UNITS	01	02	03
BENZENE	MG/KG	<0.025	<0.025	<0.025
TOLUENE	MG/KG	<0.025	<0.025	<0.025
ETHYLBENZENE	MG/KG	<0.025	<0.025	<0.025
TOTAL XYLENES	MG/KG	<0.025	<0.025	<0.025

SURROGATE:

BROMOFLUOROBENZENE (%) 111 97 97



Analytical Technologies, Inc.

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

ATI I.D. 506376

June 21, 1995

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

Project Name/Number: PIT CLOSURE/PHASE II 24324

Attention: John Lambdin

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

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

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jt

Enclosure





CHAIN OF CUSTODY RECORD

[illegible]

 Lodestar Services, Incorporated
PO Box 4465, Durango, CO 81302 Office (970) 946-1093

Memo

To: Martin Nee
From: Ashley Ager
CC: Kim Champlin, File
Date: 11/06/09
Re: Geoprobe subsurface investigation at Bruington GC #1

On October 27-28, 2009, Lodestar Services conducted a geoprobe subsurface investigation at the Bruington GC #1. 25 boreholes were completed as shown on the attached site map. Boreholes were terminated once clean soil (<100 ppm PID reading) was reached or at an impenetrable compacted coarse sand layer. The layer has been identified as bedrock in previous reports; however, it is permeable and is impacted in various places.

The vertical extent of impacted soil was not completely delineated and no groundwater wells were installed due to the fact that the geoprobe was unable to penetrate the compacted sand layer. A hollow stem auger is required to finish the subsurface investigation. Lodestar is obtaining estimated costs from Kyvek to install two monitoring wells and drill an additional three boreholes at the site. The costs will be compared with the original geoprobe survey estimate and adjusted as required.

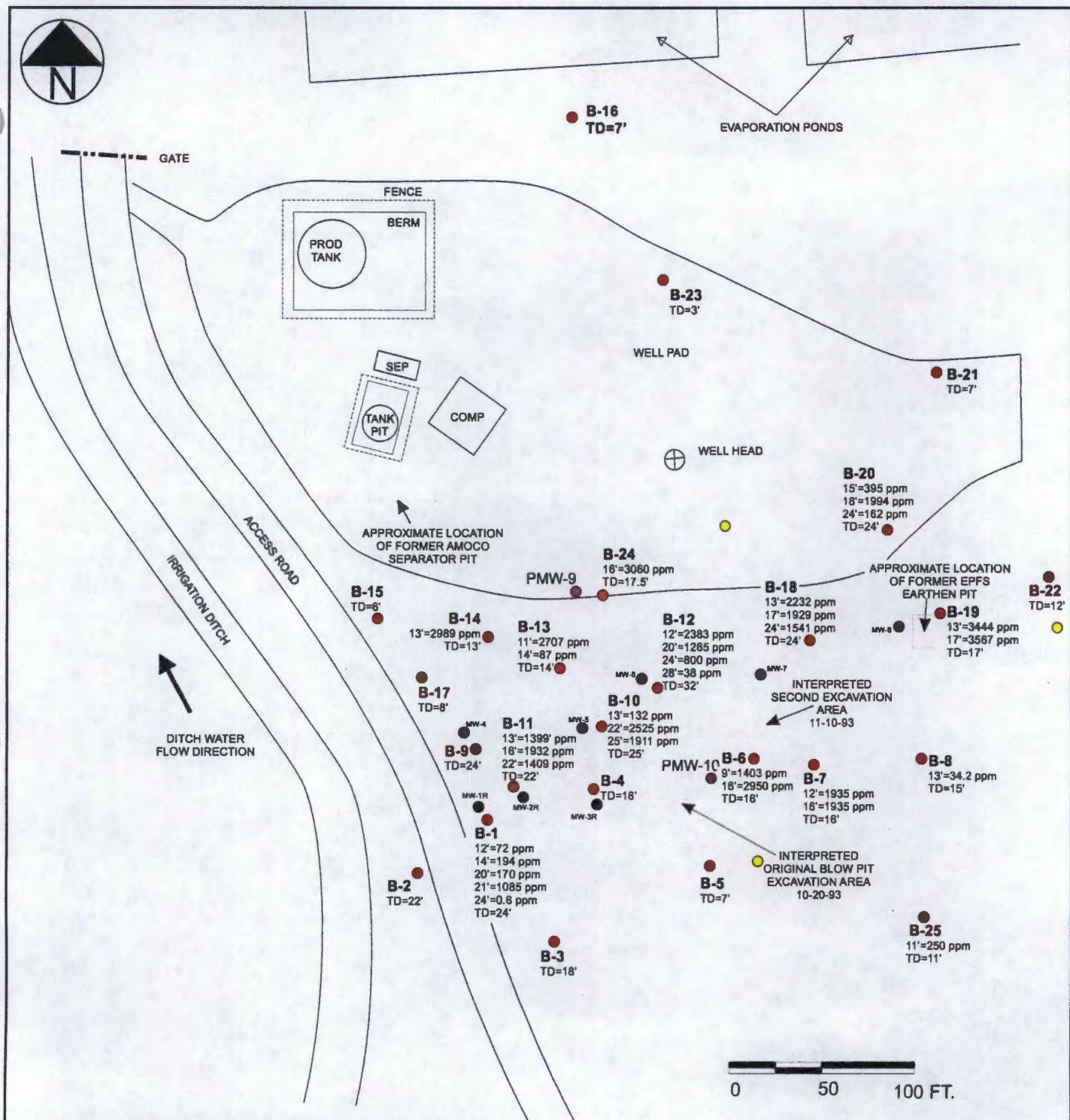
Additional maps are attached to show approximate depth to impacted soil and approximate depth to the coarse sand layer. Proposed monitoring well and auger borehole locations are also shown. Please note that the isopleths are hung on the topographic ground surface, not on a datum. This was done to better show amount of clean overburden.

I will submit updated costs and an additional work plan to you next week.

Lodestar appreciates the opportunity to conduct this work. Please call me with any questions or concerns you may have.

Sincerely,

Ashley Ager



NOTES:

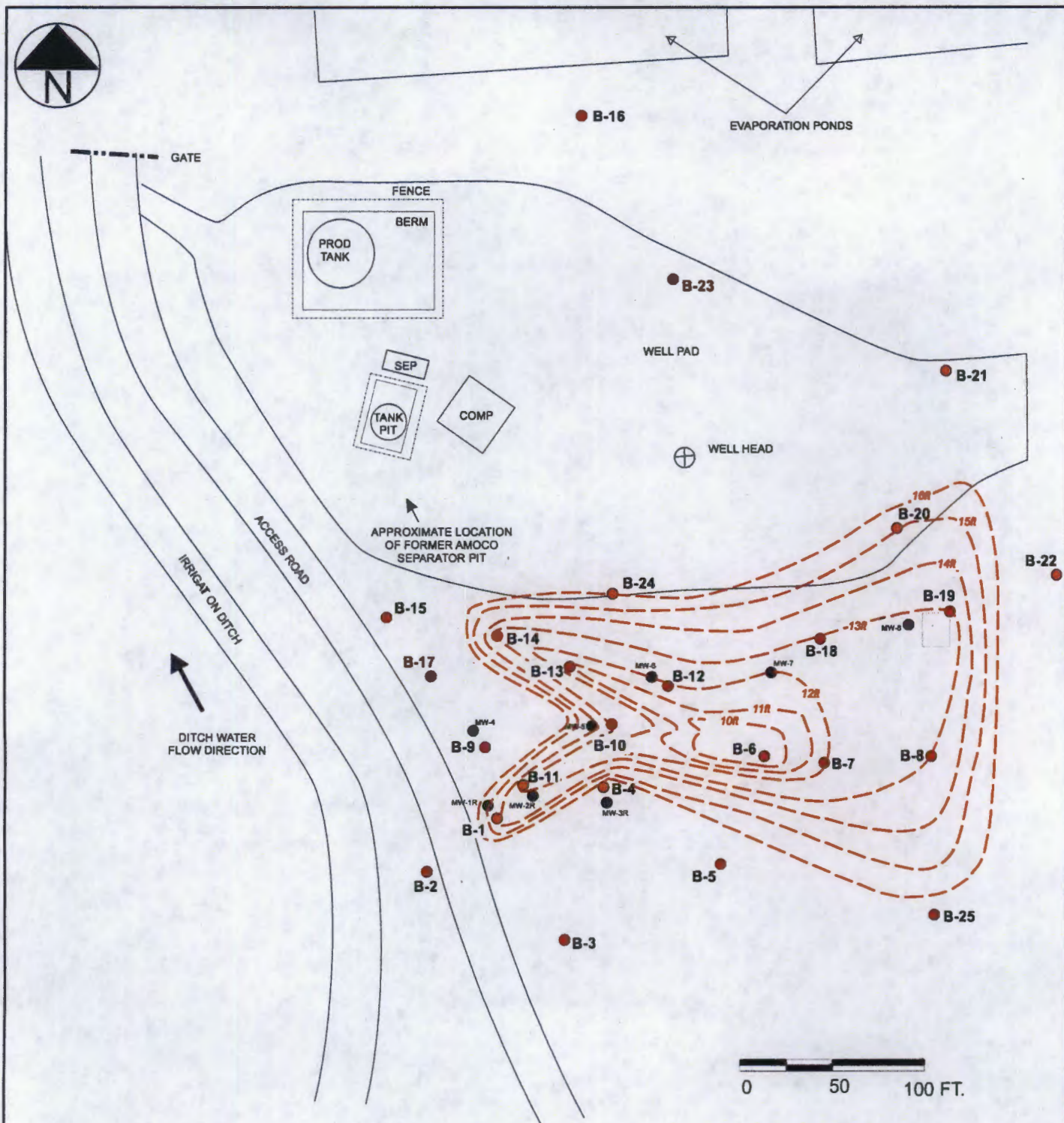
1. Monitoring well locations are only as accurate as the GPS instruments and software used to plot their positions. All other structures displayed on the site map are solely for reference and may not be to scale.

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 GROUNDWATER
DRAWN BY: DMH
REVISED: 11/01/09

Geoprobe Soil Boring
Locations
10/28/09



NOTES:

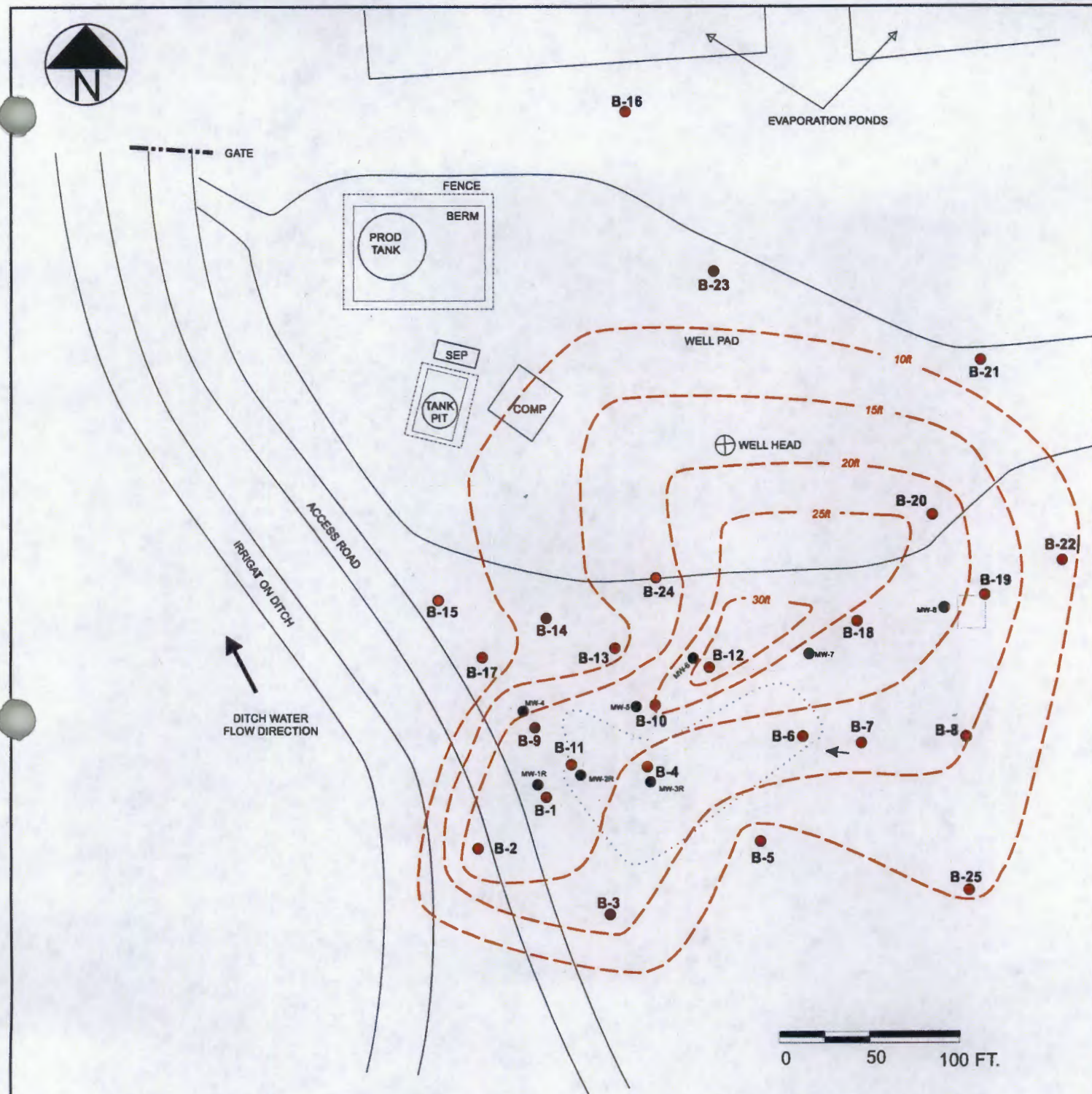
1. Monitoring well locations are only as accurate as the GPS instruments and software used to plot their positions. All other structures displayed on the site map are solely for reference and may not be to scale.

Lodestar Services, Inc
PO Box 4465
Durango, CO 81302

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

PROJECT: XTO Bruington GC #1
DRAWN BY: DMH
REVISED: 03 Nov 09

Isopleth showing
Depth to impacted soil
03 Nov 09



— = Isopleth showing depth to impenetrable coarse sand layer
 ● = Borehole Site

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: DMH
 REVISED: 03 Nov 09

Depth to Impenetrable layer
 03 Nov 09

Hall Environmental Analysis Laboratory, Inc.

Date: 13-Mar-09

CLIENT: XTO Energy
 Lab Order: 0903056
 Project: Ground Water
 Lab ID: 0903056-06

Client Sample ID: Bruington GC1 MW-6
 Collection Date: 3/3/2009 9:15:00 AM
 Date Received: 3/4/2009
 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	19000	400		µg/L	400	3/6/2009 1:07:23 AM
Toluene	20000	400		µg/L	400	3/6/2009 1:07:23 AM
Ethylbenzene	880	400		µg/L	400	3/6/2009 1:07:23 AM
Xylenes, Total	9300	800		µg/L	400	3/6/2009 1:07:23 AM
Surr: 4-Bromofluorobenzene	94.0	65.9-130		%REC	400	3/6/2009 1:07:23 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: 13-Mar-09

CLIENT: XTO Energy
Lab Order: 0903056
Project: Ground Water
Lab ID: 0903056-07

Client Sample ID: Bruington GC1 MW-7
Collection Date: 3/3/2009 9:22:00 AM
Date Received: 3/4/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	11000	200		µg/L	200	3/6/2009 1:37:53 AM
Toluene	7800	200		µg/L	200	3/6/2009 1:37:53 AM
Ethylbenzene	660	200		µg/L	200	3/6/2009 1:37:53 AM
Xylenes, Total	4500	400		µg/L	200	3/6/2009 1:37:53 AM
Surr: 4-Bromofluorobenzene	101	65.9-130		%REC	200	3/6/2009 1:37:53 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

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Hall Environmental Analysis Laboratory, Inc.

Date: 13-Mar-09

CLIENT: XTO Energy
Lab Order: 0903056
Project: Ground Water
Lab ID: 0903056-08

Client Sample ID: Bruington GC1 MW-8
Collection Date: 3/3/2009 9:55:00 AM
Date Received: 3/4/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	16000	200		µg/L	200	3/6/2009 2:08:23 AM
Toluene	12000	200		µg/L	200	3/6/2009 2:08:23 AM
Ethylbenzene	660	200		µg/L	200	3/6/2009 2:08:23 AM
Xylenes, Total	5700	400		µg/L	200	3/6/2009 2:08:23 AM
Surr: 4-Bromofluorobenzene	85.0	65.9-130		%REC	200	3/6/2009 2:08:23 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: 13-Mar-09

CLIENT: XTO Energy
Lab Order: 0903056
Project: Ground Water
Lab ID: 0903056-09

Client Sample ID: Bruington GC1 MW-5
Collection Date: 3/3/2009 10:40:00 AM
Date Received: 3/4/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	9800	100		µg/L	100	3/6/2009 6:14:36 PM
Toluene	ND	100		µg/L	100	3/6/2009 6:14:36 PM
Ethylbenzene	450	100		µg/L	100	3/6/2009 6:14:36 PM
Xylenes, Total	920	200		µg/L	100	3/6/2009 6:14:36 PM
Surr: 4-Bromofluorobenzene	89.3	65.9-130		%REC	100	3/6/2009 6:14:36 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

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Hall Environmental Analysis Laboratory, Inc.

Date: 13-Mar-09

CLIENT: XTO Energy
Lab Order: 0903056
Project: Ground Water
Lab ID: 0903056-10

Client Sample ID: Bruington GC1 MW-2R
Collection Date: 3/3/2009 10:35:00 AM
Date Received: 3/4/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	5500	400		µg/L	400	3/6/2009 3:09:12 AM
Toluene	1400	400		µg/L	400	3/6/2009 3:09:12 AM
Ethylbenzene	470	400		µg/L	400	3/6/2009 3:09:12 AM
Xylenes, Total	2900	800		µg/L	400	3/6/2009 3:09:12 AM
Surr: 4-Bromofluorobenzene	94.8	65.9-130		%REC	400	3/6/2009 3:09:12 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

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Hall Environmental Analysis Laboratory, Inc.

Date: 13-Mar-09

CLIENT:	XTO Energy	Client Sample ID:	Bruington GC1 MW-1R
Lab Order:	0903056	Collection Date:	3/3/2009 11:40:00 AM
Project:	Ground Water	Date Received:	3/4/2009
Lab ID:	0903056-11	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	1.0		µg/L	1	3/6/2009 4:09:55 AM
Toluene	ND	1.0		µg/L	1	3/6/2009 4:09:55 AM
Ethylbenzene	ND	1.0		µg/L	1	3/6/2009 4:09:55 AM
Xylenes, Total	ND	2.0		µg/L	1	3/6/2009 4:09:55 AM
Surr: 4-Bromofluorobenzene	90.1	65.9-130		%REC	1	3/6/2009 4:09:55 AM

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

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Hall Environmental Analysis Laboratory, Inc.

Date: 13-Mar-09

CLIENT: XTO Energy
Lab Order: 0903056
Project: Ground Water
Lab ID: 0903056-12

Client Sample ID: Bruington GC1 MW-4
Collection Date: 3/3/2009 10:56:00 AM
Date Received: 3/4/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	1.0		µg/L	1	3/6/2009 4:40:18 AM
Toluene	ND	1.0		µg/L	1	3/6/2009 4:40:18 AM
Ethylbenzene	ND	1.0		µg/L	1	3/6/2009 4:40:18 AM
Xylenes, Total	ND	2.0		µg/L	1	3/6/2009 4:40:18 AM
Surr: 4-Bromofluorobenzene	78.6	65.9-130		%REC	1	3/6/2009 4:40:18 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

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Hall Environmental Analysis Laboratory, Inc.

Date: 13-Mar-09

CLIENT: XTO Energy
Lab Order: 0903056
Project: Ground Water
Lab ID: 0903056-13

Client Sample ID: Bruington GCI MW-3R
Collection Date: 3/3/2009 11:50:00 AM
Date Received: 3/4/2009
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	1.0		µg/L	1	3/6/2009 5:10:42 AM
Toluene	ND	1.0		µg/L	1	3/6/2009 5:10:42 AM
Ethylbenzene	ND	1.0		µg/L	1	3/6/2009 5:10:42 AM
Xylenes, Total	ND	2.0		µg/L	1	3/6/2009 5:10:42 AM
Surr: 4-Bromofluorobenzene	76.3	65.9-130		%REC	1	3/6/2009 5:10:42 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

Page 13 of 13

QA/QC SUMMARY REPORT

Client: XTO Energy
Project: Ground Water

Work Order: 0903056

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 0903056-13A MSD		MSD			Batch ID: R32670		Analysis Date:		3/5/2009 8:30:29 PM
Benzene	18.39	µg/L	1.0	92.0	85.9	113	1.99	27	
Toluene	18.68	µg/L	1.0	93.4	86.4	113	2.57	19	
Ethylbenzene	19.24	µg/L	1.0	96.2	83.5	118	3.14	10	
Xylenes, Total	58.70	µg/L	2.0	97.8	83.4	122	3.65	13	
Sample ID: 5ML RB		MBLK			Batch ID: R32670		Analysis Date:		3/5/2009 9:37:36 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: R32670		Analysis Date:		3/5/2009 9:00:58 PM
Benzene	17.20	µg/L	1.0	86.0	85.9	113			
Toluene	17.27	µg/L	1.0	86.4	86.4	113			S
Ethylbenzene	17.87	µg/L	1.0	89.3	83.5	118			
Xylenes, Total	54.36	µg/L	2.0	90.6	83.4	122			
Sample ID: 0903056-13A MS		MS			Batch ID: R32670		Analysis Date:		3/5/2009 8:00:04 PM
Benzene	18.76	µg/L	1.0	93.8	85.9	113			
Toluene	19.16	µg/L	1.0	95.8	86.4	113			
Ethylbenzene	19.85	µg/L	1.0	99.3	83.5	118			
Xylenes, Total	60.88	µg/L	2.0	101	83.4	122			
Method: SM 2540 C: Total Dissolved Solids									
Sample ID: MB-18469		MBLK			Batch ID: 18469		Analysis Date:		3/10/2009
Total Dissolved Solids	ND	mg/L	20						
Sample ID: LCS-18469		LCS			Batch ID: 18469		Analysis Date:		3/10/2009
Total Dissolved Solids	976.0	mg/L	20	97.6	80	120			

Qualifiers:

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

Page 1

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name XTO ENERGY

Date Received:

3/4/2009

Work Order Number 0903056

Received by: ARS

Checklist completed by:

Signature [Signature]

Date 3/4/09

Sample ID labels checked by:

Initials TJ

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 ☒

4° <6° C Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: Per Ashley Neal #3 should be GC-1A instead of

GC-1A TS 3/4/09

Corrective Action _____

[illegible]

4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107
www.hallenvironmental.com

[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 notated on the analytical report.

Hall Environmental Analysis Laboratory, Inc.

Date: 10-Jul-09

CLIENT: XTO Energy Lab Order: 0906551
 Project: Ground Water

Lab ID: 0906551-01 Collection Date: 6/24/2009 4:42:00 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	23000	400		µg/L	400	7/3/2009 12:18:59 PM
Toluene	18000	400		µg/L	400	7/3/2009 12:18:59 PM
Ethylbenzene	900	400		µg/L	400	7/3/2009 12:18:59 PM
Xylenes, Total	9200	800		µg/L	400	7/3/2009 12:18:59 PM
Surr: 4-Bromofluorobenzene	98.4	65.9-130		%REC	400	7/3/2009 12:18:59 PM

Lab ID: 0906551-02 Collection Date: 6/24/2009 2:57:00 PM

Client Sample ID: Bruington GC #1-MW-4 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	7/3/2009 12:49:28 PM
Toluene	ND	1.0		µg/L	1	7/3/2009 12:49:28 PM
Ethylbenzene	ND	1.0		µg/L	1	7/3/2009 12:49:28 PM
Xylenes, Total	ND	2.0		µg/L	1	7/3/2009 12:49:28 PM
Surr: 4-Bromofluorobenzene	88.6	65.9-130		%REC	1	7/3/2009 12:49:28 PM

Lab ID: 0906551-03 Collection Date: 6/24/2009 4:12:00 PM

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: HL
Benzene	18000	400		µg/L	400	7/7/2009 12:36:32 PM
Toluene	2200	100		µg/L	100	7/6/2009 8:38:11 PM
Ethylbenzene	970	100		µg/L	100	7/6/2009 8:38:11 PM
Xylenes, Total	6500	300		µg/L	100	7/6/2009 8:38:11 PM
Surr: 4-Bromofluorobenzene	115	80.4-119		%REC	100	7/6/2009 8:38:11 PM

Lab ID: 0906551-04 Collection Date: 6/24/2009 4:28:00 PM

Client Sample ID: Bruington GC #1-MW-5 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: HL
Benzene	25000	400		µg/L	400	7/7/2009 1:05:42 PM
Toluene	46	10		µg/L	10	7/7/2009 1:34:54 PM
Ethylbenzene	40	10		µg/L	10	7/7/2009 1:34:54 PM
Xylenes, Total	1400	30		µg/L	10	7/7/2009 1:34:54 PM
Surr: 4-Bromofluorobenzene	108	80.4-119		%REC	10	7/7/2009 1:34:54 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: 10-Jul-09

CLIENT: XTO Energy
Project: Ground Water

Lab Order: 0906551

Lab ID: 0906551-05

Collection Date: 6/24/2009 5:10:00 PM

Client Sample ID: Bruington GC #1-MW-8

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: HL
Benzene	21000	400		µg/L	400	7/7/2009 2:33:28 PM
Toluene	13000	200		µg/L	200	7/6/2009 9:36:23 PM
Ethylbenzene	690	200		µg/L	200	7/6/2009 9:36:23 PM
Xylenes, Total	5700	600		µg/L	200	7/6/2009 9:36:23 PM
Surr: 4-Bromofluorobenzene	110	80.4-119		%REC	200	7/6/2009 9:36:23 PM

Lab ID: 0906551-06

Collection Date: 6/24/2009 5:15:00 PM

Client Sample ID: Bruington GC #1-MW-7

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: HL
Benzene	21000	400		µg/L	400	7/7/2009 3:02:50 PM
Toluene	14000	200		µg/L	200	7/7/2009 12:01:57 AM
Ethylbenzene	840	200		µg/L	200	7/7/2009 12:01:57 AM
Xylenes, Total	6400	600		µg/L	200	7/7/2009 12:01:57 AM
Surr: 4-Bromofluorobenzene	114	80.4-119		%REC	200	7/7/2009 12:01:57 AM

Lab ID: 0906551-07

Collection Date: 6/24/2009 3:05:00 PM

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

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: HL
Benzene	ND	1.0		µg/L	1	7/7/2009 12:31:01 AM
Toluene	ND	1.0		µg/L	1	7/7/2009 12:31:01 AM
Ethylbenzene	ND	1.0		µg/L	1	7/7/2009 12:31:01 AM
Xylenes, Total	ND	3.0		µg/L	1	7/7/2009 12:31:01 AM
Surr: 4-Bromofluorobenzene	110	80.4-119		%REC	1	7/7/2009 12:31:01 AM

Lab ID: 0906551-08

Collection Date: 6/24/2009 3:50:00 PM

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

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: HL
Benzene	7.2	1.0		µg/L	1	7/7/2009 1:00:04 AM
Toluene	ND	1.0		µg/L	1	7/7/2009 1:00:04 AM
Ethylbenzene	ND	1.0		µg/L	1	7/7/2009 1:00:04 AM
Xylenes, Total	ND	3.0		µg/L	1	7/7/2009 1:00:04 AM
Surr: 4-Bromofluorobenzene	104	80.4-119		%REC	1	7/7/2009 1:00:04 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

at: XTO Energy
Project: Ground Water

Work Order: 0906551

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 5ML RB		MBLK							
			Batch ID: R34371				Analysis Date:		7/2/2009 9:12:19 AM
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: b 45		MBLK							
			Batch ID: R34371				Analysis Date:		7/3/2009 7:44:58 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: R34371				Analysis Date:		7/3/2009 12:31:24 AM
Benzene	20.68	µg/L	1.0	103	85.9	113			
Toluene	21.06	µg/L	1.0	105	86.4	113			
Ethylbenzene	21.65	µg/L	1.0	108	83.5	118			
Xylenes, Total	65.27	µg/L	2.0	109	83.4	122			
Sample ID: 100NG BTEX LCS-II		LCS							
			Batch ID: R34371				Analysis Date:		7/3/2009 4:22:21 PM
Benzene	20.41	µg/L	1.0	102	85.9	113			
Toluene	20.91	µg/L	1.0	105	86.4	113			
Ethylbenzene	21.26	µg/L	1.0	108	83.5	118			
Xylenes, Total	63.49	µg/L	2.0	108	83.4	122			
Method: EPA Method 8260: Volatiles Short List									
Sample ID: 5ml rb		MBLK							
			Batch ID: R34400				Analysis Date:		7/6/2009 9:24:30 AM
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: b5		MBLK							
			Batch ID: R34400				Analysis Date:		7/6/2009 11:32:46 PM
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 100ng lcs		LCS							
			Batch ID: R34400				Analysis Date:		7/6/2009 10:22:25 AM
Benzene	20.77	µg/L	1.0	104	86.8	120			
Toluene	19.69	µg/L	1.0	98.4	64.1	127			
Sample ID: 100ng lcs-b		LCS							
			Batch ID: R34400				Analysis Date:		7/6/2009 11:03:51 PM
Benzene	21.00	µg/L	1.0	105	86.8	120			
Toluene	20.32	µg/L	1.0	102	64.1	127			

Modifiers:

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:

6/28/2009

Work Order Number 0906551

Received by: TLS

Sample ID labels checked by:

Checklist completed by:

Signature

Date

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?	3.3°	<6° C Acceptable		
COMMENTS:	If given sufficient time to cool.			

Number of preserved bottles checked for pH:

<2 >12 unless noted below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record									
Client: XTO Energy		Project Name: Groundwater		Turn-Around Time: ☒ Standard ☐ Rush					
Mailing Address: 382 CR 3100		Project #: 1		Project Manager: Ashley Taylor					
Phone #: 505-333-3207		Project Manager: Ashley Taylor		Sampler: adh					
email or Fax#:		Project Manager: Ashley Taylor		Sampler: adh					
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)		Accreditation: NELAP ☐ Other		Sample ID: 33					
Date		Time		Matrix		Sample Request ID		Preservative Type	
24 JUN 11	1642	aq	Burroughs GC#1-HW-6	3/glass	NONE				
"	1457	aq	Burroughs GC#1-HW-4	3/glass	NONE				
"	1612	aq	Burroughs GC#1-HW-2R	3/glass	NONE				
"	16:28	aq	Burroughs GC#1-HW-5	3/glass	NONE				
"	1517:10	aq	Burroughs GC#1-HW-8	3/glass	NONE				
"	17:15	aq	Burroughs GC#1-HW-7	3/glass	NONE				
"	1505	aq	Burroughs GC#1-HW-1R	3/glass	NONE				
"	15:50	aq	Burroughs GC#3-HW-3F	3/glass	NONE				
Date: 24 JUN 11		Time: 1700		Relinquished by: [Signature]		Received by: [Signature]		Date: 24 JUN 11	
Date: 24 JUN 11		Time: 1700		Relinquished by: [Signature]		Received by: [Signature]		Date: 24 JUN 11	

4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107
www.hallenvironmental.com

Phone #: 505-333-3207	Project Manager: Ashley Taylor					
Email or Fax#:						
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)						
Accreditation: ☐ NELAP ☐ Other _____	Sampler: adh					
☐ EDO (Type) _____	SAMPLES TO BE ANALYZED					
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	
24 JUN 11	1642	aq.	Burlington GC#1-HW-L	3/glass	NONE	1
"	1457	aq.	Burlington GC#1-HW-4	3/glass	NONE	2
"	1612	aq.	Burlington GC#1-HW-2R	3/glass	NONE	3
"	16:28	aq.	Burlington GC#1-HW-5	3/glass	NONE	4
"	1517:10	aq.	Burlington GC#1-HW-B	3/glass	NONE	5
"	17:15	aq.	Burlington GC#1-HW-7	3/glass	NONE	6
"	1505	aq.	Burlington GC#1-HW-1R	3/glass	NONE	7
"	15:50	aq.	Burlington GC#3-HW-3F	3/glass	NONE	8
Date: 24 Jun 11	Time: 1700	Relinquished by: [Signature]		Received by: [Signature]		Date: 24 Jun 11 Time: 1700
Date:	Time:	Relinquished by:		Received by:		Date: 24 Jun 11 Time: 1700

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: 28-Sep-09

CLIENT: XTO Energy
Project: Ground Water

Lab Order: 0909312

Lab ID: 0909312-01

Collection Date: 9/15/2009 2:47:00 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	15000	400		µg/L	400	9/24/2009 11:32:13 PM
Toluene	7800	400		µg/L	400	9/24/2009 11:32:13 PM
Ethylbenzene	590	400		µg/L	400	9/24/2009 11:32:13 PM
Xylenes, Total	4900	800		µg/L	400	9/24/2009 11:32:13 PM
Surr: 4-Bromofluorobenzene	99.9	65.9-130		%REC	400	9/24/2009 11:32:13 PM

Lab ID: 0909312-02

Collection Date: 9/15/2009 2:04:00 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	18000	400		µg/L	400	9/25/2009 12:02:33 AM
Toluene	14000	400		µg/L	400	9/25/2009 12:02:33 AM
Ethylbenzene	740	400		µg/L	400	9/25/2009 12:02:33 AM
Xylenes, Total	7700	800		µg/L	400	9/25/2009 12:02:33 AM
Surr: 4-Bromofluorobenzene	97.4	65.9-130		%REC	400	9/25/2009 12:02:33 AM

Lab ID: 0909312-03

Collection Date: 9/15/2009 10:46:00 AM

Client Sample ID: ~~EJ Johnson GIE-MW-5~~

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	9/25/2009 12:32:55 AM
Toluene	ND	1.0		µg/L	1	9/25/2009 12:32:55 AM
Ethylbenzene	ND	1.0		µg/L	1	9/25/2009 12:32:55 AM
Xylenes, Total	ND	2.0		µg/L	1	9/25/2009 12:32:55 AM
Surr: 4-Bromofluorobenzene	95.0	65.9-130		%REC	1	9/25/2009 12:32:55 AM

Lab ID: 0909312-04

Collection Date: 9/15/2009 2:54:00 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	15000	400		µg/L	400	9/25/2009 1:03:05 AM
Toluene	4900	400		µg/L	400	9/25/2009 1:03:05 AM
Ethylbenzene	640	400		µg/L	400	9/25/2009 1:03:05 AM
Xylenes, Total	3600	800		µg/L	400	9/25/2009 1:03:05 AM
Surr: 4-Bromofluorobenzene	101	65.9-130		%REC	400	9/25/2009 1:03:05 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: 28-Sep-09

CLIENT: XTO Energy
Project: Ground Water

Lab Order: 0909312

Lab ID: 0909312-05
Client Sample ID: Bruington GC #1-MW-4

Collection Date: 9/15/2009 1:00:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	9/25/2009 1:33:29 AM
Toluene	ND	1.0		µg/L	1	9/25/2009 1:33:29 AM
Ethylbenzene	ND	1.0		µg/L	1	9/25/2009 1:33:29 AM
Xylenes, Total	ND	2.0		µg/L	1	9/25/2009 1:33:29 AM
Surr: 4-Bromofluorobenzene	94.2	65.9-130		%REC	1	9/25/2009 1:33:29 AM

Lab ID: 0909312-06
Client Sample ID: Bruington GC #1-MW-2R

Collection Date: 9/15/2009 1:22:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	18000	400		µg/L	400	9/25/2009 2:34:15 AM
Toluene	760	400		µg/L	400	9/25/2009 2:34:15 AM
Ethylbenzene	850	400		µg/L	400	9/25/2009 2:34:15 AM
Xylenes, Total	4400	800		µg/L	400	9/25/2009 2:34:15 AM
Surr: 4-Bromofluorobenzene	93.3	65.9-130		%REC	400	9/25/2009 2:34:15 AM

Lab ID: 0909312-07
Client Sample ID: ~~Rowland GC #1-MW-5~~

Collection Date: 9/15/2009 3:55:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	32	5.0		µg/L	5	9/25/2009 3:04:31 AM
Toluene	ND	5.0		µg/L	5	9/25/2009 3:04:31 AM
Ethylbenzene	160	5.0		µg/L	5	9/25/2009 3:04:31 AM
Xylenes, Total	380	10		µg/L	5	9/25/2009 3:04:31 AM
Surr: 4-Bromofluorobenzene	93.5	65.9-130		%REC	5	9/25/2009 3:04:31 AM

Lab ID: 0909312-08
Client Sample ID: Bruington GC #1-MW-1R

Collection Date: 9/15/2009 12:35:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	9/25/2009 3:34:51 AM
Toluene	ND	1.0		µg/L	1	9/25/2009 3:34:51 AM
Ethylbenzene	ND	1.0		µg/L	1	9/25/2009 3:34:51 AM
Xylenes, Total	ND	2.0		µg/L	1	9/25/2009 3:34:51 AM
Surr: 4-Bromofluorobenzene	99.8	65.9-130		%REC	1	9/25/2009 3:34:51 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: 28-Sep-09

CLIENT: XTO Energy
Project: Ground Water**Lab Order:** 0909312**Lab ID:** 0909312-09**Collection Date:** 9/15/2009 1:28:00 PM**Client Sample ID:** Bruington GC #1-MW-3R**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	9/25/2009 4:04:58 AM
Toluene	ND	1.0		µg/L	1	9/25/2009 4:04:58 AM
Ethylbenzene	ND	1.0		µg/L	1	9/25/2009 4:04:58 AM
Xylenes, Total	ND	2.0		µg/L	1	9/25/2009 4:04:58 AM
Surr: 4-Bromofluorobenzene	99.3	65.9-130		%REC	1	9/25/2009 4:04:58 AM

Lab ID: 0909312-10**Collection Date:** 9/15/2009 2:08:00 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	27000	400		µg/L	400	9/27/2009 1:20:22 AM
Toluene	ND	400		µg/L	400	9/27/2009 1:20:22 AM
Ethylbenzene	770	400		µg/L	400	9/27/2009 1:20:22 AM
Xylenes, Total	2000	800		µg/L	400	9/27/2009 1:20:22 AM
Surr: 4-Bromofluorobenzene	97.0	65.9-130		%REC	400	9/27/2009 1:20:22 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: Ground Water

Work Order: 0909312

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles											
Sample ID: 5ML RB		MBLK									
						Batch ID: R35456		Analysis Date:		9/24/2009 9:20:39 AM	
Benzene	ND	µg/L	1.0								
Toluene	ND	µg/L	1.0								
Ethylbenzene	ND	µg/L	1.0								
Xylenes, Total	ND	µg/L	2.0								
Sample ID: b 6		MBLK									
						Batch ID: R35469		Analysis Date:		9/26/2009 1:18:45 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: b 23		MBLK									
						Batch ID: R35469		Analysis Date:		9/26/2009 9:47:27 PM	
Benzene	ND	µg/L	1.0								
Toluene	ND	µg/L	1.0								
Ethylbenzene	ND	µg/L	1.0								
Xylenes, Total	ND	µg/L	2.0								
Sample ID: 100NG BTEX LCS		LCS									
						Batch ID: R35456		Analysis Date:		9/25/2009 5:36:05 AM	
Benzene	19.44	µg/L	1.0	20	0	97.2	85.9	113			
Toluene	18.86	µg/L	1.0	20	0	94.3	86.4	113			
Ethylbenzene	19.13	µg/L	1.0	20	0	95.7	83.5	118			
Xylenes, Total	56.77	µg/L	2.0	60	0	94.6	83.4	122			
Sample ID: 100NG BTEX LCS		LCS									
						Batch ID: R35469		Analysis Date:		9/26/2009 9:16:59 PM	
Benzene	21.42	µg/L	1.0	20	0	107	85.9	113			
Toluene	22.30	µg/L	1.0	20	0	111	86.4	113			
Ethylbenzene	21.64	µg/L	1.0	20	0	108	83.5	118			
Xylenes, Total	63.86	µg/L	2.0	60	0	106	83.4	122			
Sample ID: 100NG BTEX LCS-II		LCS									
						Batch ID: R35469		Analysis Date:		9/27/2009 8:54:42 AM	
Benzene	20.98	µg/L	1.0	20	0	105	85.9	113			
Toluene	21.30	µg/L	1.0	20	0.282	105	86.4	113			
Ethylbenzene	21.21	µg/L	1.0	20	0.122	105	83.5	118			
Xylenes, Total	62.15	µg/L	2.0	60	0	104	83.4	122			
Sample ID: 100NG BTEX LCSD		LCSD									
						Batch ID: R35456		Analysis Date:		9/25/2009 6:06:20 AM	
Benzene	17.48	µg/L	1.0	20	0	87.4	85.9	113	10.6	27	
Toluene	16.57	µg/L	1.0	20	0	82.9	86.4	113	12.9	19	S
Ethylbenzene	17.44	µg/L	1.0	20	0	87.2	83.5	118	9.23	10	
Xylenes, Total	53.18	µg/L	2.0	60	0	88.6	83.4	122	6.53	13	

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:

9/17/2009

Work Order Number **0909312**

Received by: **ARS**

Checklist completed by:

Signature

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 ☒

Number of preserved bottles checked for pH:

<2 >12 unless noted below.

Container/Temp Blank temperature?

5.4°

<6° C Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

As per A.H., correct ID for 0909312-9 is MW-3R as 9/17

Corrective Action

Hall Environmental Analysis Laboratory, Inc.

Date: 16-Dec-09

CLIENT: XTO Energy
Project: Ground Water

Lab Order: 0912211

Lab ID: 0912211-01
Client Sample ID: Valdez-A #1E-MW6

Collection Date: 12/7/2009 1:07:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	12/10/2009 5:29:54 PM
Toluene	ND	1.0		µg/L	1	12/10/2009 5:29:54 PM
Ethylbenzene	7.2	1.0		µg/L	1	12/10/2009 5:29:54 PM
Xylenes, Total	29	2.0		µg/L	1	12/10/2009 5:29:54 PM
Surr: 4-Bromofluorobenzene	89.6	65.9-130		%REC	1	12/10/2009 5:29:54 PM

Lab ID: 0912211-02
Client Sample ID: Valdez-A #1E-MW-7

Collection Date: 12/7/2009 12:34:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	62	1.0		µg/L	1	12/10/2009 7:01:02 PM
Toluene	33	1.0		µg/L	1	12/10/2009 7:01:02 PM
Ethylbenzene	320	10		µg/L	10	12/10/2009 6:30:34 PM
Xylenes, Total	2400	100		µg/L	50	12/11/2009 11:57:57 AM
Surr: 4-Bromofluorobenzene	105	65.9-130		%REC	10	12/10/2009 6:30:34 PM

Lab ID: 0912211-03
Client Sample ID: EJ-Johnson-MW-5

Collection Date: 12/7/2009 11:15:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	12/11/2009 12:03:52 AM
Toluene	ND	1.0		µg/L	1	12/11/2009 12:03:52 AM
Ethylbenzene	ND	1.0		µg/L	1	12/11/2009 12:03:52 AM
Xylenes, Total	ND	2.0		µg/L	1	12/11/2009 12:03:52 AM
Surr: 4-Bromofluorobenzene	90.2	65.9-130		%REC	1	12/11/2009 12:03:52 AM

Lab ID: 0912211-04
Client Sample ID: Bruington GC #1 MW-1

Collection Date: 12/7/2009 1:59:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	12/11/2009 12:34:11 AM
Toluene	ND	1.0		µg/L	1	12/11/2009 12:34:11 AM
Ethylbenzene	ND	1.0		µg/L	1	12/11/2009 12:34:11 AM
Xylenes, Total	ND	2.0		µg/L	1	12/11/2009 12:34:11 AM
Surr: 4-Bromofluorobenzene	87.9	65.9-130		%REC	1	12/11/2009 12:34:11 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: 16-Dec-09

CLIENT: XTO Energy
Project: Ground Water

Lab Order: 0912211

Lab ID: 0912211-05
Client Sample ID: Bruington GC #1 MW-2

Collection Date: 12/7/2009 2:22:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	11000	400		µg/L	400	12/11/2009 1:04:22 AM
Toluene	1000	400		µg/L	400	12/11/2009 1:04:22 AM
Ethylbenzene	720	400		µg/L	400	12/11/2009 1:04:22 AM
Xylenes, Total	3600	800		µg/L	400	12/11/2009 1:04:22 AM
Surr: 4-Bromofluorobenzene	86.9	65.9-130		%REC	400	12/11/2009 1:04:22 AM

Lab ID: 0912211-06
Client Sample ID: Bruington GC #1 MW-4

Collection Date: 12/7/2009 2:47:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	12/11/2009 1:34:32 AM
Toluene	ND	1.0		µg/L	1	12/11/2009 1:34:32 AM
Ethylbenzene	ND	1.0		µg/L	1	12/11/2009 1:34:32 AM
Xylenes, Total	ND	2.0		µg/L	1	12/11/2009 1:34:32 AM
Surr: 4-Bromofluorobenzene	82.1	65.9-130		%REC	1	12/11/2009 1:34:32 AM

Lab ID: 0912211-07
Client Sample ID: Bruington GC #1 MW-3

Collection Date: 12/7/2009 3:15:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	12/11/2009 2:04:43 AM
Toluene	ND	1.0		µg/L	1	12/11/2009 2:04:43 AM
Ethylbenzene	ND	1.0		µg/L	1	12/11/2009 2:04:43 AM
Xylenes, Total	ND	2.0		µg/L	1	12/11/2009 2:04:43 AM
Surr: 4-Bromofluorobenzene	89.1	65.9-130		%REC	1	12/11/2009 2:04:43 AM

Lab ID: 0912211-08
Client Sample ID: Bruington GC #1 MW-5

Collection Date: 12/7/2009 3:40:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	23000	400		µg/L	400	12/11/2009 2:34:53 AM
Toluene	ND	400		µg/L	400	12/11/2009 2:34:53 AM
Ethylbenzene	690	400		µg/L	400	12/11/2009 2:34:53 AM
Xylenes, Total	1400	800		µg/L	400	12/11/2009 2:34:53 AM
Surr: 4-Bromofluorobenzene	84.3	65.9-130		%REC	400	12/11/2009 2:34:53 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: 16-Dec-09

CLIENT: XTO Energy
Project: Ground Water

Lab Order: 0912211

Lab ID: 0912211-09

Collection Date: 12/7/2009 4:00:00 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	12/11/2009 3:05:05 AM
Toluene	19000	400		µg/L	400	12/11/2009 3:05:05 AM
Ethylbenzene	1000	400		µg/L	400	12/11/2009 3:05:05 AM
Xylenes, Total	10000	800		µg/L	400	12/11/2009 3:05:05 AM
Surr: 4-Bromofluorobenzene	89.0	65.9-130		%REC	400	12/11/2009 3:05:05 AM

Lab ID: 0912211-10

Collection Date: 12/7/2009 4:30:00 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	9600	400		µg/L	400	12/11/2009 3:35:27 AM
Toluene	7700	400		µg/L	400	12/11/2009 3:35:27 AM
Ethylbenzene	530	400		µg/L	400	12/11/2009 3:35:27 AM
Xylenes, Total	4200	800		µg/L	400	12/11/2009 3:35:27 AM
Surr: 4-Bromofluorobenzene	88.4	65.9-130		%REC	400	12/11/2009 3:35:27 AM

Lab ID: 0912211-11

Collection Date: 12/7/2009 4:55:00 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	10000	400		µg/L	400	12/11/2009 4:05:39 AM
Toluene	1300	400		µg/L	400	12/11/2009 4:05:39 AM
Ethylbenzene	570	400		µg/L	400	12/11/2009 4:05:39 AM
Xylenes, Total	2500	800		µg/L	400	12/11/2009 4:05:39 AM
Surr: 4-Bromofluorobenzene	89.7	65.9-130		%REC	400	12/11/2009 4:05:39 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: Ground Water

Work Order: 0912211

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles											
Sample ID: 5ML RB		MBLK									
			Batch ID: R36519 Analysis Date: 12/10/2009 9:24:16 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: R36545 Analysis Date: 12/11/2009 9:26:11 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: R36519 Analysis Date: 12/10/2009 9:02:21 PM								
Benzene	19.63	µg/L	1.0	20	0	98.2	85.9	113			
Toluene	20.20	µg/L	1.0	20	0	101	86.4	113			
Ethylbenzene	19.78	µg/L	1.0	20	0.072	98.5	83.5	118			
Xylenes, Total	59.81	µg/L	2.0	60	0	99.7	83.4	122			
Sample ID: 100NG BTEX LCS		LCS									
			Batch ID: R36545 Analysis Date: 12/11/2009 8:33:09 PM								
Benzene	20.04	µg/L	1.0	20	0	100	85.9	113			
Toluene	20.13	µg/L	1.0	20	0	101	86.4	113			
Ethylbenzene	19.71	µg/L	1.0	20	0.066	98.2	83.5	118			
Xylenes, Total	58.27	µg/L	2.0	60	0	97.1	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:

12/10/2009

Work Order Number **0912211**

Received by: **ARS**

12

Checklist completed by:

Signature

[Handwritten Signature]

Sample ID labels checked by:

Initials

12/10/09
Date

Matrix:

Carrier name: Greyhound

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

Yes ☒

No ☐

Water - Preservation labels on bottle and cap match?

Yes ☐

No ☐

N/A ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Number of preserved bottles checked for pH:

<2 >12 unless noted below.

Container/Temp Blank temperature?

0.2°

<6° C Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action

