3R - 106

2010 AGWMR

MAR 2011

2010 ANNUAL GROUNDWATER REPORT

Bruington Gas COM #1

3RP-106

Unit E, Section 14, Township 29N, Range 11W
San Juan County, New Mexico

PREPARED FOR:

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2010 XTO GROUNDWATER REPORT

BRUINGTON GAS COM #1
3RP-106

SITE DETAILS

LEGALS - TWN: 29N **RNG:** 11W **SEC:** 14 **UNIT:** E
OCD HAZARD RANKING: 40 **LAND TYPE:** FEE
LATITUDE: 36.72879 **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 (3) 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

monitoring well MW-2 would be sampled annually in accordance with the OCD approved Groundwater Management Plan. After the installation of the three (3) monitoring wells, it became apparent that the groundwater elevations at the pit area were 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 of 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 of 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 of 1999 requiring that the extent of downgradient and lateral BTEX contamination be further 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 (6) 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 impact 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.

Monitoring well MW-8 was installed in May of 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 of 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 of 2009 proposing installation of two 4" recovery wells, installation of two (2) additional monitoring wells, the addition of chemical oxygenate, and quarterly sampling.

In October of 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***).

In March of 2010, the 2009 Annual Groundwater Report was submitted to Mr. Glenn Von Gonten, proposing continued quarterly sampling of the site, as well as the continued addition of chemical oxygenate to the groundwater.

Summaries of laboratory results and water level data from historical and current groundwater monitoring are presented in ***Table 1*** and ***Table 2***. Copies of the laboratory reports are included as ***Attachment 5***.

METHODOLOGY

Groundwater samples were collected in the first, second and third quarters in 2010 from monitoring wells MW-1R, MW-2R, MW-3R, MW-4, MW-5, MW-6, MW-7 and MW-8. forth quarter sampling was postponed due to additional subsurface investigation activities taking place in early January of 2011.

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 ±2° C for temperature). All purge water is disposed of into tanks on site.

Once each monitoring well is properly purged, groundwater samples are collected by filling at least two 40-millititer (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. XTO changed labs to Environmental Science Corporation (ESC) based out of Mt. Juliet, Tennessee in September of 2010. Samples were shipped with ice via Fed Ex overnight. 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. Field notes are included as ***Attachment 6***.

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

2010 laboratory results from monitoring wells MW-1R and MW-4 indicate BTEX constituents are below standards or not detectable. Laboratory results from monitoring wells MW-2R, MW-3R, MW-5, MW-6, MW-7 and MW-8 have indicated elevated concentrations of BTEX constituents. Monitoring well MW-3R historically has show results below the WQCC standard for benzene, but during June and September sampling events, returned results above the WQCC standard for benzene at 75 ppb and 94 ppb respectively. BTEX levels in monitoring wells MW-2R, MW-5, MW-6, MW-7 and MW-8 remained fairly constant in 2011, showing little decline.

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 2010.

CONCLUSIONS

Additional subsurface investigation is required at this site. LT Environmental will perform additional site characterization in January of 2011 in order to better assess potential courses of action for this site. High BTEX levels indicate that source material is still in contact with groundwater, causing the elevated levels of BTEX in the groundwater.

RECOMMENDATIONS

XTO will perform additional site assessment activities in order to better delineate the subsurface impact at this location. Once the assessment is completed, a plan for remediation of this location can be formulated. XTO proposes semi-annual sampling at this location until a remediation plan can be completed.

TABLE 1

GROUNDWATER LEVELS AND ELEVATIONS
BRUINGTON GAS COM #1
XTO ENERGY, INC.

Well ID	Date	Depth to Water (feet) (BTOC)	Groundwater Elevation (feet AMSL)	Dissolved Oxygen (mg/l unless indicated by a %)
MW-1	7/6/1996	7.00	-	NM
MW-1R	5/5/1999	10.55	5556.08	NM
MW-1R	6/29/2000	11.14	5555.49	NM
MW-1R	5/17/2001	11.33	5555.30	NM
MW-1R	9/24/2001	9.84	5556.79	NM
MW-1R	7/27/2002	9.93	5556.70	NM
MW-1R	6/25/2003	11.45	5555.18	NM
MW-1R	8/25/2003	12.14	5554.49	NM
MW-1R	4/25/2006	11.55	5555.08	1.13
MW-1R	11/10/2006	NM	NM	1.14
MW-1R	11/27/2006	13.17	5553.46	NM
MW-1R	2/23/2007	14.24	5552.39	0.51
MW-1R	3/28/2007	16.78	5549.85	NM
MW-1R	4/11/2007	13.51	5553.12	1.13
MW-1R	6/13/2007	7.51	5559.12	0.76
MW-1R	8/21/2007	7.20	5559.43	0.82
MW-1R	9/25/2007	7.07	5559.56	0.99
MW-1R	10/30/2007	7.66	5558.97	1.00
MW-1R	11/27/2007	11.50	5555.13	0.85
MW-1R	12/20/2007	12.97	5553.66	0.75
MW-1R	2/26/2008	NM	NM	0.32
MW-1R	3/12/2008	13.18	5553.45	NM
MW-1R	4/7/2008	NM	NM	11.60
MW-1R	6/2/2008	7.53	5559.10	2.60
MW-1R	8/12/2008	6.77	5559.86	3.7%
MW-1R	9/22/2008	7.76	5558.87	NM
MW-1R	10/22/2008	6.39	5560.24	4.6%
MW-1R	12/5/2008	11.26	5555.37	NM
MW-1R	2/6/2009	12.55	5554.08	NM
MW-1R	3/3/2009	15.24	5551.39	NM
MW-1R	6/24/2009	6.52	5560.11	NM
MW-1R	9/15/2009	6.98	5559.65	NM

Well ID	Date	Depth to Water (feet) (BTOC)	Groundwater Elevation (feet AMSL)	Dissolved Oxygen (mg/l unless indicated by a %)
MW-1R	12/7/2009	11.22	5555.41	NM
MW-1R	3/3/2010	15.17	5551.46	NM
MW-1R	6/21/2010	6.74	5559.89	NM
MW-1R	9/9/2010	7.70	5558.93	NM

MW-2	6/7/1996	10.12	5557.87	NM
MW-2	6/27/1997	12.65	5555.34	NM
MW-2R	6/12/1998	11.00	5556.99	NM
MW-2R	5/5/1999	10.78	5557.21	NM
MW-2R	6/29/2000	11.50	5556.49	NM
MW-2R	5/17/2001	12.12	5555.87	NM
MW-2R	9/24/2001	10.08	5557.91	NM
MW-2R	6/27/2002	9.77	5558.22	NM
MW-2R	6/25/2003	11.53	5556.46	NM
MW-2R	6/18/2004	12.07	5555.92	NM
MW-2R	6/27/2005	10.14	5557.85	NM
MW-2R	4/25/2006	11.64	5556.35	0.64
MW-2R	11/10/2006	NM	NM	0.35
MW-2R	11/27/2006	11.32	5556.67	NM
MW-2R	2/23/2007	12.55	5555.44	0.37
MW-2R	3/28/2007	14.72	5553.27	NM
MW-2R	4/11/2007	12.79	5555.20	0.64
MW-2R	6/13/2007	9.94	5558.05	0.43
MW-2R	8/21/2007	9.36	5558.63	0.28
MW-2R	9/25/2007	9.33	5558.66	0.54
MW-2R	10/30/2007	9.45	5558.54	0.50
MW-2R	11/27/2007	12.02	5555.97	0.55
MW-2R	12/20/2007	13.13	5554.86	0.42
MW-2R	2/26/2008	NM	NM	0.51
MW-2R	3/12/2008	13.51	5554.48	NM
MW-2R	4/7/2008	NM	NM	12.50
MW-2R	6/2/2008	10.07	5557.92	2.60
MW-2R	8/12/2008	9.38	5558.61	0.4%
MW-2R	9/22/2008	10.29	5557.70	NM
MW-2R	10/22/2008	9.10	5558.89	0.1%
MW-2R	12/5/2008	12.05	5555.94	NM
MW-2R	2/6/2009	13.40	5554.59	NM
MW-2R	3/3/2009	15.64	5552.35	NM

Well ID	Date	Depth to Water (feet) (BTOC)	Groundwater Elevation (feet AMSL)	Dissolved Oxygen (mg/l unless indicated by a %)
MW-2R	6/24/2009	9.16	5558.83	NM
MW-2R	9/15/2009	8.37	5559.62	NM
MW-2R	12/7/2009	11.81	5556.18	NM
MW-2R	3/3/2010	15.41	5552.58	NM
MW-2R	6/21/2010	9.46	5558.53	NM
MW-2R	9/9/2010	9.24	5558.75	NM

MW-3	6/7/1996	13.05	NM	NM
MW-3	5/5/1999	13.64	NM	NM
MW-3	6/29/2000	13.52	NM	NM
MW-3	5/17/2001	14.51	NM	NM
MW-3	9/24/2001	12.15	NM	NM
MW-3R	8/25/2003	11.81	5558.09	NM
MW-3R	11/19/2003	12.28	5557.62	NM
MW-3R	4/25/2006	12.56	5557.34	0.54
MW-3R	11/10/2006	NM	NM	0.42
MW-3R	11/27/2006	12.60	5557.30	NM
MW-3R	2/23/2007	14.33	5555.57	0.96
MW-3R	3/28/2007	15.83	5554.07	NM
MW-3R	4/11/2007	14.99	5554.91	0.54
MW-3R	6/13/2007	NM	NM	NM
MW-3R	10/30/2007	NM	NM	NM
MW-3R	11/27/2007	13.14	5556.76	0.88
MW-3R	12/20/2007	14.25	5555.65	0.71
MW-3R	2/26/2008	NM	NM	0.43
MW-3R	3/12/2008	15.23	5554.67	NM
MW-3R	4/7/2008	NM	NM	35.20
MW-3R	6/2/2008	12.07	5557.83	3.30
MW-3R	8/12/2008	11.15	5558.75	1.5%
MW-3R	9/22/2008	11.86	5558.04	NM
MW-3R	10/22/2008	11.80	5558.10	3.6%
MW-3R	12/5/2008	13.23	5556.67	NM
MW-3R	2/6/2009	14.82	5555.08	NM
MW-3R	3/3/2009	16.37	5553.53	NM
MW-3R	6/24/2009	11.52	5558.38	NM
MW-3R	9/15/2009	10.66	5559.24	NM
MW-3R	12/7/2009	12.63	5557.27	NM
MW-3R	3/3/2010	16.09	5553.81	NM

Well ID	Date	Depth to Water (feet) (BTOC)	Groundwater Elevation (feet AMSL)	Dissolved Oxygen (mg/l unless indicated by a %)
MW-3R	6/21/2010	11.59	5558.31	NM
MW-3R	9/9/2010	11.18	5558.72	NM
MW-4	5/17/2001	10.88	5557.57	
MW-4	4/25/2006	11.11	5557.34	3.03
MW-4	11/10/2006	NM	NM	0.91
MW-4	11/27/2006	12.41	5556.04	NM
MW-4	2/23/2007	13.62	5554.83	0.87
MW-4	3/28/2007	16.17	5552.28	NM
MW-4	4/11/2007	13.34	5555.11	3.03
MW-4	6/13/2007	9.87	5558.58	2.26
MW-4	8/21/2007	9.35	5559.10	0.75
MW-4	9/25/2007	9.24	5559.21	1.78
MW-4	10/30/2007	9.75	5558.70	0.64
MW-4	11/27/2007	13.43	5555.02	0.66
MW-4	12/20/2007	14.91	5553.54	0.55
MW-4	2/26/2008	NM	NM	0.19
MW-4	3/12/2008	15.09	5553.36	NM
MW-4	4/7/2008	NM	NM	25.60
MW-4	6/2/2008	9.59	5558.86	1.60
MW-4	8/12/2008	8.97	5559.48	1.3%
MW-4	9/22/2008	9.96	5558.49	NM
MW-4	10/22/2008	8.53	5559.92	3.1%
MW-4	12/5/2008	13.21	5555.24	NM
MW-4	2/6/2009	14.35	5554.10	NM
MW-4	3/3/2009	17.06	5551.39	NM
MW-4	6/24/2009	8.10	5560.35	NM
MW-4	9/15/2009	8.17	5560.28	NM
MW-4	12/7/2009	13.11	5555.34	NM
MW-4	3/3/2010	17.08	5551.37	NM
MW-4	6/21/2010	9.00	5559.45	NM
MW-4	9/9/2010	8.83	5559.62	NM
MW-5	5/17/2001	16.00	5552.45	NM
MW-5	9/24/2001	13.70	5554.75	NM
MW-5	6/27/2002	13.83	5554.62	NM
MW-5	6/25/2003	15.73	5552.72	NM
MW-5	6/18/2004	15.82	5552.63	NM

Well ID	Date	Depth to Water (feet) (BTOC)	Groundwater Elevation (feet AMSL)	Dissolved Oxygen (mg/l unless indicated by a %)
MW-5	6/27/2005	14.21	5554.24	NM
MW-5	4/25/2006	16.21	5552.24	0.51
MW-5	11/10/2006	NM	NM	0.26
MW-5	11/27/2006	15.24	5553.21	NM
MW-5	2/23/2007	18.92	5549.53	0.34
MW-5	3/28/2007	18.63	5549.82	NM
MW-5	4/11/2007	17.48	5550.97	0.51
MW-5	6/13/2007	14.17	5554.28	0.58
MW-5	8/21/2007	14.12	5554.33	0.49
MW-5	9/25/2007	13.38	5555.07	0.50
MW-5	10/30/2007	13.57	5554.88	0.61
MW-5	11/27/2007	16.13	5552.32	0.62
MW-5	12/20/2007	17.34	5551.11	0.54
MW-5	2/26/2008	NM	NM	0.11
MW-5	3/12/2008	17.75	5550.70	NM
MW-5	4/7/2008	NM	NM	11.50
MW-5	6/2/2008	13.92	5554.53	1.60
MW-5	8/12/2008	12.99	5555.46	0.7%
MW-5	9/22/2008	13.80	5554.65	NM
MW-5	10/22/2008	12.77	5555.68	1.8%
MW-5	12/5/2008	15.93	5552.52	NM
MW-5	2/6/2009	17.33	5551.12	NM
MW-5	3/3/2009	19.26	5549.19	NM
MW-5	6/24/2009	13.34	5555.11	NM
MW-5	9/15/2009	12.56	5555.89	NM
MW-5	12/7/2009	15.71	5552.74	NM
MW-5	3/3/2010	19.29	5549.16	NM
MW-5	6/21/2010	13.61	5554.84	NM
MW-5	9/9/2010	13.03	5555.42	NM
MW-6	5/17/2001	19.47	5554.86	NM
MW-6	9/24/2001	14.46	5559.87	NM
MW-6	6/27/2002	16.68	5557.65	NM
MW-6	6/25/2003	18.94	5555.39	NM
MW-6	6/18/2004	18.71	5555.62	NM
MW-6	6/27/2005	17.09	5557.24	NM
MW-6	4/25/2006	19.28	5555.05	0.11
MW-6	11/10/2006	NM	NM	0.06

Well ID	Date	Depth to Water (feet) (BTOC)	Groundwater Elevation (feet AMSL)	Dissolved Oxygen (mg/l unless indicated by a %)
MW-6	11/27/2006	17.08	5557.25	NM
MW-6	2/23/2007	18.92	5555.41	0.28
MW-6	3/28/2007	20.36	5553.97	NM
MW-6	4/11/2007	19.69	5554.64	0.11
MW-6	6/13/2007	16.87	5557.46	0.18
MW-6	8/21/2007	16.04	5558.29	0.33
MW-6	9/25/2007	15.98	5558.35	0.34
MW-6	10/30/2007	15.91	5558.42	0.21
MW-6	11/27/2007	17.79	5556.54	0.35
MW-6	12/20/2007	18.83	5555.50	0.33
MW-6	2/26/2008	NM	NM	0.26
MW-6	3/12/2008	19.42	5554.91	NM
MW-6	4/7/2008	NM	NM	18.60
MW-6	6/2/2008	16.61	5557.72	0.10
MW-6	8/12/2008	15.61	5558.72	0.6%
MW-6	9/22/2008	16.15	5558.18	NM
MW-6	10/22/2008	15.49	5558.84	1.4%
MW-6	12/5/2008	17.70	5556.63	NM
MW-6	2/6/2009	19.33	5555.00	NM
MW-6	3/3/2009	20.67	5553.66	NM
MW-6	6/24/2009	16.18	5558.15	NM
MW-6	9/15/2009	15.25	5559.08	NM
MW-6	12/7/2009	17.52	5556.81	NM
MW-6	3/3/2010	20.69	5553.64	NM
MW-6	6/21/2010	16.44	5557.89	NM
MW-6	9/9/2010	15.60	5558.73	NM
MW-7	8/25/2003	17.93	5555.95	NM
MW-7	6/18/2004	18.87	5555.01	NM
MW-7	6/27/2005	17.40	5556.48	NM
MW-7	4/25/2006	19.14	5554.74	0.60
MW-7	11/10/2006	NM	NM	0.69
MW-7	11/27/2006	16.94	5556.94	NM
MW-7	2/23/2007	17.71	5556.17	0.71
MW-7	3/28/2007	18.62	5555.26	NM
MW-7	4/11/2007	18.63	5555.25	0.60
MW-7	6/13/2007	16.75	5557.13	0.43
MW-7	8/21/2007	15.86	5558.02	0.36

Well ID	Date	Depth to Water (feet) (BTOC)	Groundwater Elevation (feet AMSL)	Dissolved Oxygen (mg/l unless indicated by a %)
MW-7	9/25/2007	15.65	5558.23	0.34
MW-7	10/30/2007	15.46	5558.42	0.17
MW-7	11/27/2007	16.46	5557.42	0.42
MW-7	12/20/2007	17.14	5556.74	0.36
MW-7	2/26/2008	NM	NM	0.32
MW-7	3/12/2008	17.23	5556.65	NM
MW-7	4/7/2008	NM	NM	32.90
MW-7	6/2/2008	16.22	5557.66	0.10
MW-7	8/12/2008	15.30	5558.58	0.7%
MW-7	9/22/2008	15.47	5558.41	NM
MW-7	10/22/2008	15.22	5558.66	0.1%
MW-7	12/5/2008	16.23	5557.65	NM
MW-7	2/6/2009	17.85	5556.03	NM
MW-7	3/3/2009	18.60	5555.28	NM
MW-7	6/24/2009	16.38	5557.50	NM
MW-7	9/15/2009	15.21	5558.67	NM
MW-7	12/7/2009	16.05	5557.83	NM
MW-7	3/3/2010	18.64	5555.24	NM
MW-7	6/21/2010	16.58	5557.30	NM
MW-7	9/9/2010	15.49	5558.39	NM
MW-8	6/13/2007	19.19	5556.85	0.40
MW-8	8/21/2007	18.30	5557.74	0.61
MW-8	9/25/2007	18.00	5558.04	0.57
MW-8	10/30/2007	15.46	5560.58	0.52
MW-8	11/27/2007	18.30	5557.74	0.68
MW-8	12/20/2007	18.81	5557.23	0.42
MW-8	2/26/2008	NM	NM	0.30
MW-8	3/12/2008	18.92	5557.12	NM
MW-8	4/7/2008	NM	NM	12.40
MW-8	6/2/2008	18.23	5557.81	0.80
MW-8	8/12/2008	17.52	5558.52	0.6%
MW-8	9/22/2008	17.56	5558.48	NM
MW-8	10/22/2008	17.47	5558.57	1.4%
MW-8	12/5/2008	17.99	5558.05	NM
MW-8	2/6/2009	19.50	5556.54	NM
MW-8	3/3/2009	20.03	5556.01	NM
MW-8	6/24/2009	19.00	5557.04	NM

Well ID	Date	Depth to Water (feet) (BTOC)	Groundwater Elevation (feet AMSL)	Dissolved Oxygen (mg/l unless indicated by a %)
MW-8	9/15/2009	17.74	5558.30	NM
MW-8	12/7/2009	17.81	5558.23	NM
MW-8	3/3/2010	20.11	5555.93	NM
MW-8	6/21/2010	19.31	5556.73	NM
MW-8	9/9/2010	18.02	5558.02	NM

Notes:
BTOC - Below Top of Casing
AMSL - Above Mean Sea Level
NM - Not Measured

TABLE 2

GROUNDWATER RESULTS
BRUINGTON GAS COM #1
XTO ENERGY, INC.

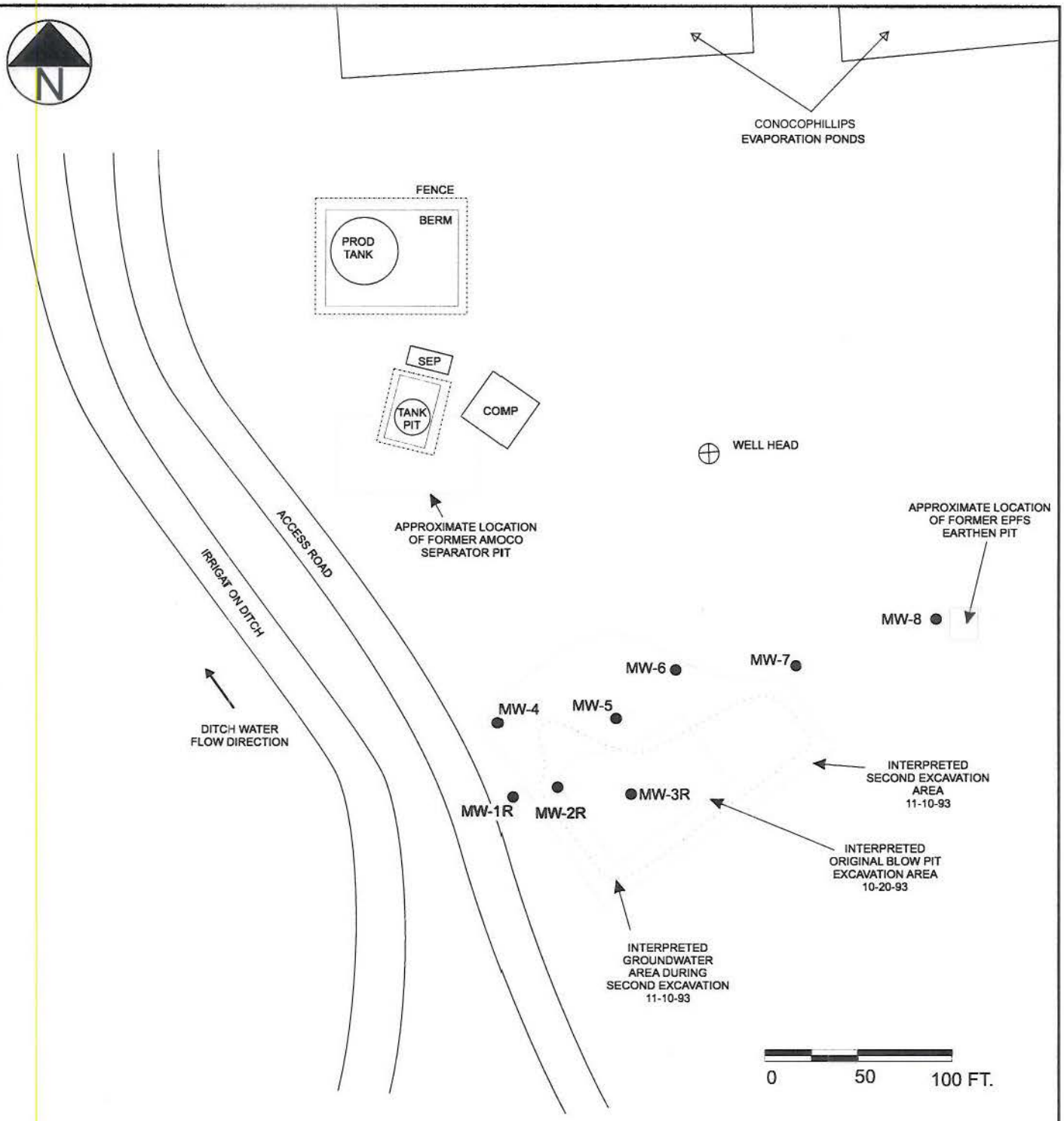
Well ID	Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)
NMWQCC Groundwater Standard		**10**	**750**	**750**	**620**
MW-1	7/6/1996	ND	ND	ND	ND
MW-1R	5/5/1999	**16.5**	26.0	8.1	78.2
MW-1R	6/29/2000	**17.0**	ND	130.0	455.5
MW-1R	5/17/2001	**29.0**	19.0	33.0	127.0
MW-1R	9/24/2001	5.8	0.5	15.0	36.0
MW-1R	7/27/2002	ND	ND	17.0	52.1
MW-1R	6/25/2003	3.1	ND	ND	ND
MW-1R	8/25/2003	ND	ND	2.2	0.9
MW-1R	4/25/2006	1.0	1.3	1.8	5.9
MW-1R	11/27/2006	<1.0	<1.0	<1.0	<3.0
MW-1R	3/28/2007	<1.0	<1.0	<1.0	<2.0
MW-1R	6/13/2007	<1.0	<1.0	<1.0	<2.0
MW-1R	9/25/2007	<1.0	1.2	<1.0	<2.0
MW-1R	3/12/2008	<1.0	<1.0	<1.0	<2.0
MW-1R	6/2/2008	<1.0	<1.0	<1.0	<2.0
MW-1R	9/22/2008	<1.0	<1.0	<1.0	<2.0
MW-1R	12/5/2008	<1.0	<1.0	<1.0	<2.0
MW-1R	3/3/2009	<1.0	<1.0	<1.0	<2.0
MW-1R	6/24/2009	<1.0	<1.0	<1.0	<3.0
MW-1R	9/15/2009	<1.0	<1.0	<1.0	<2.0
MW-1R	12/7/2009	<1.0	<1.0	<1.0	<2.0
MW-1R	3/3/2010	<1.0	<1.0	<1.0	<2.0
MW-1R	6/21/2010	<1.0	<1.0	<1.0	<2.0
MW-1R	9/9/2010	<0.5	< 5	<0.5	<1.5
MW-2	6/7/1996	**347**	29	156	**1,580**
MW-2	6/27/1997	**429**	68	46	402
MW-2R	6/12/1998	**13,440**	**13,330**	**1,030**	**6,040**
MW-2R	5/5/1999	**1,020**	554	175	**679**
MW-2R	6/29/2000	**7,600**	**2,600**	630	**4,210**
MW-2R	5/17/2001	**1,700**	320	390	**1,620**
MW-2R	9/24/2001	**15,000**	**1,200**	**880**	**5,900**
MW-2R	6/27/2002	**13,000**	**1,100**	680	**4,120**
MW-2R	6/25/2003	**3,700**	**1,000**	380	**2,500**
MW-2R	6/18/2004	**5,500**	**1,400**	710	**3,500**
MW-2R	6/27/2005	**16,000**	**1,900**	**900**	**5,400**
MW-2R	4/25/2006	**5,000**	**1,100**	700	**3,800**
MW-2R	11/27/2006	**12,000**	**1,600**	690	**3,900**
MW-2R	3/28/2007	**4,300**	**1,000**	**810**	**6,000**
MW-2R	6/13/2007	**13,000**	**1,100**	720	**4,000**
MW-2R	9/25/2007	**18,000**	**1,900**	**990**	**5,500**
MW-2R	3/12/2008	**2,800**	**890**	**750**	**5300**

Well ID	Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)
NMWQCC Groundwater Standard		10	750	750	620
MW-2R	6/2/2008	5,900	430	510	2200
MW-2R	9/22/2008	18,000	920	950	4900
MW-2R	12/5/2008	20,000	1,700	1,100	5,300
MW-2R	3/3/2009	5,500	1,400	470	2,900
MW-2R	6/24/2009	18,000	2,200	970	6,500
MW-2R	9/15/2009	18,000	760	850	4,400
MW-2R	12/7/2009	11,000	1,000	720	3,600
MW-2R	3/3/2010	2,100	460	410	2,400
MW-2R	6/21/2010	9,500	960	630	3,100
MW-2R	9/9/2010	19,000	530	940	3,200
MW-3	6/7/1996	ND	1.8	ND	ND
MW-3	5/5/1999	73.2	38.3	31.2	200.1
MW-3	6/29/2000	87.0	ND	3.4	8.3
MW-3	5/17/2001	ND	0.6	0.7	ND
MW-3	9/24/2001	ND	ND	ND	ND
MW-3R	8/25/2003	ND	ND	1.3	ND
MW-3R	11/19/2003	ND	ND	1.4	ND
MW-3R	4/25/2006	<1.0	<1.0	<1.0	<3.0
MW-3R	11/27/2006	<1.0	<1.0	<1.0	<2.0
MW-3R	3/28/2007	<1.0	<1.0	<1.0	<2.0
MW-3R	3/12/2008	<1.0	<1.0	<1.0	<2.0
MW-3R	6/2/2008	<1.0	<1.0	<1.0	<2.0
MW-3R	9/22/2008	<1.0	<1.0	<1.0	<2.0
MW-3R	12/5/2008	<1.0	<1.0	<1.0	<2.0
MW-3R	3/3/2009	<1.0	<1.0	<1.0	<2.0
MW-3R	6/24/2009	7.2	<1.0	<1.0	<3.0
MW-3R	9/15/2009	<1.0	<1.0	<1.0	<2.0
MW-3R	12/7/2009	<1.0	<1.0	<1.0	<2.0
MW-3R	3/3/2010	<1.0	<1.0	<1.0	<2.0
MW-3R	6/21/2010	75	<1.0	<1.0	<2.0
MW-3R	9/9/2010	94	50	4.4	30
MW-4	5/17/2001	ND	ND	ND	ND
MW-4	4/25/2006	ND	ND	ND	ND
MW-4	11/27/2006	<1.0	<1.0	<1.0	<3.0
MW-4	3/28/2007	1.8	<1.0	<1.0	<2.0
MW-4	6/13/2007	<1.0	<1.0	<1.0	<2.0
MW-4	9/25/2007	<1.0	<1.0	<1.0	<2.0
MW-4	3/12/2008	<1.0	<1.0	<1.0	<2.0
MW-4	6/2/2008	<1.0	<1.0	<1.0	<2.0
MW-4	9/22/2008	<1.0	<1.0	<1.0	<2.0
MW-4	12/5/2008	<1.0	<1.0	<1.0	<2.0
MW-4	3/3/2009	<1.0	<1.0	<1.0	<2.0
MW-4	6/24/2009	<1.0	<1.0	<1.0	<2.0
MW-4	9/15/2009	<1.0	<1.0	<1.0	<2.0
MW-4	12/7/2009	<1.0	<1.0	<1.0	<2.0
MW-4	3/3/2010	<1.0	<1.0	<1.0	<2.0

Well ID	Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)
NMWQCC Groundwater Standard		10	750	750	620
MW-4	6/21/2010	<1.0	<1.0	<1.0	<2.0
MW-4	9/9/2010	<0.50	< 5.0	<0.50	<1.5
MW-5	5/17/2001	25,000	620	870	6,610
MW-5	9/24/2001	26,000	110	470	6,900
MW-5	6/27/2002	26,000	280	900	6,670
MW-5	6/25/2003	26,000	ND	ND	4,400
MW-5	6/18/2004	26,000	ND	1,100	3,400
MW-5	6/27/2005	29,000	ND	920	3,400
MW-5	4/25/2006	28,000	ND	1,600	2,700
MW-5	11/27/2006	22,000	<250	630	1,700
MW-5	3/28/2007	30,000	590	1,700	4,600
MW-5	6/13/2007	32,000	91	940	2,000
MW-5	9/25/2007	25,000	170	620	1,700
MW-5	3/12/2008	28,000	110	1,200	2,300
MW-5	6/2/2008	25,000	<100	1,100	1,300
MW-5	9/22/2008	20,000	<200	760	1,100
MW-5	12/5/2008	24,000	<100	580	1,400
MW-5	3/3/2009	9,800	<100	450	920
MW-5	6/24/2009	25,000	46	40	1,400
MW-5	9/15/2009	27,000	<400	770	2,000
MW-5	12/7/2009	23,000	<400	690	1,400
MW-5	3/3/2010	16,000	<100	350	710
MW-5	6/21/2010	18,000	<100	430	890
MW-5	9/9/2010	25,000	130	510	1,600
MW-6	5/17/2001	28,000	15,000	1,000	9,400
MW-6	9/24/2001	22,000	6,000	1,100	6,900
MW-6	6/27/2002	28,000	16,000	990	9,800
MW-6	6/25/2003	22,000	16,000	ND	6,300
MW-6	6/18/2004	23,000	19,000	1,000	8,800
MW-6	6/27/2005	28,000	20,000	1,200	9,600
MW-6	4/25/2006	26,000	25,000	1,700	8,900
MW-6	11/27/2006	22,000	23,000	990	9,700
MW-6	3/28/2007	25,000	27,000	1,900	19,000
MW-6	6/13/2007	21,000	19,000	780	7,900
MW-6	9/25/2007	27,000	21,000	1,200	11,000
MW-6	3/12/2008	21,000	21,000	1,200	11,000
MW-6	6/2/2008	19,000	16,000	870	9,000
MW-6	9/22/2008	15,000	14000	770	8500
MW-6	12/5/2008	28,000	27,000	1,100	12,000
MW-6	3/3/2009	19,000	20,000	880	9,300
MW-6	6/24/2009	23,000	18,000	900	9,200
MW-6	9/15/2009	18,000	14,000	740	7,700
MW-6	12/7/2009	19,000	19,000	1,000	10,000
MW-6	3/3/2010	15,000	16,000	860	9,300
MW-6	6/21/2010	18,000	15,000	680	7,000
MW-6	9/9/2010	21,000	16,000	880	8,300

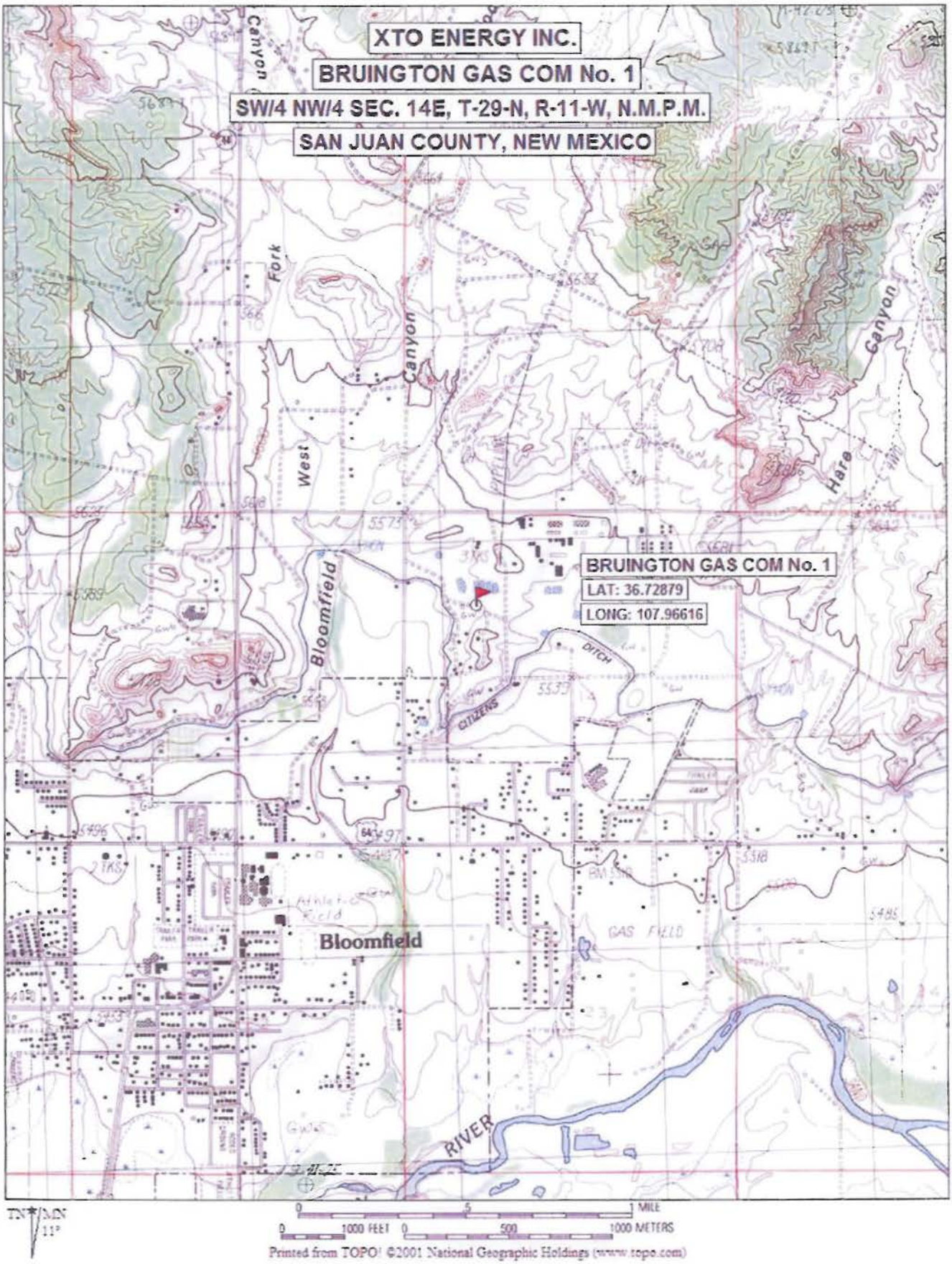
Well ID	Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)
NMWQCC Groundwater Standard		10	750	750	620
MW-7	8/25/2003	**18,000**	**11,000**	**930**	**8,200**
MW-7	6/18/2004	**11,000**	**7,800**	670	**5,000**
MW-7	6/27/2005	**14,000**	**8,700**	**880**	**5,000**
MW-7	4/25/2006	**19,000**	**6,600**	**1,200**	**5,100**
MW-7	11/27/2006	**6,100**	**4,400**	420	**2,500**
MW-7	3/28/2007	**11,000**	**9,500**	100	**7,500**
MW-7	6/13/2007	**3,800**	**2,000**	320	**1,700**
MW-7	9/25/2007	**2,900**	**2,400**	210	**1,400**
MW-7	3/12/2008	**14,000**	**9,200**	**830**	**4,800**
MW-7	6/2/2008	**8,800**	**5,300**	560	**3,100**
MW-7	9/22/2008	**7,100**	**4,600**	450	**2,800**
MW-7	12/5/2008	**11,000**	**9,300**	680	**5,200**
MW-7	3/3/2009	**11,000**	**7,800**	660	**4,500**
MW-7	6/24/2009	**21,000**	**14,000**	640	**6,400**
MW-7	9/15/2009	**15,000**	**4,900**	640	**3,600**
MW-7	12/7/2009	**9,600**	**7,700**	530	**4,200**
MW-7	3/3/2010	**10,000**	**7,000**	560	**4,000**
MW-7	6/21/2010	**4,100**	**2,900**	280	**1,500**
MW-7	9/9/2010	**3,000**	**2,300**	280	**1,400**
MW-8	6/13/2007	**24,000**	**24,000**	350	**10,000**
MW-8	9/25/2007	**18,000**	**4,000**	**960**	**9,100**
MW-8	3/12/2008	**730**	64	ND	**2,000**
MW-8	6/2/2008	**12,000**	**7,100**	490	**5,300**
MW-8	9/22/2008	**15,000**	**13,000**	520	**7,200**
MW-8	12/5/2008	**18,000**	**15,000**	**810**	**7,700**
MW-8	3/3/2009	**16,000**	**12,000**	660	**5,700**
MW-8	6/24/2009	**21,000**	**13,000**	690	**5,700**
MW-8	9/15/2009	**15,000**	**7,800**	590	**4,900**
MW-8	12/7/2009	**10,000**	**1,300**	570	**2,500**
MW-8	3/3/2010	**14,000**	**7,800**	610	**3,900**
MW-8	6/21/2010	**17,000**	**15,000**	630	**6,600**
MW-8	9/9/2010	**17,000**	**7,800**	**760**	**4,600**

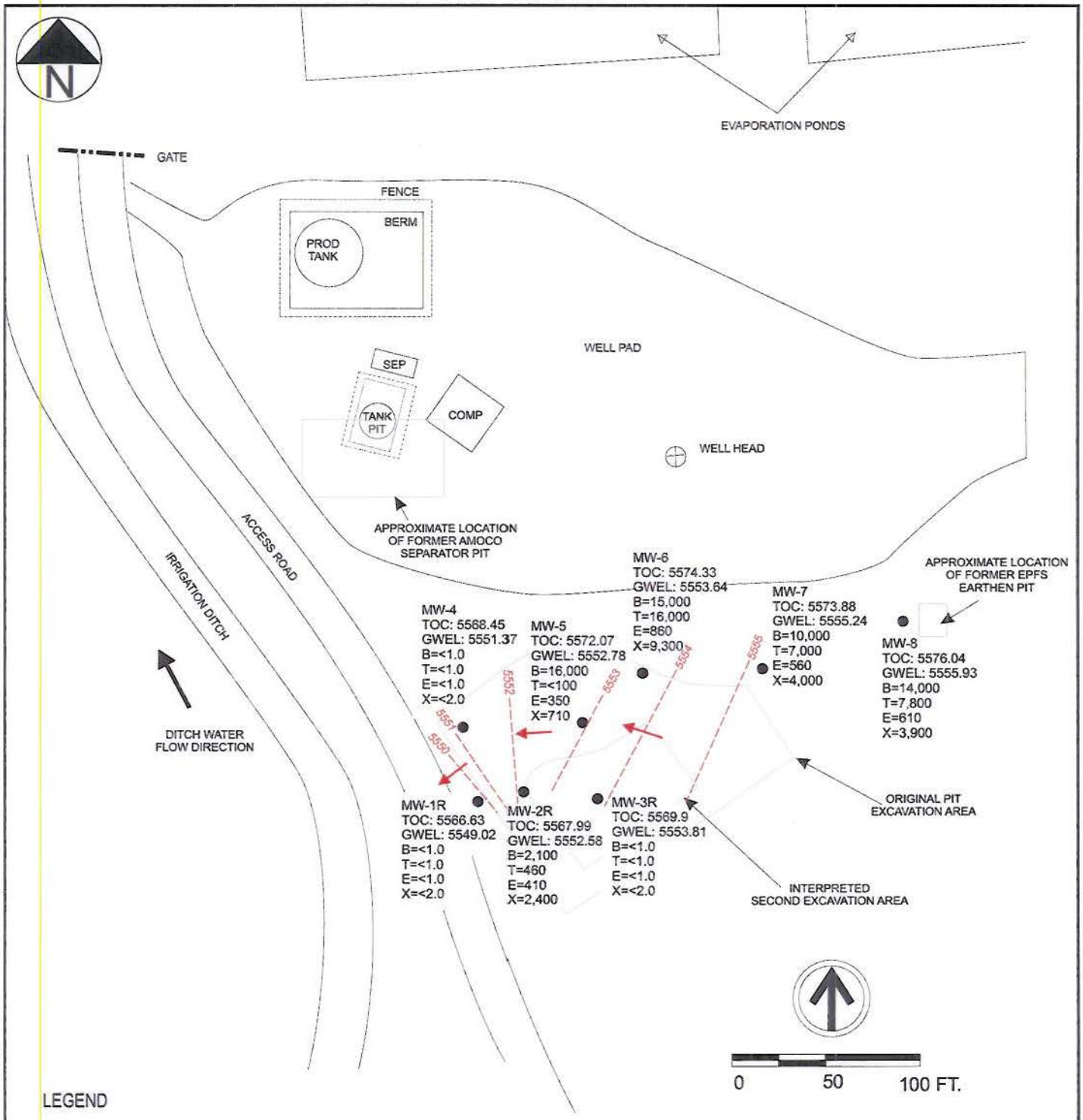
Notes:
ND - not detected above the laboratory detection limit
ug/l - micrograms per liter
< - indicates the result was less than the laboratory detection limit
NMWQCC - New Mexico Water Quality Control Commission
BOLD values exceed the NMWQCC Standard



NOTES:
1. Monitoring well locations are only as accurate as the GPS instruments and software used to plot their postions. 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


XTO ENERGY INC.
BRUINGTON GAS COM No. 1
SW/4 NW/4 SEC. 14E, T-29-N, R-11-W, N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO
BRUINGTON GAS COM No. 1
LAT: 36.72879
LONG: 107.96616
Bloomfield
West Fork Canyon
Hare Canyon
Bloomfield
DITCH
CITIZENS
GAS FIELD
RIVER
TN 11°
0 1 MILE
0 1000 FEET 0 500 1000 METERS
Printed from TOPO! ©2001 National Geographic Holdings (www.topo.com)



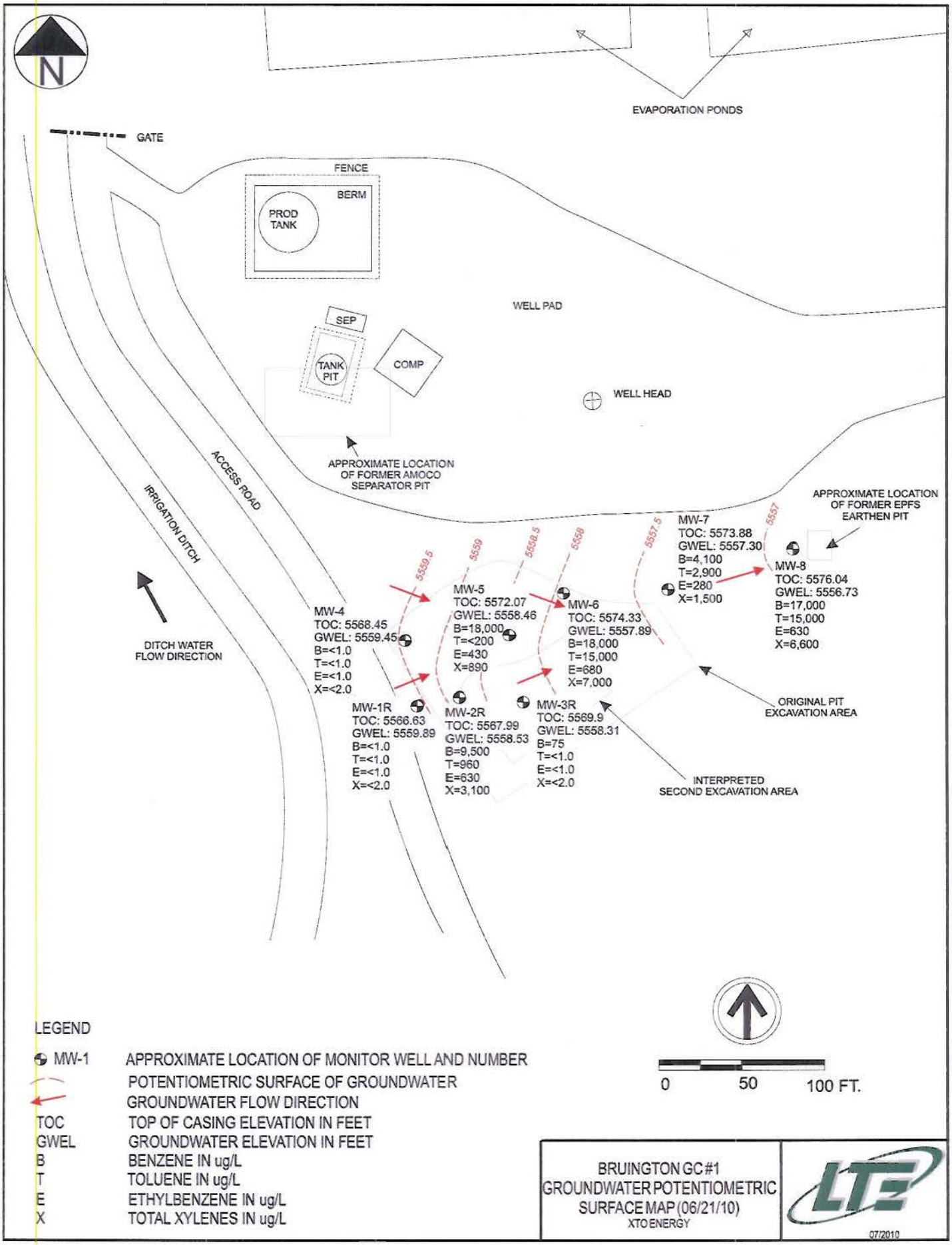
LEGEND

● MW-1	APPROXIMATE LOCATION OF MONITOR WELL AND NUMBER
	POTENTIOMETRIC SURFACE OF GROUNDWATER
	GROUNDWATER FLOW DIRECTION
TOC	TOP OF CASING ELEVATION
GWEL	GROUNDWATER ELEVATION
B	BENZENE IN ug/L
T	TOLUENE IN ug/L
E	ETHYLBENZENE IN ug/L
X	TOTAL XYLENES IN ug/L

BRUINGTON GC#1
GROUNDWATER POTENTIOMETRIC SURFACE MAP (03/03/10)
XTO ENERGY

LTE

03/2010



LEGEND

MW-1	APPROXIMATE LOCATION OF MONITOR WELL AND NUMBER
	POTENTIOMETRIC SURFACE OF GROUNDWATER
	GROUNDWATER FLOW DIRECTION
TOC	TOP OF CASING ELEVATION IN FEET
GWEL	GROUNDWATER ELEVATION IN FEET
B	BENZENE IN ug/L
T	TOLUENE IN ug/L
E	ETHYLBENZENE IN ug/L
X	TOTAL XYLENES IN ug/L

BRUINGTON GC #1
GROUNDWATER POTENTIOMETRIC SURFACE MAP (06/21/10)
XTO ENERGY

LTE

07/2010

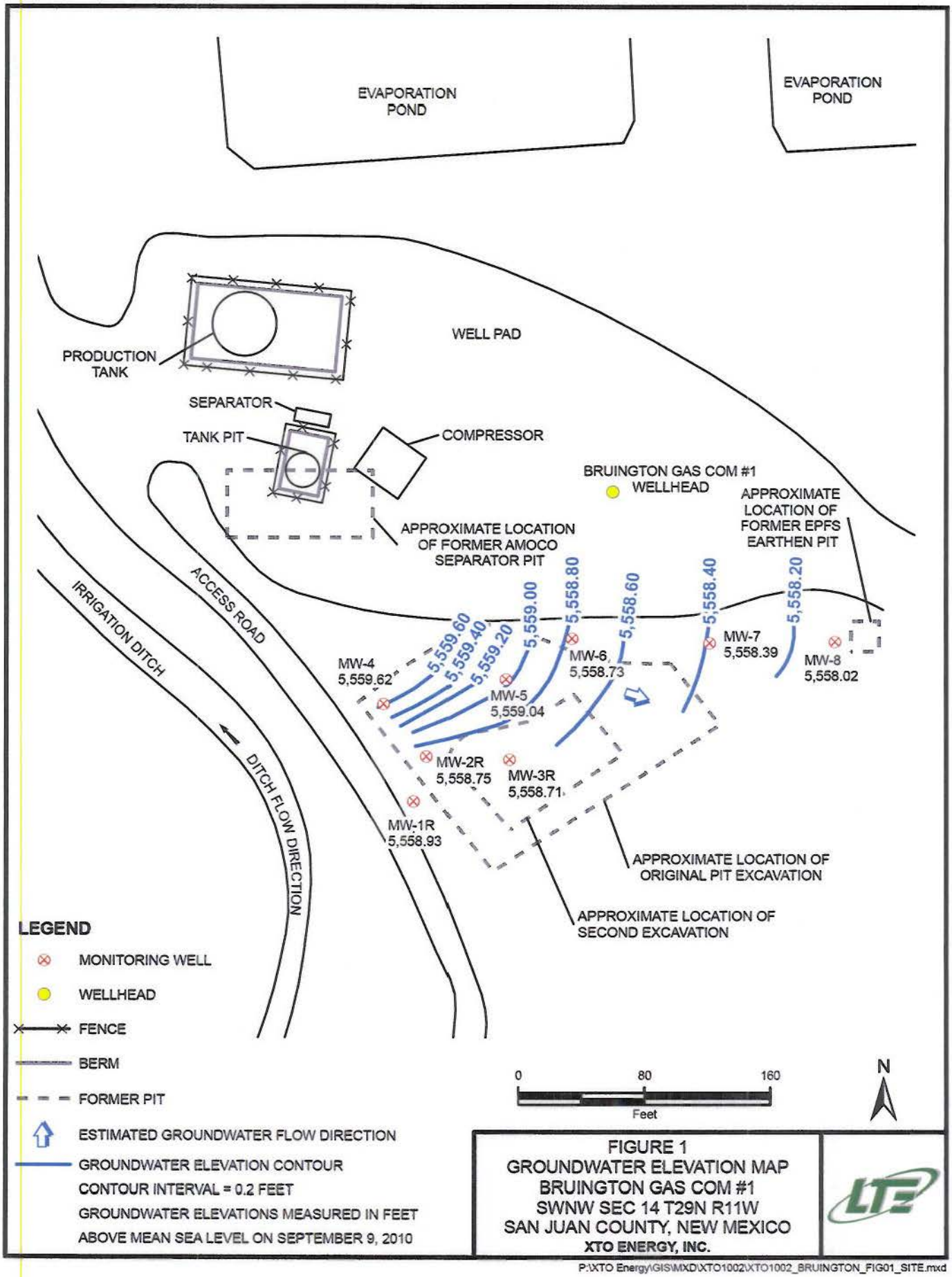


FIGURE 1
GROUNDWATER ELEVATION MAP
BRUINGTON GAS COM #1
SWNW SEC 14 T29N R11W
SAN JUAN COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\XTO1002\XTO1002_BRUINGTON_FIG01_SITE.mxd

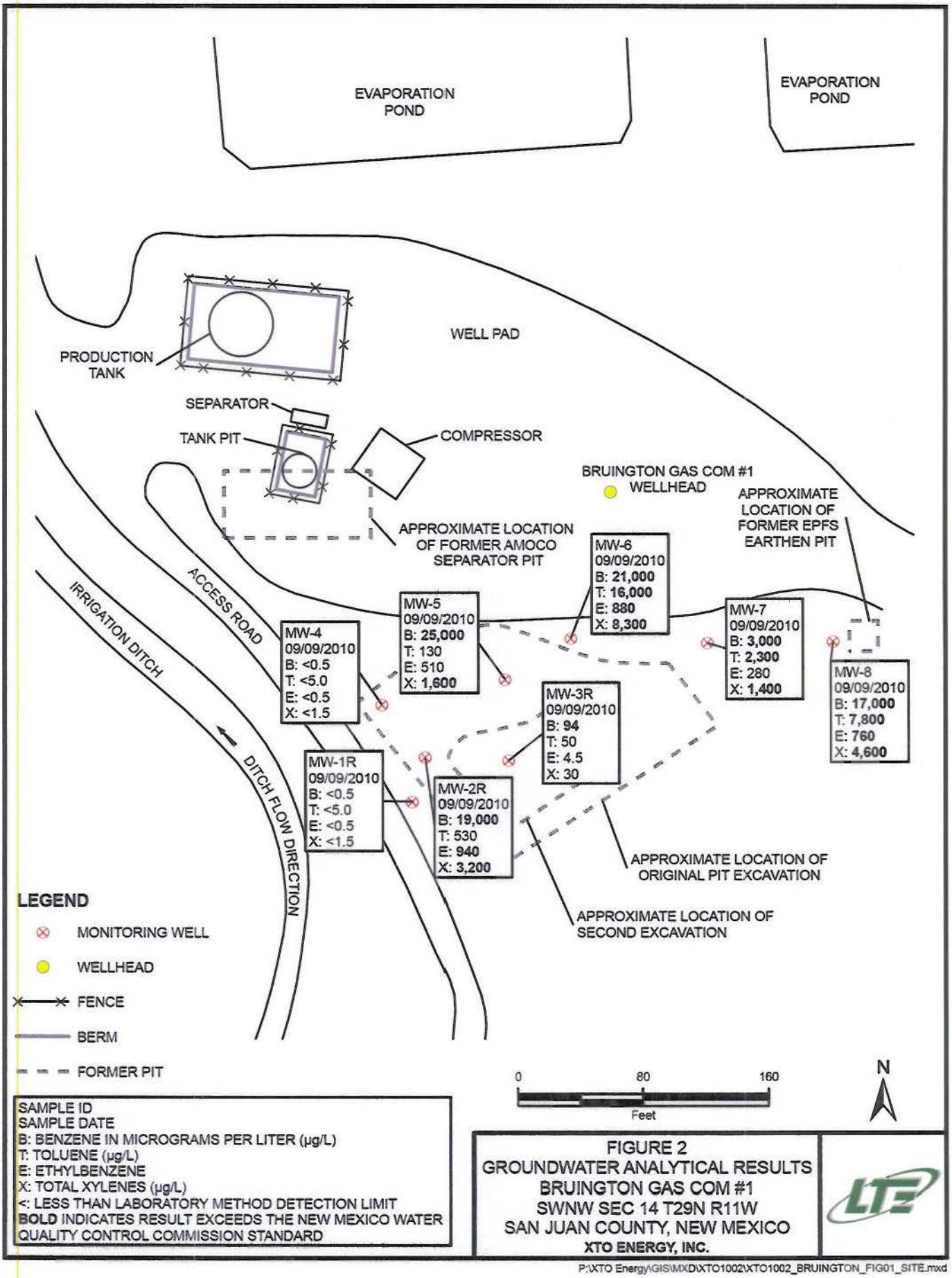


FIGURE 2
GROUNDWATER ANALYTICAL RESULTS
BRUINGTON GAS COM #1
SWNW SEC 14 T29N R11W
SAN JUAN COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\XTO1002\XTO1002_BRUINGTON_FIG01_SITE.mxd

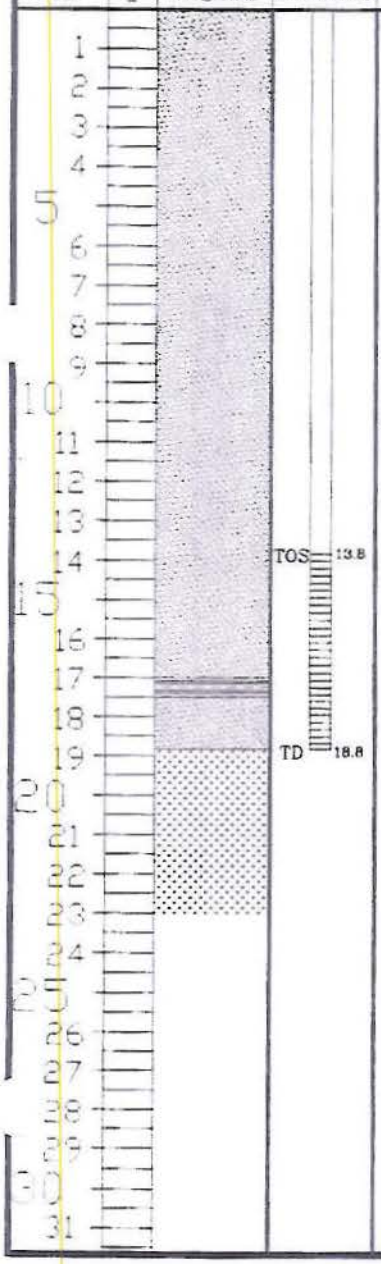
BLAGG ENGINEERING, Inc.

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



FIELD CLASSIFICATION AND REMARKS

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

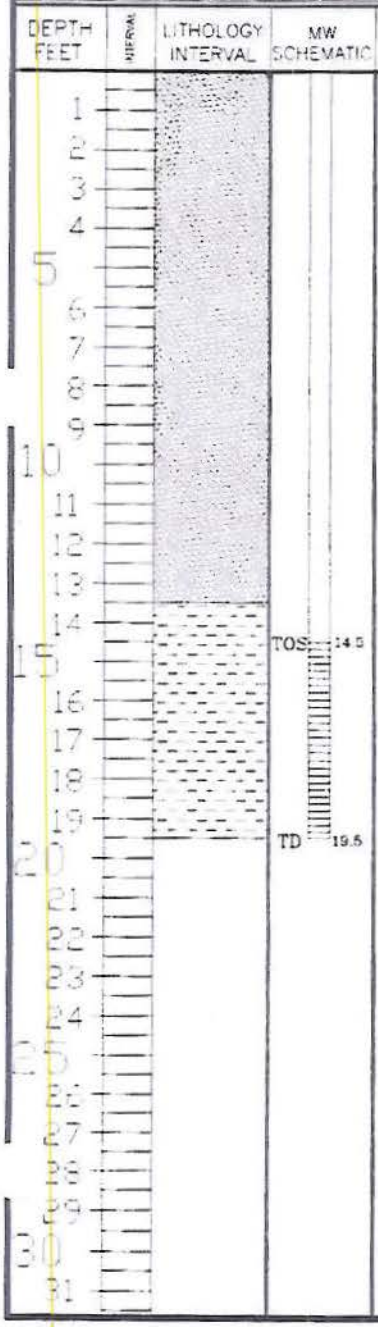
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

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

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



FIELD CLASSIFICATION AND REMARKS

TOP OF CASING APPROX. 1.90 FT ABOVE GROUND SURFACE.

DARK YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR OBSERVED (0 - 13.5 FT. INTERVAL)

▼ GW DEPTH ON 6/7/96 = 8.22 FT. (APPROX.) FROM GROUND SURFACE

OLIVE TO DARK GRAY SAND TO SILTY SAND, NON COHESIVE, SATURATED, FIRM, STRONG HYDROCARBON ODOR OBSERVED (13.5 - 19.5 FT. INTERVAL).

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: BRUING-2 | DATE: 2/07/97 | DWN BY: NJV

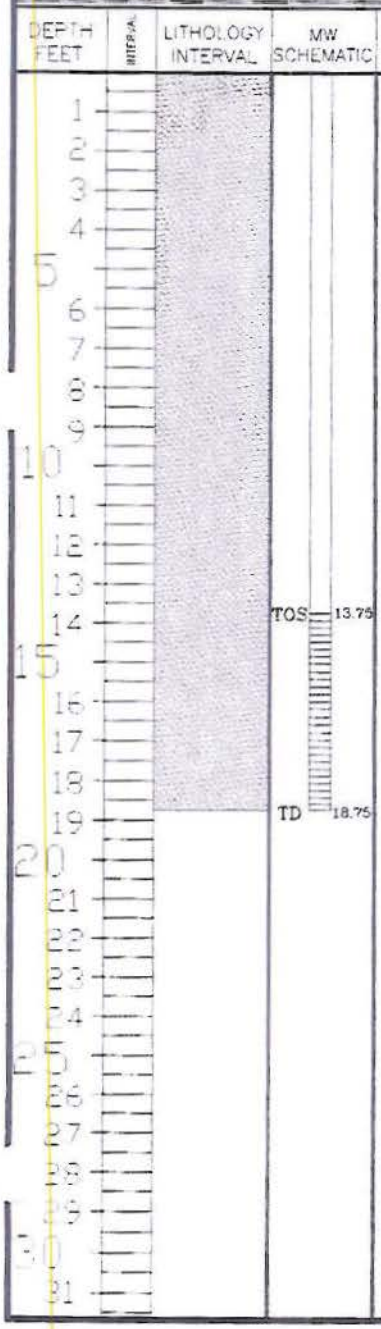
BLAGG ENGINEERING, Inc.

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



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 1.25 FT. ABOVE GROUND SURFACE.

▼ GW DEPTH ON 6/7/96 = 5.75 FT. (APPROX.) FROM GROUND SURFACE.

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).

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: BRUING-3 | DATE: 2/07/97 | DWN BY: NJV

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.

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).

TOS 5.08

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

TD 15.08

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

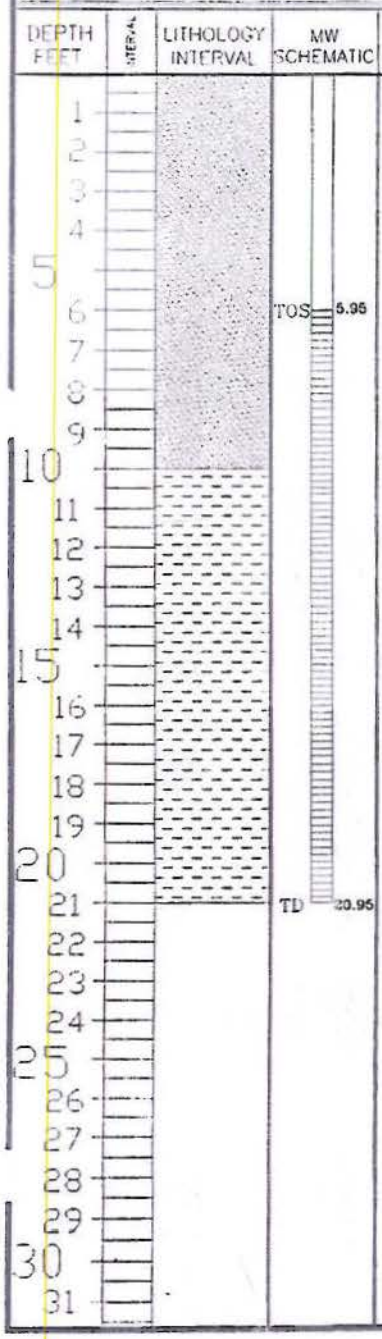
BLAGG ENGINEERING, Inc.

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



FIELD CLASSIFICATION AND REMARKS

TOP OF CASING APPROX. 2.05 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED (0 - 10.0 FT. INTERVAL).

▼ 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).

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

BLAGG ENGINEERING, INC.

P.O. BOX 87

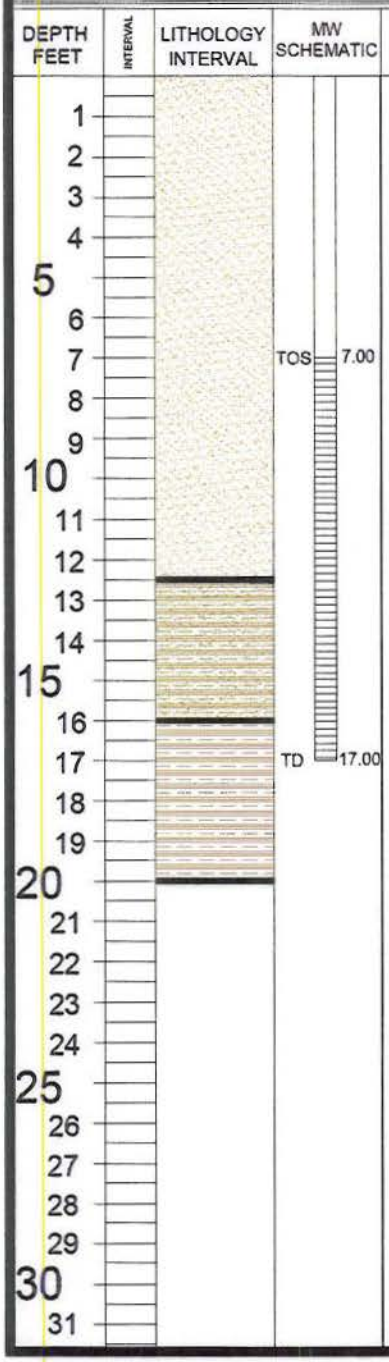
BLOOMFIELD, NM 87413

(505) 632-1199

BORE / TEST HOLE REPORT

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

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



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

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

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

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

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

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

NOTES:

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

TOS - TOP OF SCREEN FROM GROUND SURFACE.
TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
GW - GROUND WATER.

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

BLAGG ENGINEERING, INC.

P.O. BOX 87

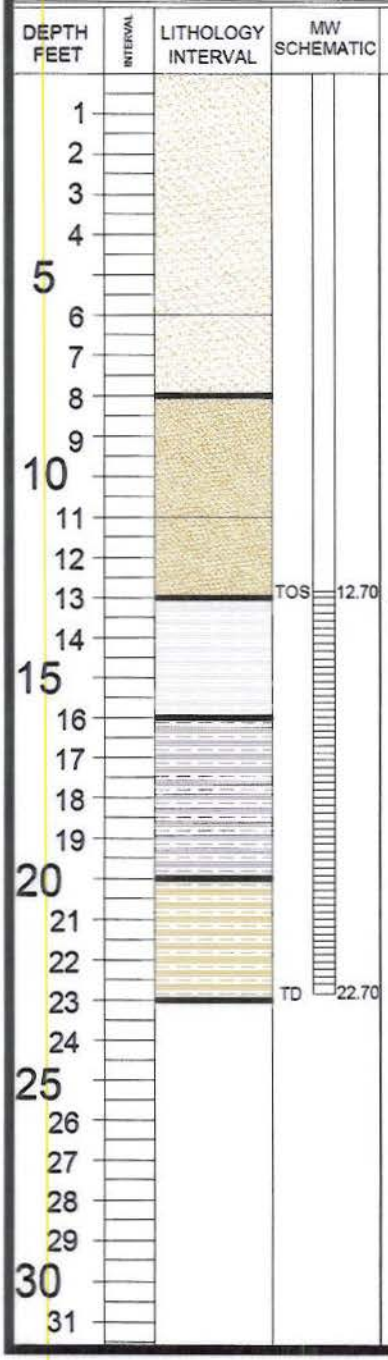
BLOOMFIELD, NM 87413

(505) 632-1199

BORE / TEST HOLE REPORT

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

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



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

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

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

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

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

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

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

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

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

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

NOTES:

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

TOS - TOP OF SCREEN FROM GROUND SURFACE.

TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.

GW - GROUND WATER.

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

IGURE 6

BLAGG ENGINEERING, INC.

P.O. BOX 87

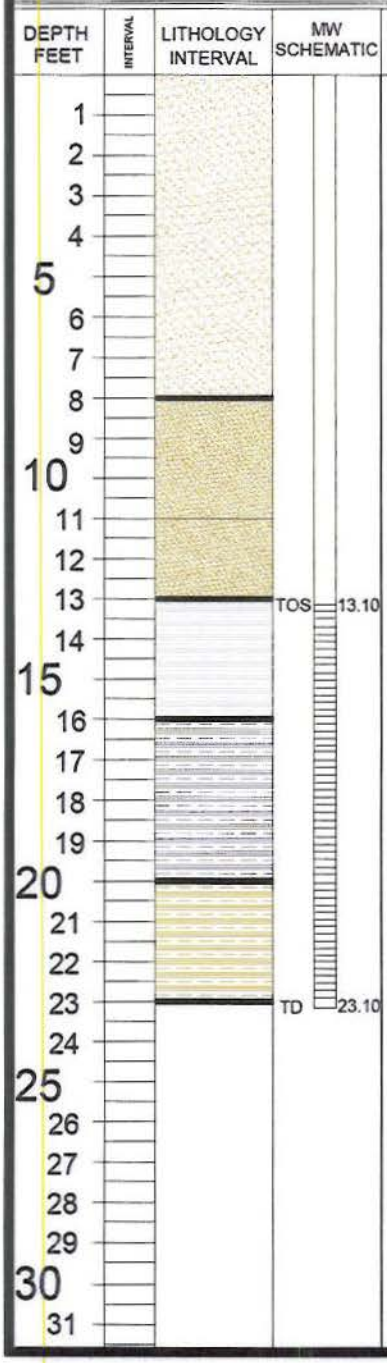
BLOOMFIELD, NM 87413

(505) 632-1199

BORE / TEST HOLE REPORT

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

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



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

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

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

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

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

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

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

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

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

NOTES:

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

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

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

GW - **GROUND WATER.**

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

BLAGG ENGINEERING, INC.

P.O. BOX 87

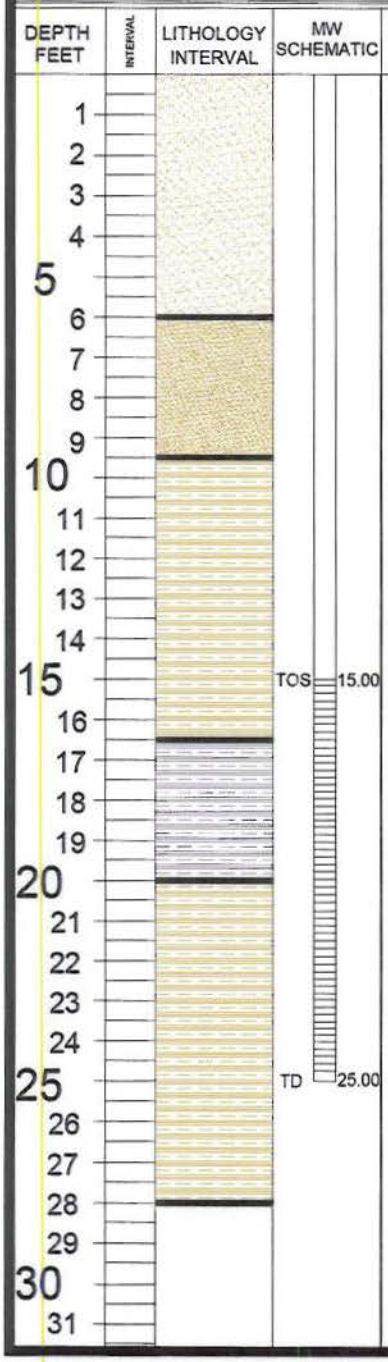
BLOOMFIELD, NM 87413

(505) 632-1199

BORE / TEST HOLE REPORT

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

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



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. AT GROUND SURFACE.

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

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

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

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

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

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

NOTES:

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

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

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

GW - **GROUND WATER.**

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

RECORD OF SUBSURFACE EXPLORATION

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

Borehole #: 1
Well #: MW-8
Page: 1 of 2
Project Number:
Project Name: XTO Ground Water
Project Location: Bruington Gas Com #1

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

Drilling Method: Hollow Stem Auger
Air Monitoring Method: PID

Depth (feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description	Air Monitoring	Drilling Conditions
0	1	0-5'	cuttings	reddish brown, poorly sorted sand and gravel, damp, unconsolidated	0	Easy
5	2	5-6.5	split spoon	reddish brown, poorly sorted sand and gravel, damp, unconsolidated	0	Easy
10	3	10-11.3	split spoon	brown, sandy silt, coarse sand content, damp, sub-angular	0	Easy
15	4	15-17	split spoon	15-15.8: brown, sandy silt, damp, unconsolidated 15.8-17: black clay, HC odor	52.8 529	Easy
20						

Comments:

Geologist Signature: *Ashley L Ager*

RECORD OF SUBSURFACE EXPLORATION

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

Borehole #: 1
Well #: MW-8
Page: 2 of 2
Project Number:
Project Name: XTO Ground Water
Project Location: Bruington Gas Com #1

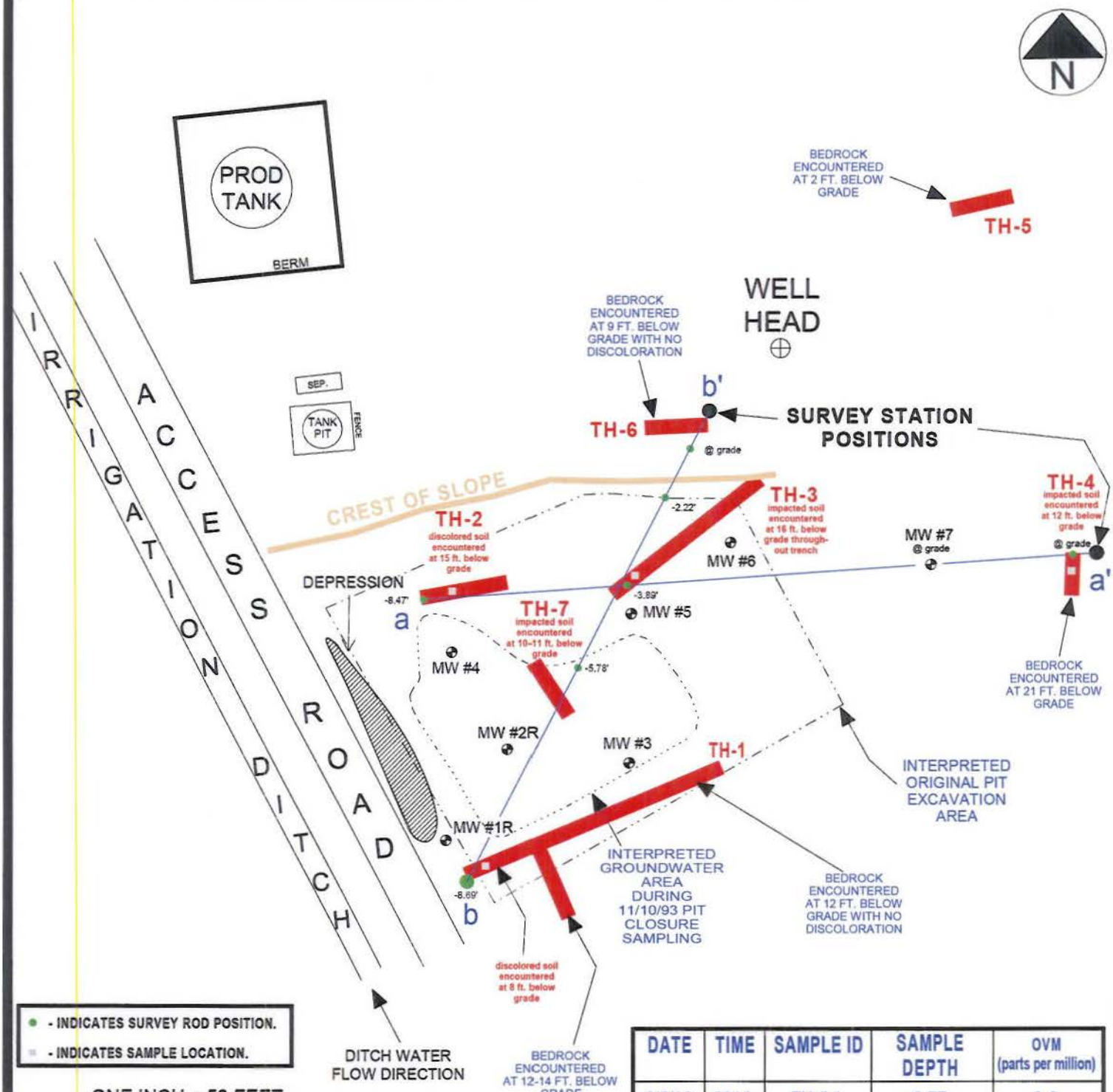
Borehole Location: 36° 43.718' N, 107° 57.991' W
GWL Depth: 20
Drilled By: Enviro-Drill
Well Logged By: Ashley Ager
Date Started: 05/04/07
Date Completed: 05/04/07

Drilling Method: Hollow Stem Auger
Air Monitoring Method: PID

Depth (feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description	Air Monitoring	Drilling Conditions
20	5	20-22	split spoon	20-21.5: bluish gray, sandy clay, very strong odor, coarse sand content, damp	710	
				21.5-22: grayish black coarse sand, saturated, unconsolidated	1580	Easy
25	6	25-26.3	split spoon	blackish gray sandy clay containing brown sandstone fragments	1120	Easy
	7	26.5-27'	cuttings	brown sandstone		Hard
30						
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*



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

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

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

* - INDICATES SAMPLE SUBMITTED TO LAB FOR APPROPRIATE ANALYSES.

XTO ENERGY INC.

BRUINGTON GC 1

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

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: SITE ASSESSMENT

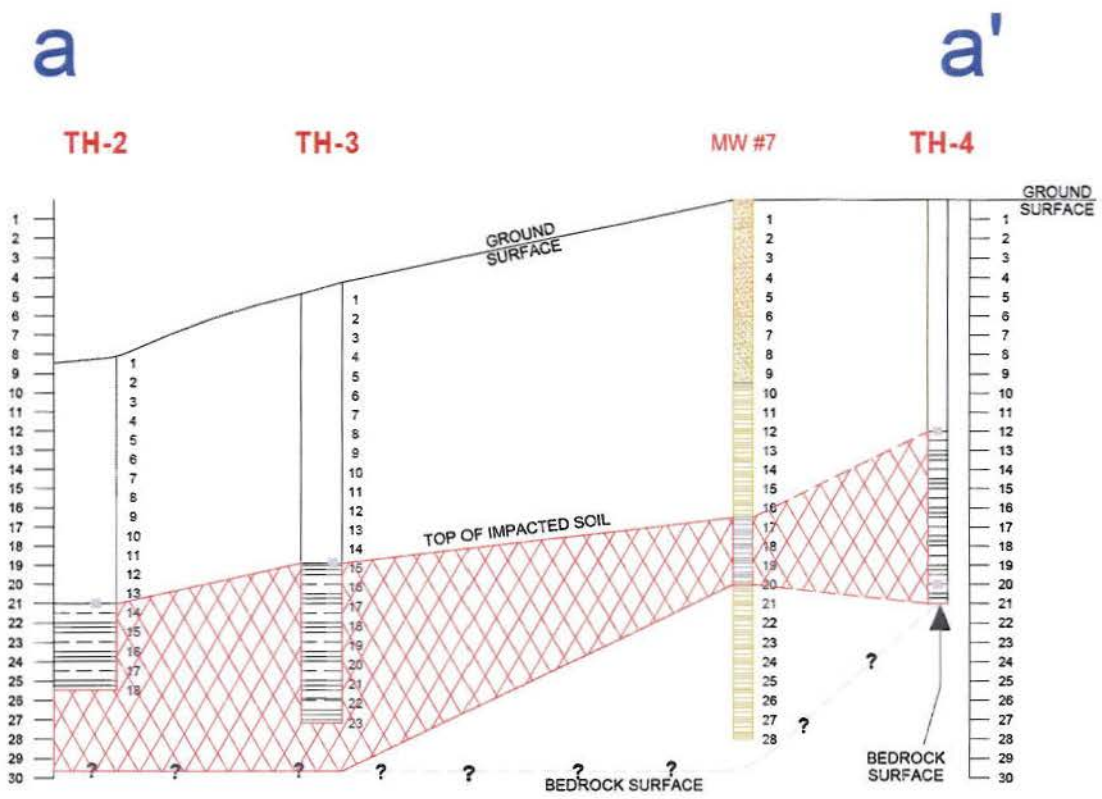
DRAWN BY: NJV

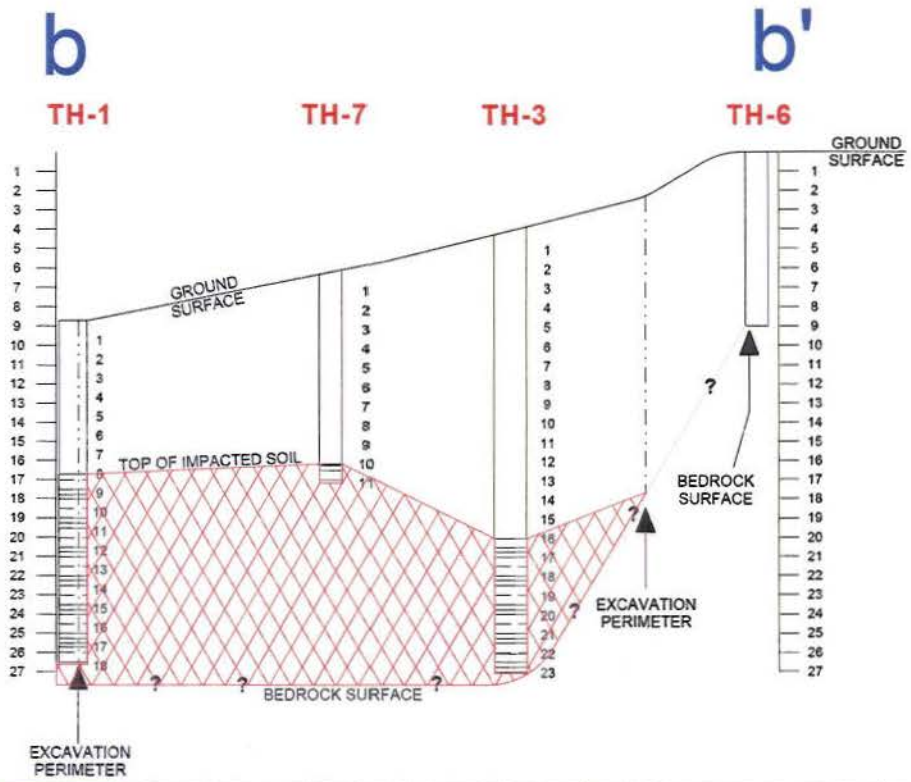
FILENAME: BRUINGTON-SM2.SKF

REVISED: 03/11/06 NJV

TEST HOLES

03/06





XTO ENERGY INC.

BRUINGTON GC 1

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

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: SITE ASSESSMENT

DRAWN BY: NJV

FILENAME: BRUINGTON-SM2-XSEC-A.SKF

DRAFTED: 03/11/06 NJV

CROSS SECTION VIEWS

03/06

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

(VERY CONTAMINATED)

ENVIROTECH Inc.

5796 US HWY 64, FARMINGTON, NM 87401
(505) 632-0615

PIT NO: C4948
C.O.C. NO: 3141

FIELD REPORT: CLOSURE VERIFICATION

JOB No: 92140
PAGE No: 1 of 1

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

DATE STARTED: 10-20-93
DATE FINISHED: 10-27-93
ENVIRONMENTAL SPECIALIST: REO

SOIL REMEDIATION: QUANTITY: EXCAVATION APPROX. 40' x 75' x 20' MAX. DEEP.
DISPOSAL FACILITY: CROUCH MESA
LAND USE: RESIDENTIAL / INDUSTRIAL
SURFACE CONDITIONS: 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 ODOR. SOIL IS SILTY SAND, BOTTOM @ 18-20' IS SANDSTONE BEDROCK. WATER SLOWLY SEEPING INTO EXCAVATION.
IRRIGATION CANAL ~ 100' DOWNGRADIENT TO THE SOUTHWEST.
EXCAVATION CONTINUING ON WEST END OF PIT AT THIS TIME,
10/27: LEDGE ROCK ON SOUTH EDGE OF EXCAVATION @ ~ 12' DEEP. COARSE SANDY SOIL.

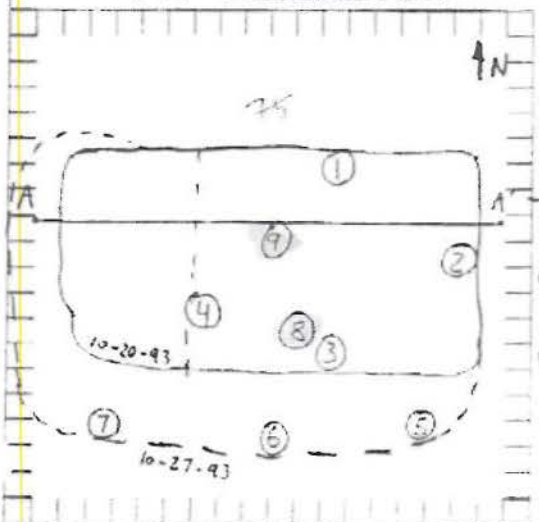
FIELD 418.1 CALCULATIONS

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

DEPTH TO GROUNDWATER:
NEAREST WATER SOURCE: CANAL ~ 100'
NEAREST SURFACE WATER:
RANKING SCORE:
TPH CLOSURE STD: 100 PPM TPH

SCALE
0 10 20 FEET

PIT PERIMETER

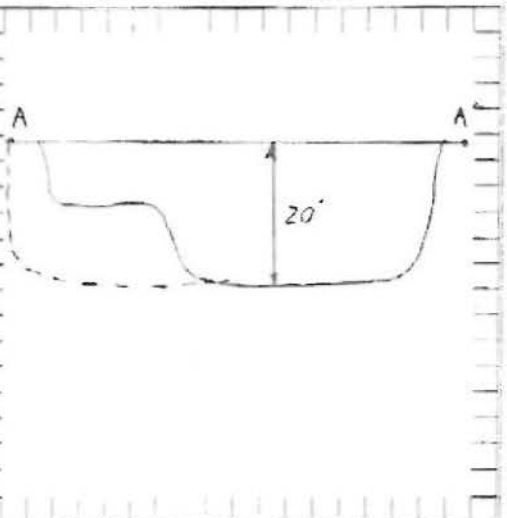


OVM RESULTS

SAMPLE #	FIELD HEADSPACE PID (ppm)
1	NS @ 15' 625
2	ES @ 14' 598
3	SS @ 15' 710
4	WSS @ 15' 736
5	SES @ 12' 6.0
6	SCS @ 12' ND
7	SWS @ 12' ND
8	SB @ 17' 3.6
9	CB @ 18' WATER

LAB
(2) 418.1 SOIL
(9) BTEX WATER

PIT PROFILE



TRAVEL NOTES: CALLOUT: 10-20-93, 10-27-93 ONSITE: 10-20-93, 10-27-93 1500 HRS. 1050 HRS. T-4 S-9

ENVIROTECH LABS

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

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

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

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

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

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

Tony Tristan
Analyst

Review

ENVIROTECH LABS

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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

Analyst

Review

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS	C4948
AMOCO # 92140	BRUINGTON GC #1 Blow PIT		
Sampler: (Signature) R. E. O'Neill	Chain of Custody Tape No.		

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	418.1	BTEX						Remarks
(8) SB @ 17'	10-27-93	1125	6409	SOIL	1	✓							
(9) CB @ 18'	10-27-93	1140	6410	WATER	2		✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
R. E. O'Neill	10-27-93	1430	Tony Tristano	10/27/93	1430
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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(505) 632-0615

Lab Results Reported to P. Velasquez on 12/02/93 by Rmy. Recommended additional Soil/groundwater Remediation.

ENVIROTECH Inc

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C4948

COC 3179

FIELD REPORT CLOSURE VERIFICATION

92140

1 1

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

DATE STARTED 11/10/93
DATE FINISHED 11/10/93
ENVIRONMENTAL SPECIALIST Rmy

SOIL REMEDIATION: QUANTITY
DISPOSAL FACILITY CROUCH MESA
LAND USE RESIDENTIAL/INDUSTRIAL
SURFACE CONDITIONS EXCAVATED PRIOR TO ARRIVAL

FIELD NOTES & REMARKS: PIT CENTER LOCATED APPROXIMATELY 40-50 yds YARDS S40W FROM WELLHEAD

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

ACCORDING TO MR. VELASQUEZ, ALL AREAS OF PIT HAVE BEEN PREVIOUSLY Closed with the exception of the 2 Sandstone benches and the bottom (below GROUNDWATER)

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

(1) SAMPLE of top 1" of SANDSTONE (GRAY DISCOLORATION) (BTEX/TPH LAB)
(2) SAMPLE of SM/ML 1 Foot Above SANDSTONE (GRAY DISCOLORATION) (BTEX/TPH LAB)
(3) SAMPLE of GROUNDWATER FOR LABORATORY ANALYSIS

* Sample locations per MR. Velasquez.

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

Recommend Monitor Wells for Groundwater Verification.

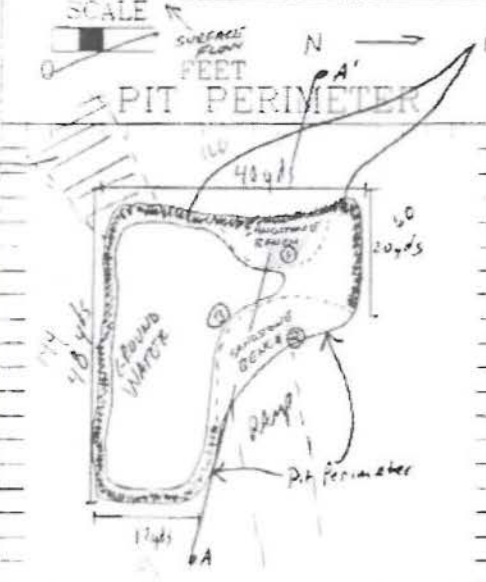
SAMPLE I.D. LAB No. WEIGHT (g) mL FREON DILUTION READING CALC. ppm

Impact Reported by Mr. Velasquez As Suspected Remaining Contamination ... Recommend ... be Removed ...

SCALE
0 FEET

AREAS THAT HAVE BEEN REPORTED AS CLOSED, THEN BACKFILLED

PIT PERIMETER



OVM RESULTS

SAMPLE	FIELD HEADSPACE (ppm)
(1) @ 10'	1177 ppm
(2) @ 9'	604 ppm

PIT PROFILE

SIDEWALLS ARE SM/ML ON SANDSTONE.

0'-10' SILTY SAND, LOOSE, NON-COH, PALE YELLOWISH BROWN, VISIBLE GRAY DISCOLORATION ON EAST SANDSTONE BENCH

10'-15' SANDSTONE: Pale Yell Brown, GRAY on top 1"-2"

TRAVEL NOTES CALLOUT ONSITE

R 80

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

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

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

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

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

Comments: Bruington GC #1, Blow Pit, C4948

Tony Tristano
Analyst

Review

ENVIROTECH LABS

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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

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

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

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

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

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

Comments: Bruington GC #1, Blow Pit, C4948

Tony Tristano
Analyst

Review

ENVIROTECH LABS

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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

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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

Analyst

Review

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location		ANALYSIS/PARAMETERS
Amoco 92140	Bruington GC #1	Blow Pit	C4948
Sampler: (Signature) Robert M Young	Chain of Custody Tape No.		

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	418.1	BTEX					Remarks
#1 @ 10' bgs	11/10/93	1415	6476	SOIL	1	✓	✓					
#2 @ 9' bgs	11/10/93	1415	6477	SOIL	1	✓	✓					
Pit Water	11/10/93	1400	6478	WATER	2		✓					

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Robert M Young	11/10/93	1530	Tony Triton	11/10/93	1530
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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Farmington, New Mexico 87401
(505) 632-0615

LAB RESULTS TO PAUL U. ON 11-3-93: TPH IS O.K., OVM HIGH. - CONTINUE EXCAVATION.

ENVIROTECH Inc.

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(505) 632-0615

PIT NO: C4950
C.O.C. NO: 3146

FIELD REPORT: CLOSURE VERIFICATION

JOB NO: 92140
PAGE NO: 1 of 1

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

DATE STARTED: 10-29-93
DATE FINISHED: 10-29-93

ENVIRONMENTAL SPECIALIST: RED

SOIL REMEDIATION: QUANTITY: EXCAVATION APPROX: 65' x 75' x 8' MAX. DEPTH
DISPOSAL FACILITY: CROUCH MESA ?
LAND USE: RESIDENTIAL SOUTH / INDUSTRIAL NORTH
SURFACE CONDITIONS: EXCAVATED PRIOR TO ARRIVAL

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 160 FEET WEST FROM WELLHEAD. PIT IS EXCAVATED TO BEDROCK SANDSTONE. APPROX. 1' DEEP ON NORTH END TO APPROX. 2' DEEP ON SOUTH END. - MINOR TRACES OF CONTAMINATION IN SANDSTONE SURFACE. IRRIGATION CANAL APPROX. 40' WEST OF PIT.
PIT SOILS CONSIST OF A SILTY SAND OVER SANDSTONE BEDROCK - GRAY CONTAMINATION STAIN APPARENT IN SURFACE OF SANDSTONE - DISAPPEARS SEVERAL INCHES INTO THE ROCK.

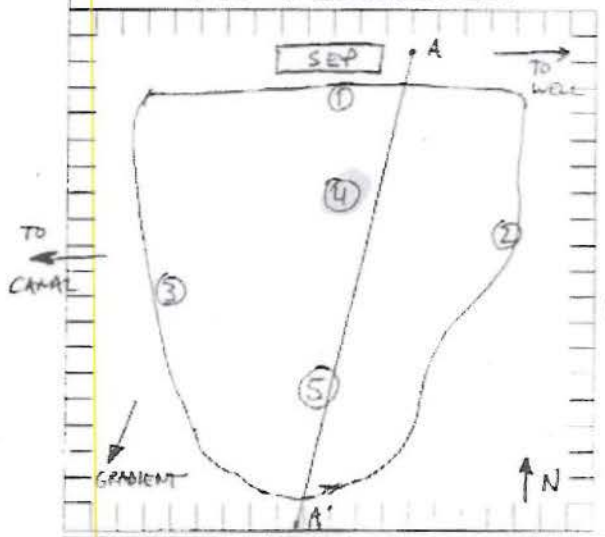
FIELD 418.1 CALCULATIONS

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

DEPTH TO GROUNDWATER: ~ 20'
NEAREST WATER SOURCE: CANAL 40'
NEAREST SURFACE WATER: CANAL
NMOCD RANKING SCORE: >20
NMOCD TPH CLOSURE STD: 100 PPM TPH

SCALE
0 10 20 FEET

PIT PERIMETER



OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PPM
1	NS@6' 978
2	ES@4' 1717
3	WS@3' 84
4	NB@8' 555
5	SB@4' 605
	LAB
4	418.1

PIT PROFILE

TRAVEL NOTES: CALLOUT 10-29-93 0800 ONSITE 10-29-93 0830

P 69

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

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

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

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

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

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

Tony Tristano
Analyst

David Young
Review

3146

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
AMOCO # 9214C	BRUINGTON G.C. #1 Sep. PIT	C495C

Sampler: (Signature)	Chain of Custody Tape No.
R. E. O'Neill	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	418.1						Remarks
(4) NB @ 8'	10-29-93	0930	6417	SOIL	1	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
R. E. O'Neill	10-29-93	1502	Denise L. Penner	10-29-93	1502
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.
5796 U.S. Highway 64-3014
Farmington, New Mexico 87401
(505) 632-0615

Jerry L. Hoot
DEPUTY OIL & GAS INSPECTOR

EL PASO FIELD SERVICES
PRODUCTION PIT CLOSURE

DEC 21 1993
Approved

RECEIVED
JUL 2 1993

BRUINGTON GAS COM #1
Meter/Line ID - 73746

SITE DETAILS

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

RATIONALE FOR RISK-BASED CLOSURE:

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

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

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

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

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

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

J:\18954\rbc

FIELD PIT SITE ASSESSMENT FORM

GENERAL

Meter: 73746 Location: BRUINGTON GAS COM #1

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

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

Or Latitude _____ Longitude _____

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

Site Visit Date: 4.14.94 Run: 10 81

SITE ASSESSMENT

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

Land Type:
- BLM ☐
- State ☐
- Fee ☒
- Indian _____

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

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

Horizontal Distance to Surface Water Body
- Less Than 200 Ft (20 points) ☐
- 200 Ft to 1000 Ft (10 points) ☒
- Greater Than 1000 Ft (0 points) ☐

Name of Surface Water Body ~~IRRIGATION DITCH~~ CITIZENS

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

TOTAL HAZARD RANKING SCORE: 20 **POINTS**

REMARKS

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

(SP3100) 03/16/

ORIGINAL PIT LOCATION

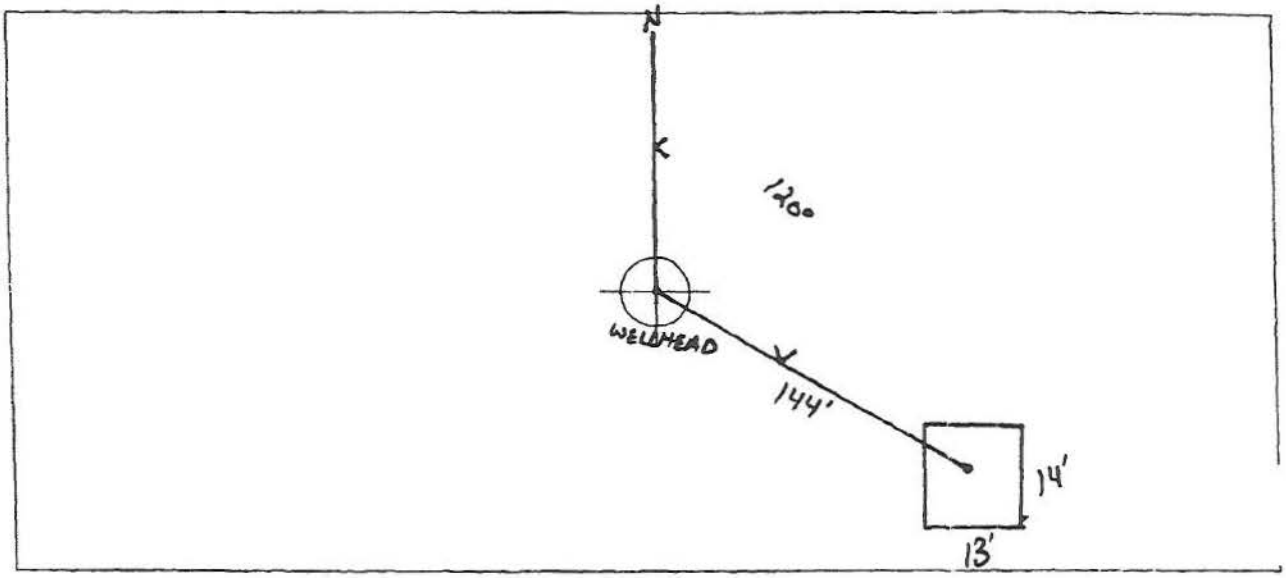
ORIGINAL PIT LOCATION

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

b) Degrees from North _____ Footage to Dogleg _____

Dogleg Name _____

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



REMARKS

Remarks :

STARTED TAKING PICTURES AT 10:06 A.M.

END DUMP

Completed By:

Fred Thompson
Signature

4.14.04
Date

PHASE I
EXCAVATION

FIELD [illegible] REMEDIATION/CLOSURE [illegible]ORM

GENERAL

Meter: 73746 Location: Bruington Gas Com #1

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

Or Latitude _____ Longitude _____

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

FIELD OBSERVATIONS

Sample Number(s): 945036 SP5 _____ _____ _____

Sample Depth: 12 Feet

Final PID Reading 0410 ppm PID Reading Depth 12 Feet

Yes No

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

CLOSURE

Remediation Method :

Excavation ☒ (1) Approx. Cubic Yards 75

Onsite Bioremediation ☐ (2)

Backfill Pit Without Excavation ☐ (3)

Soil Disposition:

Envirotech ☐ (1) ☒ (3) Tierra

Other Facility ☐ (2) Name: _____

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

REMARKS

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

Signature of Specialist: James J Pemroe

(SP3191) 04/07/94

El Paso Natural Gas Company

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Soil

SAMPLE IDENTIFICATION

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

REMARKS:

RESULTS

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

06/15/93 12:25

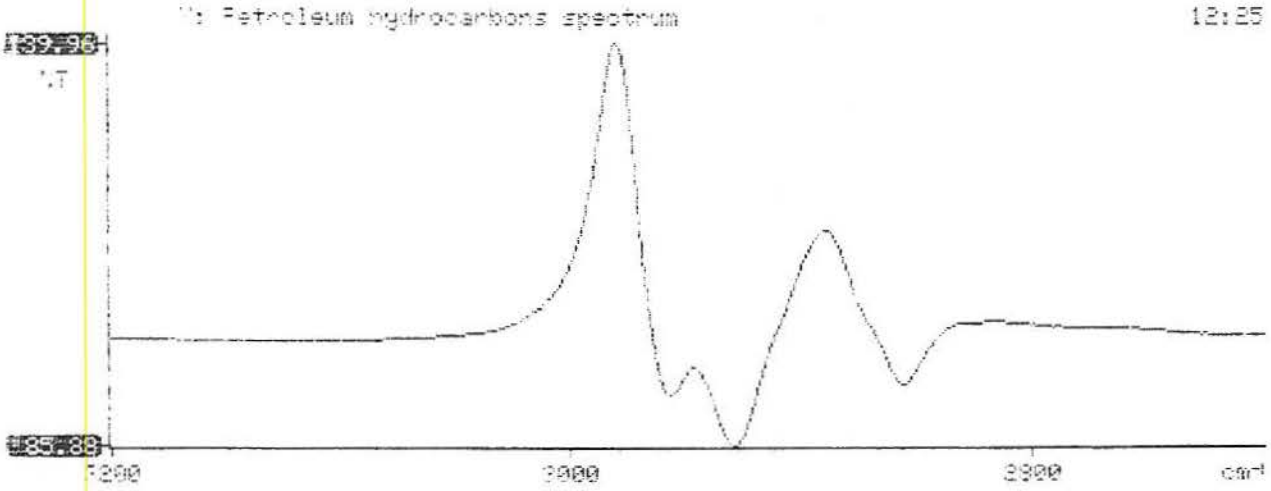
Sample Identification
745036

Initial mass of sample, g
2.030

Volume of sample after extraction, ml
28.000

Petroleum hydrocarbons, ppm
32.965

Net absorbance of hydrocarbons (2930 cm-1)
0.068



Analytical Technologies, Inc.

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

ATI I.D. **405313**

May 13, 1994

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

Project Name/Number: PIT CLOSURE 24324

Attention: John Lambdin

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

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

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

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

Letitia Krakowski, Ph.D.
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jd

Enclosure

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX, MTBE (EPA 8020)

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

PROJECT # : 24324

PROJECT NAME : PIT CLOSURE

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

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

Analytical Technologies, Inc.

COPY

ORIGINAL

INVOICE

AL 72053

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

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

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

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

Attention: ACCOUNTS PAYABLE

Telephone: 505-325-2841

Authorized by: JOHN LAMBDIN

P.O. Number: 38822

Samples: 39 NON-AQ

Project: PIT CLOSURE
Project No.: 24324

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

TEST DESCRIPTION		QUANTITY	PRICE	TOTAL
EPA METHOD 8015M/8020	-10 %	1	125.00	112.50
BTEX/MTBE (8020)	-10 %	38	80.00	2736.00
NM GROSS RECEIPTS TAX		1	165.57	165.57
			**********	**********
			Amount due:	3014.07
			**********	**********

MAY 1994 RECEIVED

5/17/94
APPROVED FOR PAYMENT

DATE _____
50% 108-52452-24-0001-0012-51-2010
CHARGE 50% 108-51570-24-0001-0012-51-2010

SIGNATURE _____
David Hall
541-3531

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

ATI-003

DISTRIBUTION: White-Customer, Yellow-File, Pink-Accounting

PHASE II

RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL
4000 Monroe Road
Farmington, 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 Bruington Gas Com #1 73746

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

Well Logged By CM Chance
Personnel On-Site K. Padilla, F. Rivera, D. Tsalate
Contractors On-Site
Client Personnel On-Site
Drilling Method 4 1/4" ID HSA
Air Monitoring Method PID, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: PPM BZ	BH	S HS	Drilling Conditions & Blow Counts
0				Backfill to 12'						
5										
10										
15	1	15-17	6"	Blk silty CLAY, with x-ln parting, med stiff, sl moist, odor			0	26	292/298	0940 hr
20	2	20-22	6"	Blk silty SAND, vf-f sand, tr med sand, med dense, sl moist, odor			3	69	28/32	0949 - hard drilling
25	3	25-25.5	3"	lt br SANDSTONE, med sand, sl x-ln, v. hard			0	40	12/1	1007 - Refusal @ 25.5'
30				TDB 25.5						
35										
40										

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

Geologist Signature

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

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

Field Remarks: _____

RESULTS

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

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

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

DF = Dilution Factor Used

Approved By: J. Ann Seiler INGVZPIT.XLS Date: 6/28/95 7/17/97

Natural Gas Company

Phase II

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

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	[redacted] CMCSD	[redacted] 946892
MTR CODE | SITE NAME:	[redacted] 73746	N/A
SAMPLE DATE | TIME (Hrs):	6-13-95	[redacted] 1007
Project ~~SAMPLED BY~~:	[redacted]	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	[redacted] 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)	[redacted] 23.2	MG/KG			2.0	28
HEADSPACE PID	[redacted] 1	PPM				
PERCENT SOLIDS	94.1 [redacted]	%				

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

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

Narrative:

All Results attached.

DF = Dilution Factor Used

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

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)

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

PROJECT # : 24324

PROJECT NAME : PIT CLOSURE/PHASE II

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

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

Analytical Technologies, Inc.

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

ATI I.D. 506376

June 21, 1995

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

Project Name/Number: PIT CLOSURE/PHASE II 24324

Attention: John Lambdin

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

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

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jt

Enclosure

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) Cory Chavez DATE: 6/13/95

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	REQUESTED ANALYSIS: TPH EPA 418.1	BTEX EPA 8020	LAB PID		PID HS PPM	SEQUENCE #	REMARKS
946891	6/13/95	0756	SOIL	CMC49	1	VG	✓	✓			2	47	33-35' Bruington GC 1E 90935
946892	↑	1007	↑	CMC50	1	VG	✓	✓			1	48	25-25.5 Bruington Gas Com #1 73746
946893	↓	1320	↓	CMC51	1	VG	✓	✓			4	49	15-17 Jacquez Gas Com A #2 72117
946894	6/13/95	1441	soil	CMC52	1	VG	✓	✓			3	50	Bagged & Iced 25-27 Jacquez Gas Com A #3E 93 11

CMC 6/13/95

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Cory Chavez	6/13/95 1800	Lynne Castillo	Lynne Castillo	6/14/95 0935	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH _____

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:

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

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

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

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.

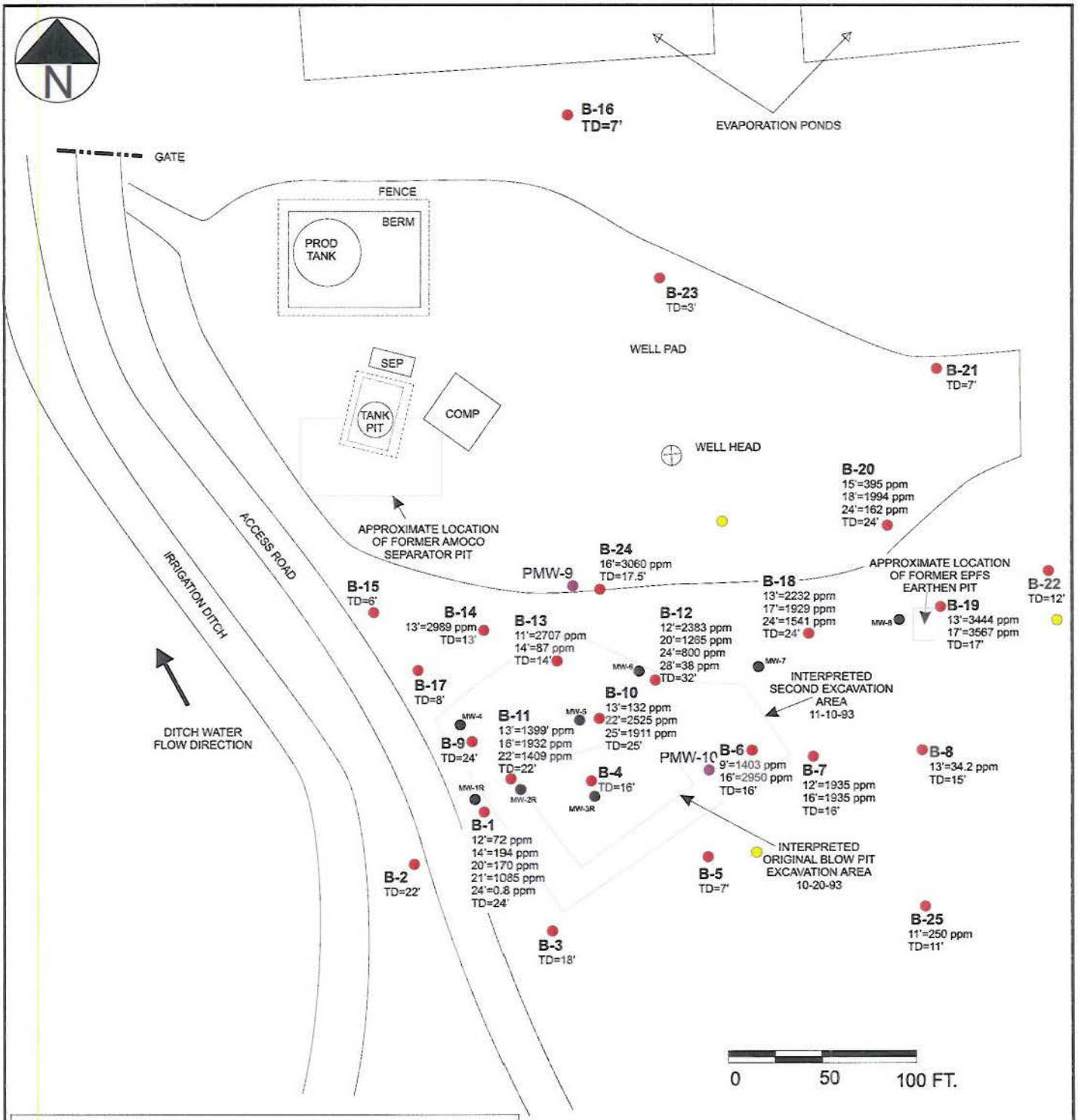
Additional maps are attached to show approximate depth to impacted soil and approximate depth to the coarse sand layer. Proposed monitoring well and auger borehole locations are also shown. Please note that the isopleths are hung on the topographic ground surface, not on a datum. This was done to better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



- = Groundwater Monitoring Well
- = Geoprobe Borehole
- = Proposed Groundwater Monitoring Well Location
- = Proposed Auger Borehole Location

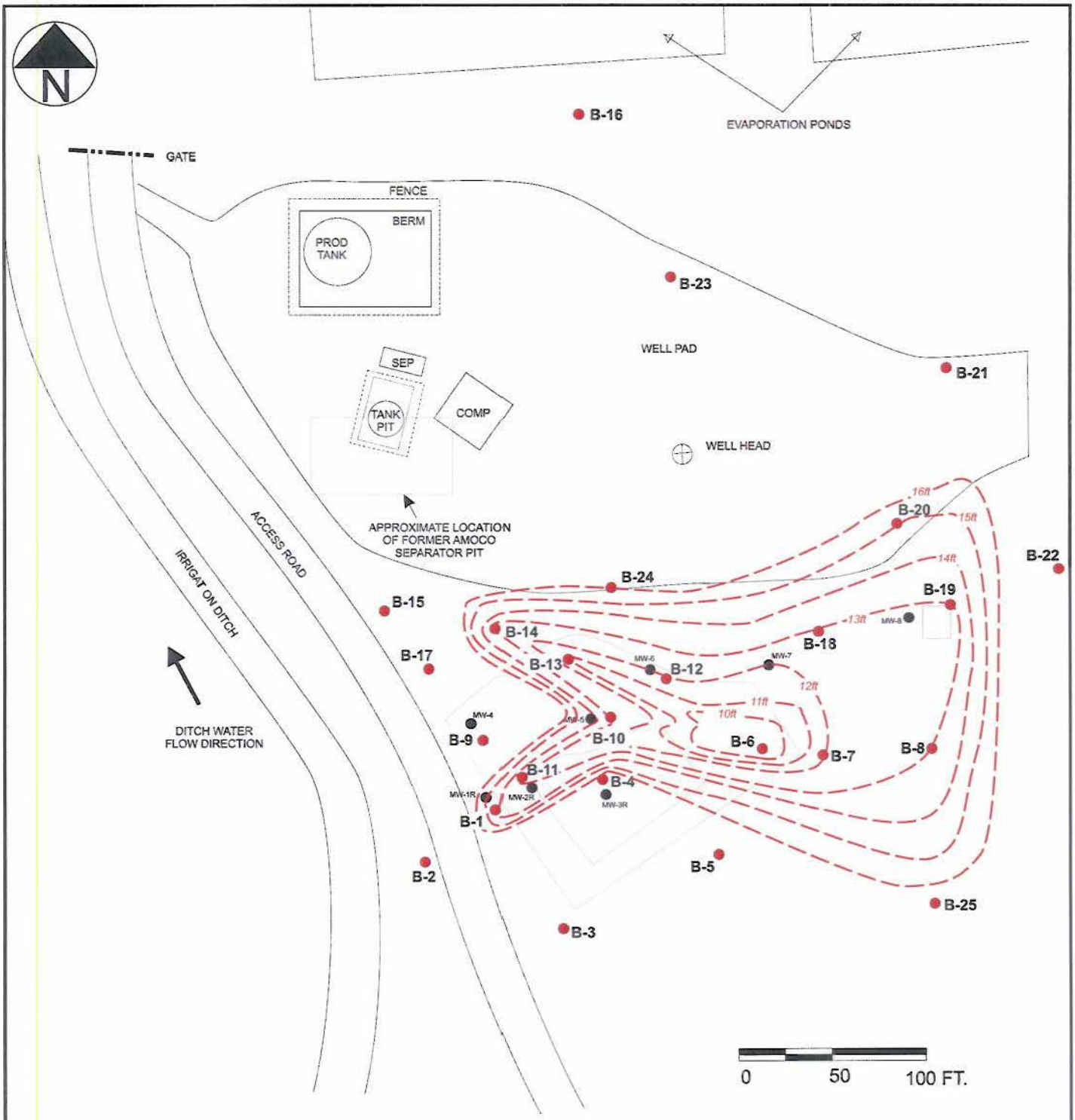
TD = Total depth of borehole (determined by refusal or field screening results

ppm = parts per million (field screening result)

NOTES:

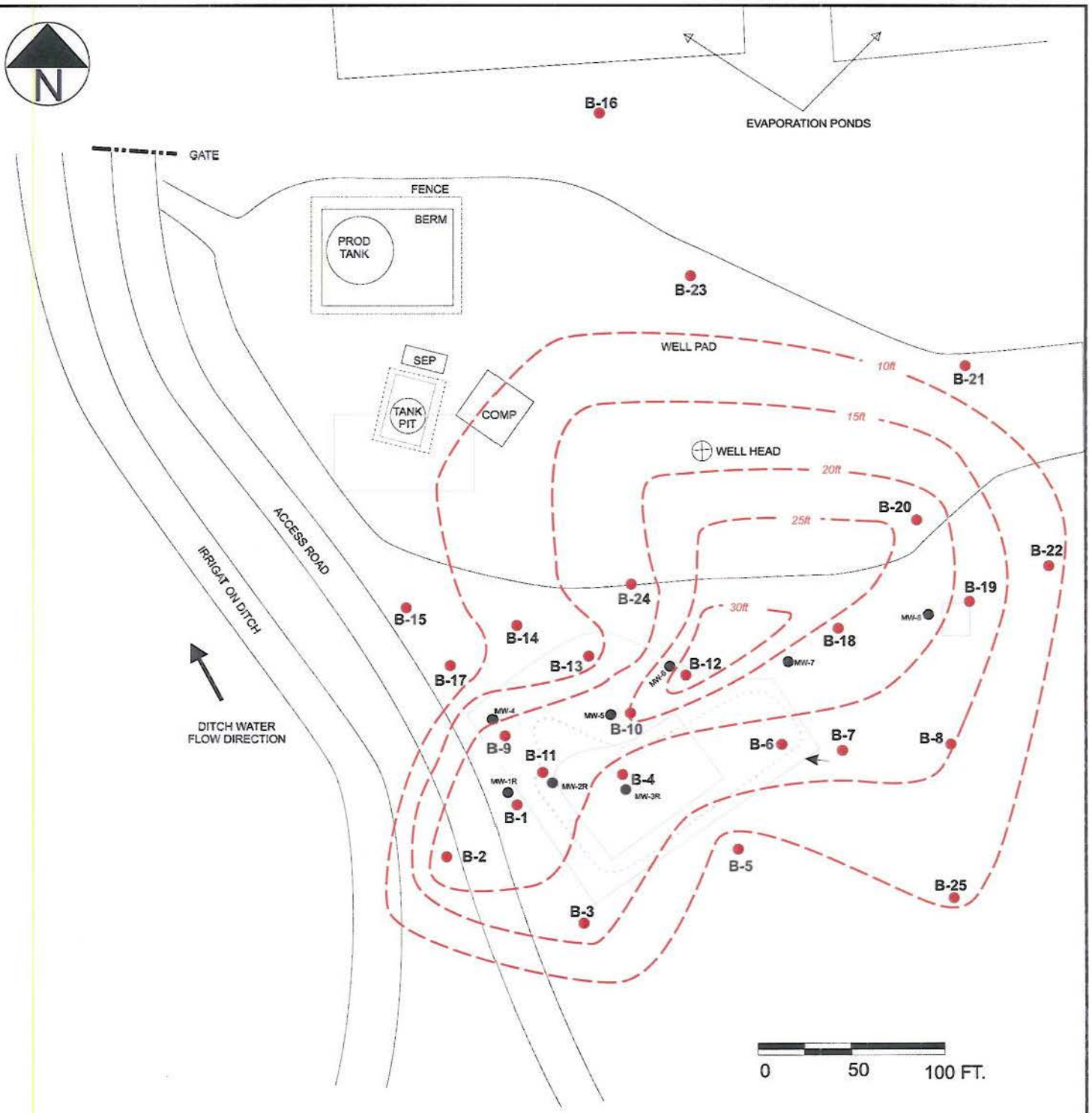
1. Monitoring well locations are only as accurate as the GPS instruments and software used to plot their postions. All other structures displayed on the site map are solely for reference and may not be to scale.

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 postions. 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 postions. 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

ESC
L·A·B S·C·I·E·N·C·E·S
YOUR LAB OF CHOICE

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

James McDaniel
XTO Energy - San Juan Division
382 Road 3100
Aztec, NM 87410

Report Summary

Tuesday September 21, 2010

Report Number: L478041
Samples Received: 09/10/10
Client Project: XTO1002

Description: XTO Groundwater Bruington

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Daphne R Richards
Daphne Richards , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002,NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

ESC
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Mt. Juliet, TN 37122
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REPORT OF ANALYSIS

James McDaniel
XTO Energy - San Juan Division
382 Road 3100
Aztec, NM 87410

September 21, 2010

ESC Sample # : L478041-01

Site ID :

Project # : XTO1002

Date Received : September 10, 2010
Description : XTO Groundwater Bruington

Sample ID : MW-4

Collected By : Julie Linn
Collection Date : 09/09/10 09:25

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.00050	mg/l	8021B	09/11/10	1
Toluene	BDL	0.0050	mg/l	8021B	09/11/10	1
Ethylbenzene	BDL	0.00050	mg/l	8021B	09/11/10	1
Total Xylene	BDL	0.0015	mg/l	8021B	09/11/10	1
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	101.		% Rec.	8021B	09/11/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:

.
Reported: 09/15/10 16:45 Revised: 09/21/10 12:24

ESC
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12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

James McDaniel
XTO Energy - San Juan Division
382 Road 3100
Aztec, NM 87410

September 21, 2010

ESC Sample # : L478041-02

Site ID :

Project # : XTO1002

Date Received : September 10, 2010
Description : XTO Groundwater Bruington

Sample ID : MW-2R

Collected By : Julie Linn
Collection Date : 09/09/10 10:23

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	19.	0.050	mg/l	8021B	09/15/10	100
Toluene	0.53	0.50	mg/l	8021B	09/15/10	100
Ethylbenzene	0.94	0.050	mg/l	8021B	09/15/10	100
Total Xylene	3.2	0.15	mg/l	8021B	09/15/10	100
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	100.		% Rec.	8021B	09/15/10	100

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 09/15/10 16:45 Revised: 09/21/10 12:24

ESC
L·A·B S·C·I·E·N·C·E·S
YOUR LAB OF CHOICE

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

James McDaniel
XTO Energy - San Juan Division
382 Road 3100
Aztec, NM 87410

September 21, 2010

ESC Sample # : L478041-03

Site ID :

Project # : XTO1002

Date Received : September 10, 2010
Description : XTO Groundwater Bruington

Sample ID : MW-1R

Collected By : Julie Linn
Collection Date : 09/09/10 11:50

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.00050	mg/l	8021B	09/15/10	1
Toluene	BDL	0.0050	mg/l	8021B	09/15/10	1
Ethylbenzene	BDL	0.00050	mg/l	8021B	09/15/10	1
Total Xylene	BDL	0.0015	mg/l	8021B	09/15/10	1
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	100.		% Rec.	8021B	09/15/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 09/15/10 16:45 Revised: 09/21/10 12:24

ESC
L·A·B S·C·I·E·N·C·E·S
YOUR LAB OF CHOICE

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

James McDaniel
XTO Energy - San Juan Division
382 Road 3100
Aztec, NM 87410

September 21, 2010

ESC Sample # : L478041-04

Date Received : September 10, 2010
Description : XTO Groundwater Bruington

Site ID :

Sample ID : MW-3R

Project # : XTO1002

Collected By : Julie Linn
Collection Date : 09/09/10 12:08

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	0.094	0.00050	mg/l	8021B	09/12/10	1
Toluene	0.050	0.0050	mg/l	8021B	09/12/10	1
Ethylbenzene	0.0044	0.00050	mg/l	8021B	09/12/10	1
Total Xylene	0.030	0.0015	mg/l	8021B	09/12/10	1
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	101.		% Rec.	8021B	09/12/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 09/15/10 16:45 Revised: 09/21/10 12:24

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REPORT OF ANALYSIS

James McDaniel
XTO Energy - San Juan Division
382 Road 3100
Aztec, NM 87410

September 21, 2010

ESC Sample # : L478041-05

Date Received : September 10, 2010
Description : XTO Groundwater Bruington

Site ID :

Sample ID : MW-8

Project # : XTO1002

Collected By : Julie Linn
Collection Date : 09/09/10 12:42

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	17.	0.050	mg/l	8021B	09/15/10	100
Toluene	7.8	0.50	mg/l	8021B	09/15/10	100
Ethylbenzene	0.76	0.050	mg/l	8021B	09/15/10	100
Total Xylene	4.6	0.15	mg/l	8021B	09/15/10	100
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	98.9		% Rec.	8021B	09/15/10	100

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 09/15/10 16:45 Revised: 09/21/10 12:24

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REPORT OF ANALYSIS

James McDaniel
XTO Energy - San Juan Division
382 Road 3100
Aztec, NM 87410

September 21, 2010

ESC Sample # : L478041-06

Site ID :

Project # : XTO1002

Date Received : September 10, 2010
Description : XTO Groundwater Bruington

Sample ID : MW-7

Collected By : Julie Linn
Collection Date : 09/09/10 13:57

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	3.0	0.050	mg/l	8021B	09/15/10	100
Toluene	2.3	0.50	mg/l	8021B	09/15/10	100
Ethylbenzene	0.28	0.050	mg/l	8021B	09/15/10	100
Total Xylene	1.4	0.15	mg/l	8021B	09/15/10	100
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	100.		% Rec.	8021B	09/15/10	100

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 09/15/10 16:45 Revised: 09/21/10 12:24

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REPORT OF ANALYSIS

James McDaniel
XTO Energy - San Juan Division
382 Road 3100
Aztec, NM 87410

September 21, 2010

ESC Sample # : L478041-07

Date Received : September 10, 2010
Description : XTO Groundwater Bruington

Site ID :

Sample ID : MW-6

Project # : XTO1002

Collected By : Julie Linn
Collection Date : 09/09/10 14:25

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	21.	0.050	mg/l	8021B	09/15/10	100
Toluene	16.	0.50	mg/l	8021B	09/15/10	100
Ethylbenzene	0.88	0.050	mg/l	8021B	09/15/10	100
Total Xylene	8.3	0.15	mg/l	8021B	09/15/10	100
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	99.7		% Rec.	8021B	09/15/10	100

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 09/15/10 16:45 Revised: 09/21/10 12:24

ESC
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REPORT OF ANALYSIS

James McDaniel
XTO Energy - San Juan Division
382 Road 3100
Aztec, NM 87410

September 21, 2010

ESC Sample # : L478041-08

Site ID :

Project # : XTO1002

Date Received : September 10, 2010
Description : XTO Groundwater Bruington

Sample ID : MW-5

Collected By : Julie Linn
Collection Date : 09/09/10 14:31

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	25.	0.10	mg/l	8021B	09/15/10	200
Toluene	0.13	0.13	mg/l	8021B	09/15/10	200
Ethylbenzene	0.51	0.10	mg/l	8021B	09/15/10	200
Total Xylene	1.6	0.30	mg/l	8021B	09/15/10	200
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	99.1		% Rec.	8021B	09/15/10	200

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

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Reported: 09/15/10 16:45 Revised: 09/21/10 12:24

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REPORT OF ANALYSIS

James McDaniel
XTO Energy - San Juan Division
382 Road 3100
Aztec, NM 87410

September 21, 2010

ESC Sample # : L478041-09

Site ID :

Project # : XTO1002

Date Received : September 10, 2010
Description : XTO Groundwater Bruington

Sample ID : TRIP BLANK

Collected By : Julie Linn
Collection Date : 09/09/10 16:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	0.00050	mg/l	8021B	09/11/10	1
Toluene	BDL	0.0050	mg/l	8021B	09/11/10	1
Ethylbenzene	BDL	0.00050	mg/l	8021B	09/11/10	1
Total Xylene	BDL	0.0015	mg/l	8021B	09/11/10	1
Surrogate Recovery(%)						
a,a,a-Trifluorotoluene(PID)	102.		% Rec.	8021B	09/11/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

.
Reported: 09/15/10 16:45 Revised: 09/21/10 12:24

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L478041-08	WG498280	SAMP	Toluene	R1376928	J

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Company Name/Address	Alternate Billing	Analysis/Container/Preservative	Chain of Custody Page___of___
XTO Energy, Inc. **382 County Road 3100** **Aztec, NM 87410**	XTORNM031810S Report to: Julie Linn E-mail to: jlinn@ltenv.com	8021B- BTEX/ 40ml Clr/ No Pres	Prepared by: E174 ENVIRONMENTAL Science corp 12065 Lebanon Road Mt. Juliet TN 37122 Phone (615)758-5858 Phone (800) 767-5859 FAX (615)758-5859

Project Description: XTO Groundwater-Bruington	City/State Collected: Bruington	CoCode (lab use only) XTORNM Template/Prelogin
PHONE: 505-333-3701 FAX:	Client Project No. XTO1002	Lab Project #	Shipped Via: Fed Ex
Collected by: Julie Linn	Site/Facility ID#	P.O.#	
Collected by(signature): Julie Linn Packed on Ice N___ Y_X_	Rush? (Lab MUST be Notified) _____Next Day.....100% _____Two Day.....50% _____Three Day.....25% Date Results Needed Email?___No_X__Yes FAX?_X_No___Yes	No of Cntrs

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	Cntrs	Remarks/contaminant	Sample # (lab only)
MW-4	Grab	AQ/GW	N/A	9/9/10	0925	2	X	L478041-01
MW-2R					1023		X	L478041 02
MW-1R					1150		X	03
MW-3R					1208		X	04
MW-8					1242		X	05
MW-7					1357		X	06
MW-6					1425		X	07
MW-5					1431		X	08
Trip Blank		AQ	N/A		1630	X	X	09

nm

*Matrix: SS-Soil/Solid GW-Groundwater WW-Wastewater DW-Drinking Water OT- Other_____ pH_____ Temp_____

Remarks: 1630 JL Flow_____ Other_____

Relinquisher by:(Signature)	Date:	Time:	Received by:(Signature)	Samples returned via: FedEx/X_ UPS__Other__	Condition (lab use only)
Julie Linn	9/9/10	1430		4341 9810 1077	COC'd OK
Relinquisher by:(Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.7°	Bottles Received: 17
Relinquisher by (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 9/10/10	Time: 09:00
				pH Checked:	NCF:

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental, Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096 / F 970.385.1873

Project Name: Groundwater | Location: Bruington | Well No: MW-1R
Client: XTO | Date: 9/9/2010 | Time: 9:59
Project Manager: Julie Linn, RG | Sampler's Name: Julie Linn, RG

Measuring Point: TOC | Depth to Water: 7.7 ft | Depth to Product: NA ft
Well Diameter: 2" | Total Depth: 17.72 ft | Product Thickness: NA ft
Water Column Height: 10.02 ft

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other
☑ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☑ 3 to 5 Casing Volumes of Water Removal ☑ Stabilization of Indicator Parameters ☐ Other

Water Volume in Well			
Gal/ft x ft of water	Gallons in Well	Gallons * 3	Volume to be removed (3 casing volumes)
10.02 x 0.16	1.6032	4.8096	4.8096 gal

Time (military)	pH (su)	EC (ms)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
10:45	6.93	3.89	17.8				0.25	clear, no odor, no sheen
10:46	6.88	3.92	17.5				0.5	light brown
10:46	6.89	3.87	18.2				0.75	no change
10:48	6.94	3.88	18.0				1	no change
10:49	6.91	3.91	17.0				1.5	no change
10:50	6.94	3.86	16.5				2	incr. turbidity, incr grey color
10:54	6.94	3.64	16.3				2.5	no change , bailing dry
10:59	7.05	3.63	16.4				3	bailigni dry
11:26	6.96	3.69	16.7				3.5	slight tan/grey, turbid
11:39	6.93	3.62	16.4				4	no change
11:46	6.93	3.61	16.3				4.25	no change
11:46	6.91	3.62	16.3				4.5	no change
11:47	6.92	3.61	16.4				4.75	no change
11:48	6.95	3.62	16.3				5	no change
FINAL: 11:48	6.95	3.62	16.3					

COMMENTS: Sampled in 2 non-preserved VOA's

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other

Water Disposal: On Site BGT

Sample ID: MW-1R | Sample Time: 11:50

Analysis Requested: ☑ BTEX ☐ VOCs ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other

Trip Blank: Yes | Duplicate Sample: NA

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental, Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096 / F 970.385.1873

Project Name: Groundwater | Location: Bruington | Well No: MW-2R
Client: XTO | Date: 9/9/2010 | Time: 9:17
Project Manager: Julie Linn, RG | Sampler's Name: Julie Linn, RG

Measuring Point: TOC | Depth to Water: 9.24 ft | Depth to Product: NA ft
Well Diameter: 2" | Total Depth: 23.23 ft | Product Thickness: NA ft
Water Column Height: 13.99 ft

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other _____
☑ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☑ 3 to 5 Casing Volumes of Water Removal ☑ Stabilization of Indicator Parameters ☐ Other _____

Water Volume in Well			
Gal/ft x ft of water	Gallons in Well	Gallons * 3	Volume to be removed (3 casing volumes)
13.99 x 0.16	2.2384	6.7152	6.7152 gal

Time (military)	pH (su)	EC (ms)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
9:31	7.04	8.32	17.6				0.25	strong odor, grey-black, no sheen
9:39	7.04	8.42	18.3				0.5	no change
9:40	7.04	8.40	18.2				0.75	black, strong odor
9:41	7.08	8.40	18.4				1	no change
9:43	7.06	8.44	17.4				1.5	no change
9:44	7.06	8.58	16.4				2	slightly clearer, strong odor
9:45	7.07	8.71	16.0				2.5	no change
9:47	7.09	8.81	15.8				3	no change
9:51	7.13	8.28	15.8				3.5	no change
9:53	7.15	8.69	15.8				4	slow bailing
9:55	7.24	8.62	15.9				4.5	no change
10:02	7.13	8.38	15.9				5	no change
10:04	7.12	8.62	15.7				5.5	no change
10:08	7.21	8.62	15.9				6	no change
10:11	7.18	8.56	15.8				6.25	no change
10:14	7.13	8.32	15.8				6.5	no change
10:17	7.13	8.66	15.6				6.75	no change
10:20	7.15	8.77	15.7				7	no change
10:22	7.16	8.70	15.6				7.25	no change
FINAL: 10:22	7.16	8.70	15.6				7.25	

COMMENTS: Sampled in 2 non-preserved VOA's

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other _____

Water Disposal: On Site BGT

Sample ID: MW-2R | Sample Time: 10:23

Analysis Requested: ☑ BTEX ☐ VOCs ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other _____

Trip Blank: Yes | Duplicate Sample: NA

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental, Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096 / F 970.385.1873

Project Name: Groundwater | Location: Bruington | Well No: MW-3R
Client: XTO | Date: 9/9/2010 | Time: 11:05
Project Manager: Julie Linn, RG | Sampler's Name: Julie Linn, RG

Measuring Point: TOC | Depth to Water: 11.18 ft | Depth to Product: NA ft
Well Diameter: 2" | Total Depth: 22.09 ft | Product Thickness: NA ft
Water Column Height: 10.91 ft

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other _____
☑ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☑ 3 to 5 Casing Volumes of Water Removal ☑ Stabilization of Indicator Parameters ☐ Other _____

Water Volume in Well			
Gal/ft x ft of water	Gallons in Well	Gallons * 3	Volume to be removed (3 casing volumes)
10.91 x 0.16	1.7456	5.2368	5.2368 gal

Time (military)	pH (su)	EC (ms)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
11:11	7.25	10.41	18.3				0.25	slightly turbid, tan
11:12	7.14	10.62	18.0				0.5	no change
11:13	7.11	10.92	17.2				0.75	no change
11:13	7.09	11.03	16.7				1	no change
11:15	7.11	10.95	16.9				1.5	no change
11:16	7.12	10.98	16.6				2	incr. turbidity, greyer color
11:18	7.21	10.95	16.4				2.5	no change
11:59	7.29	10.85	17.4				3	incr turbidity, bailing dry
12:00	7.22	11.05	17.1				3.5	lt. brown, turbid
12:01	7.16	10.94	16.7				4	no change
12:03	7.18	11.04	16.5				4.5	incr. turbidity, greyer color
12:04	7.18	11.01	16.4				5	no change
12:05	7.21	10.95	16.4				5.25	no change
12:06	7.23	11.00	16.4				5.5	no change
FINAL: 12:06	7.23	11.00	16.4				5.5	

COMMENTS: Sampled in 2 non-preserved VOA's

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other _____

Water Disposal: On Site BGT

Sample ID: MW-3R | Sample Time: 12:08

Analysis Requested: ☑ BTEX ☐ VOCs ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other _____

Trip Blank: Yes | Duplicate Sample: NA

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental, Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096 / F 970.385.1873

Project Name: Groundwater | Location: Bruington | Well No: MW-4
Client: XTO | Date: 9/9/2010 | Time: 8:50
Project Manager: Julie Linn, RG | Sampler's Name: Julie Linn, RG

Measuring Point: TOC | Depth to Water: 8.83 ft | Depth to Product: NA ft
Well Diameter: 2" | Total Depth: 20.25 ft | Product Thickness: NA ft
Water Column Height: 11.42 ft

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other _____
☑ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☑ 3 to 5 Casing Volumes of Water Removal ☑ Stabilization of Indicator Parameters ☐ Other _____

Water Volume in Well			
Gal/ft x ft of water	Gallons in Well	Gallons * 3	Volume to be removed (3 casing volumes)
11.42 x 0.16	1.8272	5.4816	5.4816 gal

Time (military)	pH (su)	EC (ms)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
8:54	6.84	6.69	19.0				0.25	clear, no odor, no sheen
8:56	6.87	6.71	18.8				0.5	light brown, slightly cloudy
8:57	6.80	6.77	18.3				0.75	no change
8:58	6.79	6.75	18.1				1	no change
8:59	6.78	6.78	17.5				1.25	no change
9:00	6.81	6.80	17.1				1.5	no change
9:01	6.79	6.79	17.0				1.75	slightly more turbid
9:02	6.80	6.78	16.8				2	no change
9:03	6.81	6.73	16.4				2.5	no change
9:05	6.86	6.77	16.0				3	increasing turbidity
9:07	6.84	6.75	15.9				3.5	bailing dry, decr. Turbidity
9:10	7.1	6.66	16				4	clearer
9:14	6.95	6.61	16.1				4.5	no change
9:19	6.94	6.68	16.1				5	no change
9:20	6.89	6.64	16.1				5.25	no change
9:21	6.91	6.67	16.1				5.5	no change
9:23	6.95	6.70	16				5.75	no change
FINAL: 9:23	6.95	6.70	16.0					

COMMENTS: Sampled in 2 non-preserved VOA's

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other _____

Water Disposal: On Site BGT

Sample ID: MW-4 | Sample Time: 9:25

Analysis Requested: ☑ BTEX ☐ VOC ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other _____

Trip Blank: Yes | Duplicate Sample: NA

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental, Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096 / F 970.385.1673

Project Name: Groundwater | Location: Bruington | Well No: MW-5
Client: XTO | Date: 9/9/2010 | Time: 13:26
Project Manager: Julie Linn, RG | Sampler's Name: Julie Linn, RG

Measuring Point: TOC | Depth to Water: 13.03 ft | Depth to Product: NA ft
Well Diameter: 2" | Total Depth: 25.3 ft | Product Thickness: NA ft
Water Column Height: 12.27 ft

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other
☑ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☑ 3 to 5 Casing Volumes of Water Removal ☑ Stabilization of Indicator Parameters ☐ Other

Water Volume in Well			
Gal/ft x ft of water	Gallons in Well	Gallons * 3	Volume to be removed (3 casing volumes)
12.27 x 0.16	1.9632	5.8896	5.8896 gal

Time (military)	pH (su)	EC (ms)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
13:32	7.15	11.11	19.7				0.25	strong odor, grey, slight sheen
	7.10	11.37	18.6				0.5	no change
	7.07	11.59	18.0				0.75	no change
	6.88	12.33	17.3				1	no change
	6.86	12.72	17.0				1.5	no change
13:38	6.81	13.78	16.4				2	no change
	6.90	13.97	16.2				2.5	darker grey, bailing dry
	7.09	13.87	16.5				3	bailing dry
							3.5	opaque grey, odor, bailed dry and not recovering
14:11	7.26	13.42	16.1				4	no change
FINAL: 14:11	7.26	13.42	16.1				4	

COMMENTS: Sampled in 2 non-preserved VOA's, bailing dry and very slow recovery, unable to get 3 well volumes

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other

Water Disposal: On Site BGT

Sample ID: MW-5 | Sample Time: 14:31

Analysis Requested: ☑ BTEX ☐ VOCs ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other

Trip Blank: Yes | Duplicate Sample: NA

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental, Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096 / F 970.385.1873

Project Name: Groundwater | Location: Bruington | Well No: MW-6
Client: XTO | Date: 9/9/2010 | Time: 13:12
Project Manager: Julie Linn, RG | Sampler's Name: Julie Linn, RG

Measuring Point: TOC | Depth to Water: 15.6 ft | Depth to Product: NA ft
Well Diameter: 2" | Total Depth: 25.3 ft | Product Thickness: NA ft
Water Column Height: 9.7 ft

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other
☑ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☑ 3 to 5 Casing Volumes of Water Removal ☑ Stabilization of Indicator Parameters ☐ Other

Water Volume in Well			
Gal/ft x ft of water	Gallons in Well	Gallons * 3	Volume to be removed (3 casing volumes)
9.7 x 0.16	1.552	4.656	4.656 gal

Time (military)	pH (su)	EC (ms)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
13:16	6.85	14.48	17.7				0.25	Light grey, strong odor
13:16	6.93	14.60	17.8				0.5	no change
13:17	6.92	14.49	17.6				0.75	no change
13:18	6.88	14.55	17.3				1	no change
13:20	6.91	14.43	17.0				1.5	opaque grey, strong odor
13:22	6.92	14.37	17.0				2	odor stronger, bailing dry
14:05	7.03	14.41	17.0				2.5	no change
14:07	7.04	14.40	16.9				3	grey-black, strong odor
14:08	6.96	14.40	16.9				3.5	no change
14:09	6.9	14.39	16.7				4	bailing dry and not recovering
14:10	7.07	14.40	17.0				4.25	bailing dry and not recovering
FINAL: 14:11	7.26	13.42	16.1				4	

COMMENTS: Sampled in 2 non-preserved VOA's; bailing dry and very slow recovery, unable to get 3 well volumes

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other

Water Disposal: On Site BGT

Sample ID: MW-6 | Sample Time: 14:25

Analysis Requested: ☑ BTEX ☐ VOCs ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other

Trip Blank: Yes | Duplicate Sample: NA

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental, Inc.
3243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096 / F 970.385.1973

Project Name: Groundwater | Location: Bruington | Well No: MW-7
Client: XTO | Date: 9/9/2010 | Time: 12:54
Project Manager: Julie Linn, RG | Sampler's Name: Julie Linn, RG

Measuring Point: TOC | Depth to Water: 15.49 ft | Depth to Product: NA ft
Well Diameter: 2" | Total Depth: 25.4 ft | Product Thickness: NA ft
Water Column Height: 9.91 ft

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other
☑ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☑ 3 to 5 Casing Volumes of Water Removal ☑ Stabilization of Indicator Parameters ☐ Other

Water Volume in Well			
Gal/ft x ft of water	Gallons in Well	Gallons * 3	Volume to be removed (3 casing volumes)
9.91 x 0.16	1.5856	4.7568	4.7568 gal

Time (military)	pH (su)	EC (ms)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
12:57	6.98	14.37	17.2				0.25	med. grey color, strong odor, sheen
13:00	7.01	12.79	17.6				0.5	no change
13:01	7.02	12.76	17.6				0.75	no change
13:02	6.86	13.28	17.1				1	no change
13:05	6.89	13.51	16.9				14.5	no change
13:08	6.90	14.06	16.7				2	opaque grey, strong odor, sheen, bailing dry
13:49	6.88	13.69	16.8				2.5	no change
13:50	6.89	13.71	16.8				3	black, strong odor, sheen
13:51	6.91	13.82	16.7				3.5	no change
13:52	6.92	13.92	16.7				4	opaque grey, strong odor, sheen
13:53	7.01	13.73	16.7				4.25	no change
13:53	7.04	13.81	16.7				4.5	bailing dry and not recovering
13:54	7.06	13.89	16.7				4.75	bailing dry and not recovering
FINAL: 13:54	7.06	13.89	16.7				4.75	

COMMENTS: Sampled in 2 non-preserved VOA's; bailing dry and very slow recovery

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other

Water Disposal: On Site BGT

Sample ID: MW-7 | Sample Time: 13:57

Analysis Requested: ☑ BTEX ☐ VOCs ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other

Trip Blank: Yes | Duplicate Sample: NA

COMPLIANCE / ENGINEERING / REMEDIATION

LT Environmental, Inc.
2243 Main Avenue, Suite 3
Durango, Colorado 81301
T 970.385.1096 / F 970.385.1873

Project Name: Groundwater | Location: Bruington | Well No: MW-8
Client: XTO | Date: 9/9/2010 | Time: 12:20
Project Manager: Julie Linn, RG | Sampler's Name: Julie Linn, RG

Measuring Point: TOC | Depth to Water: 18.02 ft | Depth to Product: NA ft
Well Diameter: 2" | Total Depth: 28.88 ft | Product Thickness: NA ft
Water Column Height: 10.86 ft

Sampling Method: ☐ Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other
☑ Bottom Valve Bailer ☐ Double Check Valve Bailer

Criteria: ☑ 3 to 5 Casing Volumes of Water Removal ☑ Stabilization of Indicator Parameters ☐ Other

Water Volume in Well			
Gal/ft x ft of water	Gallons in Well	Gallons * 3	Volume to be removed (3 casing volumes)
10.86 x 0.16	1.7376	5.2128	5.2128 gal

Time (military)	pH (su)	EC (ms)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. gal	Comments/Flow Rate
12:26	6.98	6.11	16.8				0.25	dark grey, strong odor, sheen
12:27	6.87	5.07	17.0				0.5	no change
12:28	6.84	5.70	16.7				0.75	no change
12:29	6.82	5.76	16.6				1	no change
12:30	6.77	4.71	16.7				1.5	black, strong odor
12:31	6.82	5.14	16.5				2	no change
12:32	6.89	5.44	16.5				2.5	no change
12:34	6.89	5.88	16.3				3	no change
12:34	6.91	5.91	16.3				3.5	no change
12:35	6.93	6.20	16.2				4	no change
12:37	6.98	6.47	16.2				4.25	no change
12:37	6.96	6.60	16.1				4.5	no change
12:38	6.94	6.51	16.1				4.75	no change
12:39	6.94	6.47	16.1				5	no change
FINAL: 12:39	6.94	6.47	16.1				5	

COMMENTS: Sampled in 2 non-preserved VOA's

Instrumentation: ☑ pH Meter ☐ DO Monitor ☑ Conductivity Meter ☑ Temperature Meter ☐ Other

Water Disposal: On Site BGT

Sample ID: MW-8 | Sample Time: 12:42

Analysis Requested: ☑ BTEX ☐ VOCs ☐ Alkalinity ☐ TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Metals
☐ Other

Trip Blank: Yes | Duplicate Sample: NA