3R - 106

2009 WORKPLAN

09/30/2009

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

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September 30, 2009

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

RE: Bruington GC #1 Subsurface Investigation and Monitoring Well installation

Dear Mr. Von Gonten,

On behalf of XTO Energy, Incoporporated (XTO), Lodestar Services, Incorporated (Lodestar) presents this work plan for a subsurface investigation at the Bruington GC #1. The site is located in Unit E of Section 14 within Township 29 North and Range 11 West in San Juan County, New Mexico. The annual report, submitted in January 2009, shows the location of existing monitoring wells and an outline of former pits. Variable groundwater flow directions measured throughout the year are also shown. This work plan describes methods that will be used to better delineate and characterize impacts to both soil and groundwater. Results will be used to determine an effective approach for groundwater remediation.

Site History
In 1993, Amoco Oil Company excavated impacted soil from a former earthen production pit located southwest of the wellhead. That same year, a second excavation removed additional soil impacted by the production pit, as well as soil impacted by an earthen separator pit formerly located in the same vicinity. The perimeters of both excavations are delineated on the attached site map. In 1994, El Paso Field Services (EPFS) submitted paperwork to the New Mexico Oil and Gas Conservation Division (NMOCD) requesting risk-based closure of a third earthen pit, which was located 144' southeast of the wellhead. EPFS removed 75 cubic yards of impacted soil from the former pit location, but samples submitted for closure contained elevated levels of benzene, toluene, ethylbenzene and xylenes (BTEX). An exploratory borehole was drilled in 1995 to identify the depth of impacted soil. As documented on the borehole logs, impacted soil was observed from approximately 12' to 22' below the ground surface (bgs). Sandstone was encountered at 22' bgs, and a sample analyzed for BTEX was clean. The impacted soil between 12 and 22' bgs was never removed.

Upon purchasing the site in 1998, XTO began monitoring groundwater quality after repairing three groundwater monitoring wells installed by the previous owner (MW-1R, MW-2R and MW-3R) and installing an additional five wells (MW-4 through MW-8). Monitoring well locations are shown on the site map and analytical results are presented in Table 1. Laboratory results indicate that monitoring wells MW-2R, MW-5, MW-6, MW-7 and MW-8 contain concentrations of BTEX that are consistently above New Mexico Water Quality Control Commission (NMWQCC) standards. Trenches were dug in March of 2006 to analyze soil properties and attempt to delineate the impacted area. Visual observations and headspace screening confirmed that the subsurface soil in the area near the former

excavations was impacted, including the area that previously had been backfilled with clean soil.

Methods

Lodestar proposes a subsurface investigation consisting of soil borings and additional groundwater monitoring wells to accurately delineate vertical and lateral extent of impacted soil and to better define the extent of BTEX concentrations in the groundwater. A Geoprobe™ will be used for soil borings. Lodestar will work outward from known impacted areas until clean soil is identified (see attached Figure). Borings will proceed until the depth of the impacted soil is identified, groundwater is encountered or to a total depth of 25' below ground surface is reached. Lodestar anticipates approximately 20 borings.

Continuous samples will be collected from boreholes. The samples from immediately beneath ground surface and then every two and one half feet thereafter will be screened. In addition, soil that is stained or has a hydrocarbon odor will also be screened. Total depth of boreholes will be determined once field screening indicates the soil boring has reached clean soil. In the event that no impact is discovered, each borehole will be terminated at 25 feet bgs unless surrounding conditions warrant further sampling. Screening will be completed according to the NMOCD's *Guidelines for Remediation of Leaks, Spills, and Releases, August 13, 1993.* Lodestar will use a Minirae 2000 photo ionization detector with a 10.6 electron-volt lamp or equivalent for this project. Lodestar will complete all work in accordance with industry-accepted practices. All down-hole Geoprobe™ drilling equipment will be thoroughly decontaminated prior to each use.

If impacted soil is found within a borehole, the sample from the highest field screening result and the sample from the bottom of the borehole will be submitted for laboratory analysis. The samples will be placed in pre-cleaned glass jars supplied by the laboratory, labeled with the location, date, time, sampler, and method of analysis and immediately placed on ice. Strict chain-of-custody procedures will be followed during transport of the samples to the laboratory. The samples will be analyzed for BTEX and total petroleum hydrocarbons (TPH) according to USEPA Method 8021B and 8015M, respectively. The samples will be shipped on ice following proper chain of custody procedures.

Two new monitoring wells (MW-9 and MW-10) will be installed as shown on the attached site map. Well installations will conform to industry-accepted standards. Monitoring wells will be constructed of schedule 40, two-inch diameter polyvinyl-chloride (PVC) and will include fifteen feet of 0.02-inch machine slotted flush-threaded PVC well screen. Five feet of screen will be set beneath the water table and at least five feet above to allow for seasonal fluctuations. A clean 10-20 grade silica sand gravel pack will be placed from the bottom of the boring to three feet above the top of the screen. Two feet of three-eights inch natural bentonite chips will be set above the gravel pack. Due to landowner request, MW-9 will be finished with bentonite to the surface. For MW-10 (the monitoring well installed on the well pad), the bentonite will followed by a neat cement slurry, containing a minimum of five percent powdered bentonite, to the surface and completed with a locking protective steel casing. If it is located within or near vehicle right-of-ways will be surrounded by three protective posts to prevent vehicle impact to the well. All drilling

equipment will be decontaminated using a high-pressure steam washer before each new well is drilled.

The new wells will be surveyed after construction. Top of casing elevations will be tied to the existing well elevations to an accuracy of no less than plus or minus 0.01 feet above mean sea level. Well development and sampling will proceed following well installation. Lodestar will develop each new well by purging fluid from the well until the pH, specific conductivity and temperature have stabilized, 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 will be collected and disposed of on site. All data will be recorded on Well Development and Sampling Logs.

Once each monitoring well is properly purged, ground water samples will be collected by filling appropriate sample containers. Samples are labeled with the date and time of collection, well designation, project name, sampler's name and parameters to be analyzed. They will then be immediately sealed and packed on ice. The samples will be shipped to Hall Environmental in Albuquerque, NM in a sealed cooler via bus before designated holding times expire. Proper chain-of-custody (COC) procedures will be followed with logs documenting the date and time sampled, sample number, type of sample, sampler's name, preservative used, analyses required and sampler's signatures. The samples will be analyzed for BTEX according to USEPA Method 8021B.

Lodestar estimates three days of fieldwork to complete this project. Following completion of field activities, Lodestar will prepare a letter report describing the methods used to complete this project, as well as analytical results and a map that shows the boring locations and extent of impacted soil. The report will be submitted to XTO and NMOCD. Lodestar and XTO will use the data to determine the best remedial approach for reducing BTEX concentrations in groundwater at the site.

Please contact Martin Nee at (505) 333-3196 or myself at (970) 946-1093 with any questions that may arise. Lodestar has scheduled this investigation to begin on October 26, 2009, unless NMOCD requests otherwise.

Respectfully Submitted,

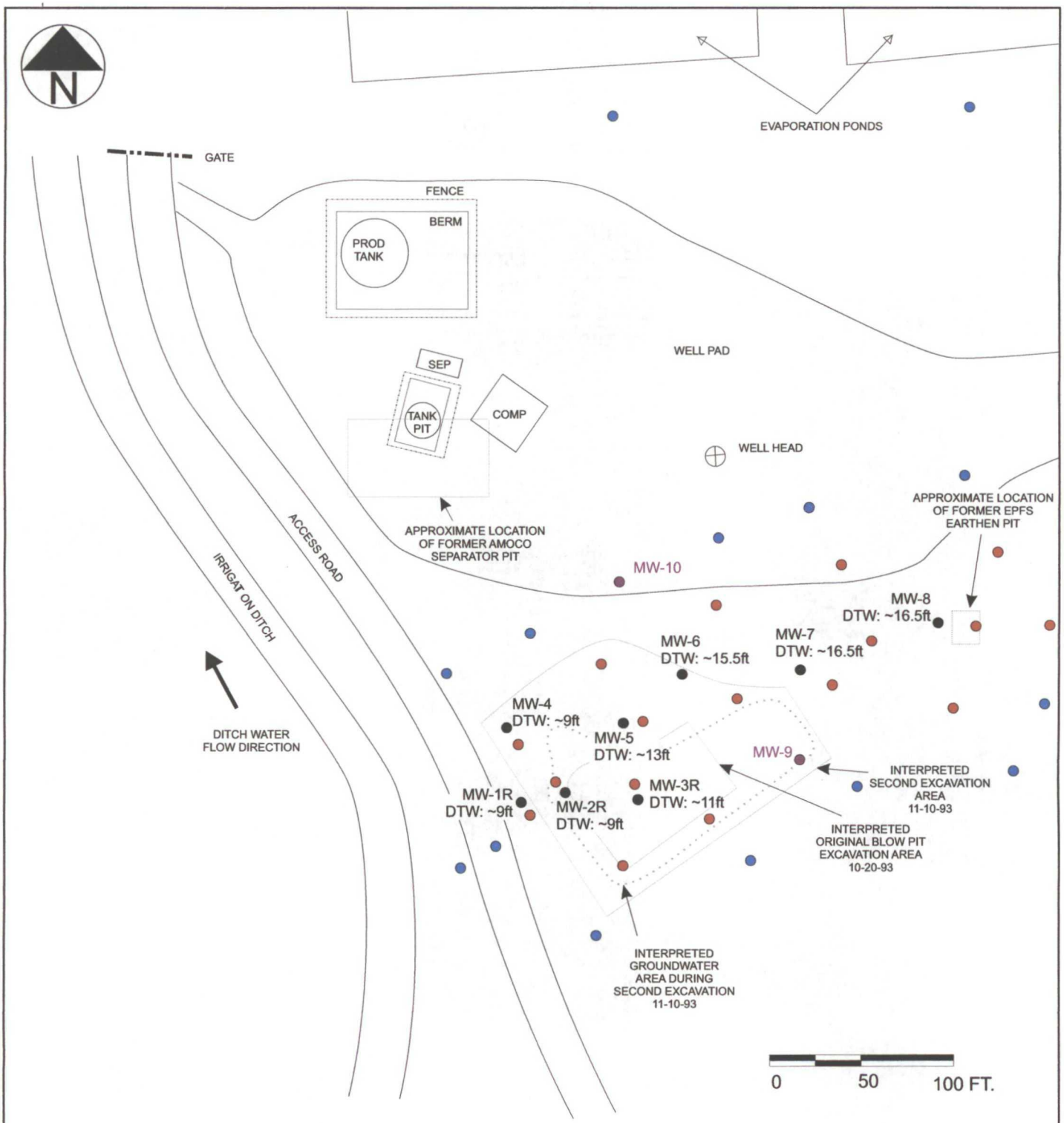
LODESTAR SERVICES, INC

Ashley L Ager

Ashley Ager

Cc: Martin Nee, XTO Energy
Kim Champlin, XTO Energy
File

Attachments: Figure 1: Site Map
Table of Historical Results



DTW~ = Approximate Depth to Water
= Borehole Site
= Possible Borehole Site
= Proposed Monitoring Well Site
= Existing Groundwater Monitoring Well

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: ADH REVISED: 03 Jun 09	June 2009 Work Plan 03Jun 09

TABLE 1
XTO ENERGY INC. GROUNDWATER LABORATORY RESULTS

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

Revised Date: 9/1/2009

Sample Date	Monitor Well No.	DTW (ft)	TD (ft)	Product (ft)	Dissolved Oxygen (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)
06-Jul-96	MW-1	7.00	20.36			ND	ND	ND	ND
05-May-99	MW-1R	10.55	20.00			16.5	26.0	8.1	78.2
29-Jun-00		11.14				17.0	ND	130.0	455.5
17-May-01		11.33				29.0	19.0	33.0	127.0
24-Sep-01		9.84				5.8	0.5	15.0	36.0
27-Jul-02		9.93				ND	ND	17.0	52.1
25-Jun-03		11.45				3.1	ND	ND	ND
25-Aug-03		12.14				ND	ND	2.2	0.9
25-Apr-06		11.55	20.23			1.0	1.3	1.8	5.9
27-Nov-06		13.17			1.14	ND	ND	ND	ND
23-Feb-07		14.24			0.51	No Samples Collected			
28-Mar-07		16.78			0.85	ND	ND	ND	ND
11-Apr-07		13.51			1.13	No Samples Collected			
13-Jun-07		7.51			0.76	ND	ND	ND	ND
21-Aug-07		7.20			0.82	No Samples Collected			
25-Sep-07		7.07			0.99	ND	1.2	ND	ND
30-Oct-07		7.66			1.00	No Samples Collected			
27-Nov-07		11.50			0.85	No Samples Collected			
20-Dec-07		12.97			0.75	No Samples Collected			
12-Mar-08		13.18				ND	ND	ND	ND
02-Jun-08		7.53				ND	ND	ND	ND
12-Aug-08		6.77			3.70	No Samples Collected			
22-Sep-08		7.76				ND	ND	ND	ND
22-Oct-08		6.39			4.60	No Samples Collected			
05-Dec-08		11.26				ND	ND	ND	ND
06-Feb-09		12.55			4.70	No Samples Collected			
03-Mar-09		15.24				ND	ND	ND	ND
24-Jun-09		6.52				ND	ND	ND	ND
07-Jun-96	MW-2	10.12	21.74			347	28.5	156	1580
27-Jun-97		12.65	14.47			429	67.9	46.1	402.4
12-Jun-98	MW-2R	11.00	20.95			13,440	13,330	1,030	6,040
05-May-99		10.78				1,020	554	175	679
29-Jun-00		11.50				7,600	2,600	630	4,210
17-May-01		12.12				1,700	320	390	1,620
24-Sep-01		10.08				15,000	1,200	880	5,900
27-Jun-02		9.77				13,000	1,100	680	4,120
25-Jun-03		11.53				3,700	1,000	380	2,500
18-Jun-04		12.07				5,500	1,400	710	3,500
27-Jun-05		10.14				16,000	1,900	900	5,400
25-Apr-06		11.64				5,000	1,100	700	3,800
27-Nov-06		11.32	23.15		0.35	12,000	1,600	690	3,900
23-Feb-07		12.55			0.37	No Samples Collected			
28-Mar-07		14.72			0.52	4,300	1,000	810	6,000
11-Apr-07		12.79			0.64	No Samples Collected			
13-Jun-07		9.94			0.43	13,000	1,100	720	4,000
21-Aug-07		9.36			0.28	No Samples Collected			
25-Sep-07		9.33			0.54	18,000	1,900	990	5,500
30-Oct-07		9.45			0.50	No Samples Collected			
27-Nov-07		12.02			0.55	No Samples Collected			
20-Dec-07		13.13			0.42	No Samples Collected			
12-Mar-08		13.51				2800	890	750	5300
02-Jun-08		10.07				5900	430	510	2200
12-Aug-08		9.38			0.40	No Samples Collected			

TABLE 1
XTO ENERGY INC. GROUNDWATER LABORATORY RESULTS

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

Revised Date: 9/1/2009

Sample Date	Monitor Well No.	DTW (ft)	TD (ft)	Product (ft)	Dissolved Oxygen (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)
22-Sep-08		10.29				18000	920	950	4900
22-Oct-08		9.10			0.10	No Samples Collected			
05-Dec-08		12.05				20000	1700	1100	5300
06-Feb-09		13.40			3.7	No Samples Collected			
03-Mar-09		15.64				5500	1400	470	2900
24-Jun-09		9.16				18000	2200	970	6500
07-Jun-96	MW-3	13.05	21.17			ND	1.8	ND	ND
05-May-99		13.64	18.08			73.2	38.3	31.2	200.1
29-Jun-00		13.52				87.0	ND	3.4	8.3
17-May-01		14.51				ND	0.6	0.7	ND
24-Sep-01		12.15				ND	ND	ND	ND
25-Aug-03	MW-3R	11.81	20.00			ND	ND	1.3	ND
19-Nov-03		12.28				ND	ND	1.4	ND
25-Apr-06		12.56				ND	ND	ND	ND
27-Nov-06		12.60	21.93		0.42	ND	ND	ND	ND
23-Feb-07		14.33			0.96	No Samples Collected			
28-Mar-07		15.83			0.62	ND	ND	ND	ND
11-Apr-07					0.54	No Samples Collected			
13-Jun-07		Well has been damaged and cannot be sampled							
30-Oct-07		Well has been damaged and cannot be sampled							
27-Nov-07		13.14			0.88	No Samples Collected			
20-Dec-07		14.25			0.71	No Samples Collected			
12-Mar-08		15.23				ND	ND	ND	ND
02-Jun-08		12.07				ND	ND	ND	ND
12-Aug-08		11.15			1.50	No Samples Collected			
22-Sep-08		11.86				ND	ND	ND	ND
22-Oct-08		11.80			3.60	No Samples Collected			
05-Dec-08		13.23				ND	ND	ND	ND
06-Feb-09		14.82			5.10	No Samples Collected			
03-Mar-09		16.37				ND	ND	ND	ND
24-Jun-09		11.52				7.2	ND	ND	ND
17-May-01	MW-4	10.88	20.00			ND	ND	ND	ND
25-Apr-06		11.11				ND	ND	ND	ND
27-Nov-06		12.41			0.91	ND	ND	ND	ND
23-Feb-07		13.62			0.87	No Samples Collected			
28-Mar-07		16.17	20.22		1.59	1.8	ND	ND	ND
11-Apr-07					3.03	No Samples Collected			
13-Jun-07		9.87			2.26	ND	ND	ND	ND
21-Aug-07		9.35			0.75	No Samples Collected			
25-Sep-07		9.24			1.78	ND	ND	ND	ND
30-Oct-07		9.75			0.64	No Samples Collected			
27-Nov-07		13.43			0.66	No Samples Collected			
20-Dec-07		14.91			0.55	No Samples Collected			
12-Mar-08		15.09				ND	ND	ND	ND
02-Jun-08		9.59				ND	ND	ND	ND
12-Aug-08		8.97			1.30	No Samples Collected			
22-Sep-08		9.96				ND	ND	ND	ND
22-Oct-08		8.53			3.10	No Samples Collected			
05-Dec-08		13.21				ND	ND	ND	ND
06-Feb-09		14.35			12.10	No Samples Collected			
03-Mar-09		17.06				ND	ND	ND	ND
24-Jun-09		8.10				ND	ND	ND	ND

TABLE 1
XTO ENERGY INC. GROUNDWATER LABORATORY RESULTS

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

Revised Date: 9/1/2009

Sample Date	Monitor Well No.	DTW (ft)	TD (ft)	Product (ft)	Dissolved Oxygen (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)
17-May-01	MW-5	16.00	25.00			25,000	620	870	6,610
24-Sep-01		13.70				26,000	110	470	6,900
27-Jun-02		13.83				26,000	280	900	6,670
25-Jun-03		15.73				26,000	ND	ND	4,400
18-Jun-04		15.82				26,000	ND	1,100	3,400
27-Jun-05		14.21				29,000	ND	920	3,400
25-Apr-06		16.21	25.20			28,000	ND	1,600	2,700
27-Nov-06		15.24			0.26	22,000	ND	630	1,700
23-Feb-07		18.92			0.34	No Samples Collected			
28-Mar-07		18.63			0.44	30,000	590	1,700	4,600
11-Apr-07					0.51	No Samples Collected			
13-Jun-07		14.17			0.58	32,000	91	940	2,000
21-Aug-07		14.12			0.49	No Samples Collected			
25-Sep-07		13.38			0.50	25,000	170	620	1,700
30-Oct-07		13.57			0.61	No Samples Collected			
27-Nov-07		16.13			0.62	No Samples Collected			
20-Dec-07		17.34			0.54	No Samples Collected			
12-Mar-08		17.75				28000	110	1200	2300
02-Jun-08		13.92				25000	ND	1100	1300
12-Aug-08		12.99			0.70	No Samples Collected			
22-Sep-08		13.80				20000	ND	760	1100
22-Oct-08		12.77			1.80	No Samples Collected			
05-Dec-08		15.93				24000	ND	580	1400
06-Feb-09		17.33			3.70	No Samples Collected			
03-Mar-09		19.26				9800	ND	450	920
24-Jun-09		13.34				25000	46	40	1400
17-May-01	MW-6	19.47	25.00			28,000	15,000	1,000	9,400
24-Sep-01		14.46				22,000	6,000	1,100	6,900
27-Jun-02		16.68				28,000	16,000	990	9,800
25-Jun-03		18.94				22,000	16,000	ND	6,300
18-Jun-04		18.71				23,000	19,000	1,000	8,800
27-Jun-05		17.09				28,000	20,000	1,200	9,600
25-Apr-06		19.28				26,000	25,000	1,700	8,900
27-Nov-06		17.08	25.22		0.06	22,000	23,000	990	9,700
23-Feb-07		18.92			0.28	No Samples Collected			
28-Mar-07		20.36			0.23	25,000	27,000	1,900	19,000
11-Apr-07					0.11	No Samples Collected			
13-Jun-07		16.87			0.18	21,000	19,000	780	7,900
21-Aug-07		16.04			0.33	No Samples Collected			
25-Sep-07		15.98			0.34	27,000	21,000	1,200	11,000
30-Oct-07		15.91			0.21	No Samples Collected			
27-Nov-07		17.79			0.35	No Samples Collected			
20-Dec-07		18.83			0.33	No Samples Collected			
12-Mar-08		19.42				21000	21000	1200	11000
02-Jun-08		16.61				19000	16000	870	9000
12-Aug-08		15.61			0.60	No Samples Collected			
22-Sep-08		16.15				15000	14000	770	8500
22-Oct-08		15.49			1.40	No Samples Collected			
05-Dec-08		17.70				28000	27000	1100	12000
06-Feb-09		19.33			4.30	No Samples Collected			
03-Mar-09		20.67				19000	20000	880	9300
24-Jun-09		16.18				23000	18000	900	9200

TABLE 1
XTO ENERGY INC. GROUNDWATER LABORATORY RESULTS

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

Revised Date: 9/1/2009

Sample Date	Monitor Well No.	DTW (ft)	TD (ft)	Product (ft)	Dissolved Oxygen (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)
25-Aug-03	MW-7	17.93	25.00			18,000	11,000	930	8,200
18-Jun-04		18.87				11,000	7,800	670	5,000
27-Jun-05		17.40				14,000	8,700	880	5,000
25-Apr-06		19.14				19,000	6,600	1,200	5,100
27-Nov-06		16.94	25.34		0.69	6,100	4,400	420	2,500
23-Feb-07		17.71			0.71	No Samples Collected			
28-Mar-07		18.62			0.70	11,000	9,500	100	7,500
11-Apr-07					0.60	No Samples Collected			
13-Jun-07		16.75			0.43	3,800	2,000	320	1,700
21-Aug-07		15.86			0.36	No Samples Collected			
25-Sep-07		15.65			0.34	2,900	2,400	210	1,400
30-Oct-07		15.46			0.17	No Samples Collected			
27-Nov-07		16.46			0.42	No Samples Collected			
20-Dec-07		17.14			0.36	No Samples Collected			
12-Mar-08		17.23				14000	9200	830	4800
02-Jun-08		16.22				8800	5300	560	3100
12-Aug-08		15.30			0.70	No Samples Collected			
22-Sep-08		15.47				7100	4600	450	2800
22-Oct-08		15.22			0.10	No Samples Collected			
05-Dec-08		16.23				11000	9300	680	5200
06-Feb-09		17.85			1.90	No Samples Collected			
03-Mar-09		18.60				11000	7800	660	4500
24-Jun-09		16.38				21000	14000	640	6400
13-Jun-07	MW-8	19.19	26.37		0.4	24,000	24,000	350	10,000
21-Aug-07		18.30			0.61	No Samples Collected			
25-Sep-07		18.00			0.57	18,000	4,000	960	9,100
30-Oct-07		15.46			0.17	No Samples Collected			
27-Nov-07		18.30			0.68	No Samples Collected			
20-Dec-07		18.81			0.42	No Samples Collected			
12-Mar-08		18.92				730	64	ND	2000
02-Jun-08		18.23				12000	7100	490	5300
12-Aug-08		17.52			0.60	No Samples Collected			
22-Sep-08		17.56				15000	13000	520	7200
22-Oct-08		17.47			1.40	No Samples Collected			
05-Dec-08		17.99				18000	15000	810	7700
06-Feb-09		19.50			2.20	No Samples Collected			
03-Mar-09		20.03				16000	12000	660	5700
24-Jun-09		19.00				21000	13000	690	5700
NWQCC GROUNDWATER STANDARDS						10	750	750	620