

3R - 394

REPORTS

DATE:

2005



3R0394

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January 30, 2006

JAN 31 2006

Mr. Glenn von Gonten
Hydrologist – Groundwater Remediation
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Oil Conservation Division
Environmental

RE: Annual Groundwater Remediation Reports

Dear Mr. von Gonten:

XTO Energy Inc. (XTO) is submitting the Annual Groundwater Remediation Report in accordance with the NMOCD approved Groundwater Management Plan (GMP). Enclosed are summary reports with analytical data, summary tables, site maps, potentiometric surface diagrams and recommendations/proposed actions for:

- | | | | |
|--------------------------|--------|-------------------------|--------|
| • Abrams J #1 | 3R0100 | • Rowland Gas Com #1 | 3R0124 |
| • Bruington Gas Com B #1 | 3R0106 | • Sullivan Gas Com D #1 | 3R0131 |
| • EJ Johnson C #1E | 3R0385 | • Valdez A #1E | 3R0134 |
| • PO Pipken #3E | | | |
| • Romero Gas Com A #1 | 3R0123 | | |

Also enclosed in the third volume of our Annual Report are three sites that meet the closure requirements outlined in the GMP. XTO respectfully requests closure of:

- Armenta Gas Com #1E 3R0394
- Bergin Gas Com #1E 3R0105
- State Gas Com BS #1 3R0127

As we discussed this afternoon, several sites are being reviewed to make sure we have a comprehensive set of reports submitted. An extension will be allowed for reports on the remaining sites to be submitted by April 30, 2006.

Thank you for your review of the reports and allowing some flexibility with this years reporting schedule. If you have any questions please do not hesitate to contact me at (505) 566-7942.

Sincerely,

Lisa Winn
Environmental Specialist
San Juan Division

cc: Mr. Denny Foust, Environmental, NMOCD District III Office, Aztec, NM
Mr. Jeff Blagg, Blagg Engineering Inc.
File – San Juan Groundwater

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XTO ENERGY INC.

JAN 31 2006

Oil Conservation Division
Environmental Bureau

ANNUAL GROUNDWATER REMEDIATION REPORT

2005

**ARMENTA GC C #1E
(C) SECTION 27, T29N, R10W, NMPPM
SAN JUAN COUNTY, NEW MEXICO**

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

JANUARY 2006

**PREPARED BY:
BLAGG ENGINEERING, INC.**

**Consulting Petroleum / Reclamation Services
P.O. Box 87
Bloomfield, New Mexico 87413**

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Field Sampling Data Summaries

Laboratory Reports

Pit Closure Documentation & NMOCD Correspondence Letter

XTO ENERGY INC.
Armenta GC C # 1E - Abandoned Blow Pit
NE/4 NW/4 Sec. 27, T29N, R10W

Pit Closure Dates:

4/14/03 and 8/01-06/03

Monitor Well Installation Dates:

MW 2 - 4/22/03
MW 1, 3 - 4/30/03
MW 4 - 3/17/04
MW 2R - 3/23/04

Monitor Well Sampling Dates:

5/12/03; 3/30/04; 6/16/04; 9/27/04; 12/29/04

Historical Information:

- January 1998 - XTO Energy Inc. (XTO) acquires the Armenta GC C #1E from Amoco Production Company.
- April 2003 – Soil and groundwater impacts were discovered during work to close a historical blow pit. Approximately 75 cubic yards of soil were excavated and composted on site (Figure 1). A source area monitor well installed following backfill operations identified the presence of free product. Up and down gradient monitoring wells did not test water impacts in excess of New Mexico Water Quality Control Commission (NMWQCC) standards.
- August 2003 – Aggressive site remediation was conducted by re-excavating the source area and removing all impacted soils (Figure 1A). Approximately 1,050 cubic yards of soil were removed and composted on site.
- March 2004 – Installation and sampling of a replacement source area well determined water impacts were below NMWQCC standards.
- March 2004 to December 2004 – Quarterly sampling and analysis determined site closure had been achieved.

Groundwater Monitor Well Sampling Procedures:

Groundwater samples were collected from site monitor wells (MW) following US EPA: SW-846 protocol. Samples were collected using new disposable bailers and placed in laboratory supplied containers and stored in a cooler on ice. The samples were delivered to an accredited environmental laboratory according to chain-of-custody procedures. The samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) per US EPA Method 8021B and general water chemistry per US EPA Method 600/4-79-020. Analytical results are summarized on Tables 1 - 3. Waste generated (groundwater) during monitor well sampling and development was placed in the produced water separator tank located on the well site.

Water Quality and Gradient Information:

The groundwater gradient at this site consistently appears to flow in a south to south west direction (Figures 2 - 6). Groundwater is found at a depth of approximately 13 feet below surface grade.

Analytical data indicates groundwater from MW 2, located in the center of the source area (named MW #2R following site remediation by excavation), is below NMWQCC closure standards. Initial testing of well MW2 found free phase product. Following aggressive remediation by excavation of impacted soils to below the water table and re-installation of this source area well no free phase product has been observed. Groundwater from up-gradient monitor well MW 1 exhibited no detectable levels of hydrocarbons and the down-gradient monitoring wells MW 3 and MW 4 exhibited no detectable levels or trace levels of BTEX constituents.

Summary:

XTO requests closure of this groundwater site according to the NMOCD approved Groundwater Management Plan. Analytical data from monitor well sampling indicates that water quality standards have been achieved in the source area and down-gradient wells. Permanent closure of this site is recommended. Following NMOCD approval for closure, all site monitor wells will be abandoned by placing a cement/bentonite grout mix in the well and cutting the casing to below surface grade.

TABLE 1

XTO ENERGY INC. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

ARMENTA GC C #1E - BLOW PIT II

UNIT C, SEC. 27, T29N, R10W

REVISED DATE: NOVEMBER 5, 2005

FILENAME: (C1E-4Q04.WK4) NJV

SAMPLE DATE	WELL NAME or No.	D.T.W. (ft)	T.D. (ft)	TDS (mg/L)	COND. umhos	pH	PRODUCT (ft)	BTEX EPA METHOD 8021B (ppb)			
								Benzene	Toluene	Ethyl Benzene	Total Xylene
12-May-03	MW #1	15.91	20.00	1,040	2,070	7.52		ND	ND	ND	ND
12-May-03	MW #2	13.49	20.00				0.73	NA	NA	NA	NA
23-Apr-03		13.61					0.76	NA	NA	NA	NA
06-May-03		13.64					0.92	NA	NA	NA	NA
20-May-03		13.52					0.74	NA	NA	NA	NA
28-May-03		13.46					0.68	NA	NA	NA	NA
06-Jun-03		13.52					0.74	NA	NA	NA	NA
19-Jun-03		13.43					0.66	NA	NA	NA	NA
27-Jun-03		13.42					0.58	NA	NA	NA	NA
30-Mar-04	MW #2R	15.23	25.00		2,100	7.13	-	4.1	ND	15	47
16-Jun-04		15.19			2,000	6.91	-	0.65	ND	ND	4.1
27-Sep-04		14.65			2,000	6.96	-	ND	ND	1.0	0.68
29-Dec-04								ND	ND	0.55	0.66
12-May-03	MW #3	12.16	19.00	912	1,820	7.57		ND	ND	ND	ND
30-Mar-04	MW #4	13.59	20.00		2,000	7.10		ND	ND	ND	ND
NMWQCC GROUNDWATER STANDARDS								10	750	750	620

- NOTES : 1) RESULTS IN BOLD RED TYPE INDICATE - EXCEEDING NMWQCC STANDARDS .
- 2) RESULTS IN BOLD BLUE TYPE INDICATE - BELOW NMWQCC STANDARDS AFTER PROCEEDING RESULTS EXCEEDED .
- 3) NA - INDICATES NOT AVAILABLE .

TABLE 2
GENERAL WATER QUALITY
XTO ENERGY INC.

ARMENTA GC C # 1E

SAMPLE DATE : May 12 , 2003

PARAMETERS	MW # 1	MW # 3	Units
LAB pH	7.52	7.57	s. u.
LAB CONDUCTIVITY @ 25 C	2,070	1,820	umhos / cm
TOTAL DISSOLVED SOLIDS @ 180 C	1,040	912	mg / L
TOTAL DISSOLVED SOLIDS (Calc)	1,160	927	mg / L
SODIUM ABSORPTION RATIO	5.1	1.1	ratio
TOTAL ALKALINITY AS CaCO3	660	440	mg / L
TOTAL HARDNESS AS CaCO3	412	604	mg / L
BICARBONATE as HCO3	660	440	mg / L
CARBONATE AS CO3	< 0.1	< 0.1	mg / L
HYDROXIDE AS OH	< 0.1	< 0.1	mg / L
NITRATE NITROGEN	0.1	0.2	mg / L
NITRITE NITROGEN	0.007	0.004	mg / L
CHLORIDE	26.4	32.4	mg / L
FLUORIDE	0.46	1.09	mg / L
PHOSPHATE	1.4	0.6	mg / L
SULFATE	337	330	mg / L
IRON	0.003	0.081	mg / L
CALCIUM	142	195	mg / L
MAGNESIUM	13.7	28.3	mg / L
POTASSIUM	5.20	8.85	mg / L
SODIUM	236	63.6	mg / L
CATION / ANION DIFFERENCE	0.03	0.07	%

TABLE 3
GENERAL WATER QUALITY
XTO ENERGY INC.

ARMENTA GC C # 1E

SAMPLE DATE : November 8 , 2005

PARAMETERS	MW # 1	MW # 2R	MW # 3	MW # 4	Units
LAB pH	6.87	7.29	7.54	7.57	s. u.
LAB CONDUCTIVITY @ 25 C	1,150	2,710	3,010	2,580	umhos / cm
TOTAL DISSOLVED SOLIDS @ 180 C	972	1,930	2,120	1,870	mg / L
TOTAL DISSOLVED SOLIDS (Calc)	978	1,981	2,137	1,858	mg / L
SODIUM ABSORPTION RATIO	1.8	6.4	6.0	5.7	ratio
TOTAL ALKALINITY AS CaCO3	537	348	427	350	mg / L
TOTAL HARDNESS AS CaCO3	572	660	764	662	mg / L
BICARBONATE as HCO3	537	348	427	350	mg / L
CARBONATE AS CO3	< 0.1	< 0.1	< 0.1	< 0.1	mg / L
HYDROXIDE AS OH	< 0.1	< 0.1	< 0.1	< 0.1	mg / L
NITRATE NITROGEN	< 0.1	0.2	< 0.1	0	mg / L
NITRITE NITROGEN	0.005	0.012	0.010	0.006	mg / L
CHLORIDE	28.8	37.6	35.2	34.0	mg / L
FLUORIDE	0.61	0.85	1.17	0.82	mg / L
PHOSPHATE	0.10	0.80	0.30	0.5	mg / L
SULFATE	293	1,090	1,150	1,010	mg / L
IRON	< 0.01	0.251	0.402	< 0.01	mg / L
CALCIUM	229	264	306	265	mg / L
MAGNESIUM	< 0.1	< 0.1	< 0.1	< 0.1	mg / L
POTASSIUM	3.14	1.28	1.46	0.94	mg / L
SODIUM	97.5	375	384	334	mg / L
CATION / ANION DIFFERENCE	0.01	0.01	0.06	0.03	%

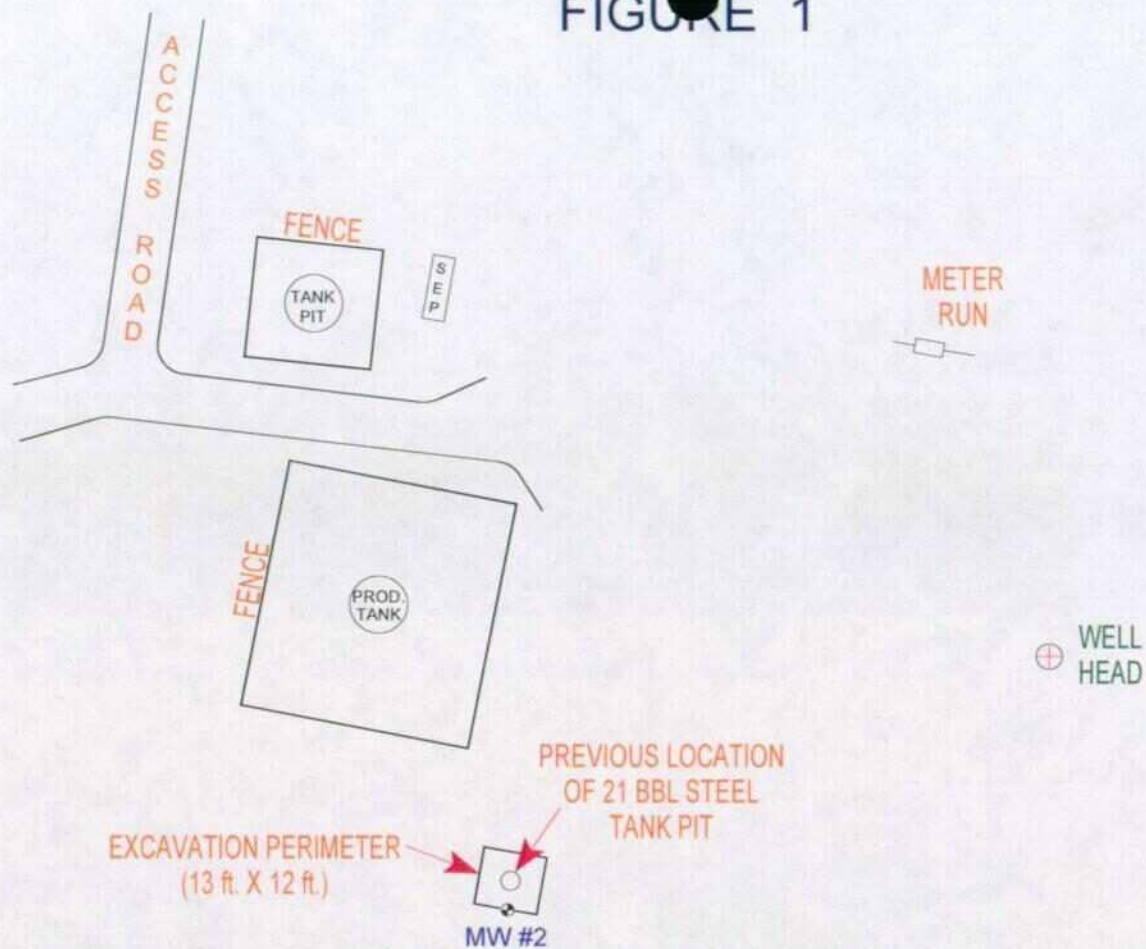
TABLE 4
TRACE METALS RESULTS OF LABORATORY GROUNDWATER ANALYSIS

MW #	Sample Date	Mercury	Aluminum	Arsenic	Barium	Boron	Cadmium	Chromium	Cobalt	Copper
1	11/08/05	0.0016	0.51	ND	0.088	0.20	ND	ND	ND	ND
2R	11/08/05	0.0017	2.2	ND	0.078	0.18	ND	ND	0.016	ND
3	11/08/05	0.0015	0.64	ND	0.064	0.20	ND	ND	ND	ND
4	11/08/05	0.0047	1.8	ND	0.054	0.13	ND	ND	0.0078	0.0067
NMWQCC STANDARDS		.002	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0

MW #	Sample Date	Iron	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Zinc
1	11/08/05	0.25	ND	0.12	ND	ND	ND	ND	ND
2R	11/08/05	10	0.0077	4.8	ND	0.012	ND	ND	ND
3	11/08/05	3.4	ND	3.1	ND	ND	ND	ND	ND
4	11/08/05	1.4	0.0080	5.6	ND	ND	ND	ND	ND
NMWQCC STANDARDS		1.0	0.05	0.2	1.0	0.2	0.05	0.05	10.0

- NOTES :
- 1) MW = monitor well.
 - 2) NMWQCC - New Mexico Water Quality Control Commission.
 - 3) Unit of data is parts per million or mg/L.
 - 4) ND = not detected at or above reporting limit.

FIGURE 1



1 INCH = 40 FT.

0 40 80 FT.

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM WELL HEAD (LASER RANGE FINDER, TAPE MEASURE, AND BRUNTON COMPASS). ALL OTHER FEATURES AND/OR STRUCTURES DISPLAYED ARE SOLELY FOR REFERENCE AND MAY NOT REFLECT TRUE OR EXACT ACCURACY AND/OR SCALE. THIS MAP IS A GENERALIZATION OF THE WORK CONDUCTED AND SHOULD NOT BE USED FOR SURVEY INFORMATION.

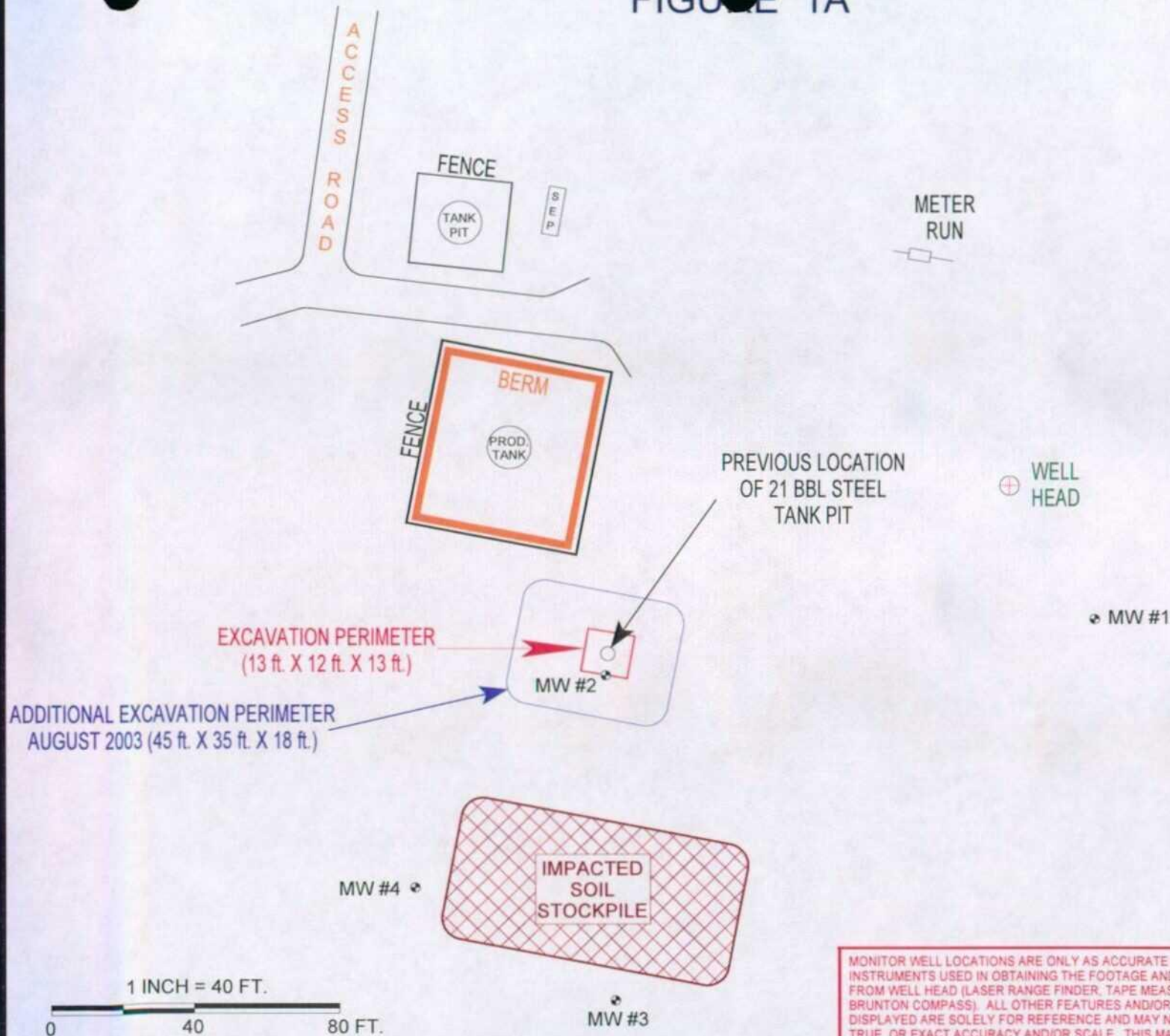
XTO ENERGY, INC.
 ARMENTA GC C # 1E
 NE1/4 NW1/4 SEC. 27, T29N, R10W, NMPM
 SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
 CONSULTING PETROLEUM / RECLAMATION SERVICES
 P.O. BOX 87
 BLOOMFIELD, NEW MEXICO 87413
 PHONE: (505) 632-1199

PROJECT: GW MONITORING
 DRAWN BY: NJV
 FILENAME: 04-24-03-SM2.SKF
 REVISED: 4/29/03 NJV

**SITE
 MAP**
 04/03

FIGURE 1A



MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM WELL HEAD (LASER RANGE FINDER, TAPE MEASURE, AND BRUNTON COMPASS). ALL OTHER FEATURES AND/OR STRUCTURES DISPLAYED ARE SOLELY FOR REFERENCE AND MAY NOT REFLECT TRUE OR EXACT ACCURACY AND/OR SCALE. THIS MAP IS A GENERALIZATION OF THE WORK CONDUCTED AND SHOULD NOT BE USED FOR SURVEY INFORMATION.

XTO ENERGY INC.
ARMENTA GC C # 1E
 NE1/4 NW1/4 SEC. 27, T29N, R10W, NMPM
 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 REMEDIATION

DRAWN BY: NJV

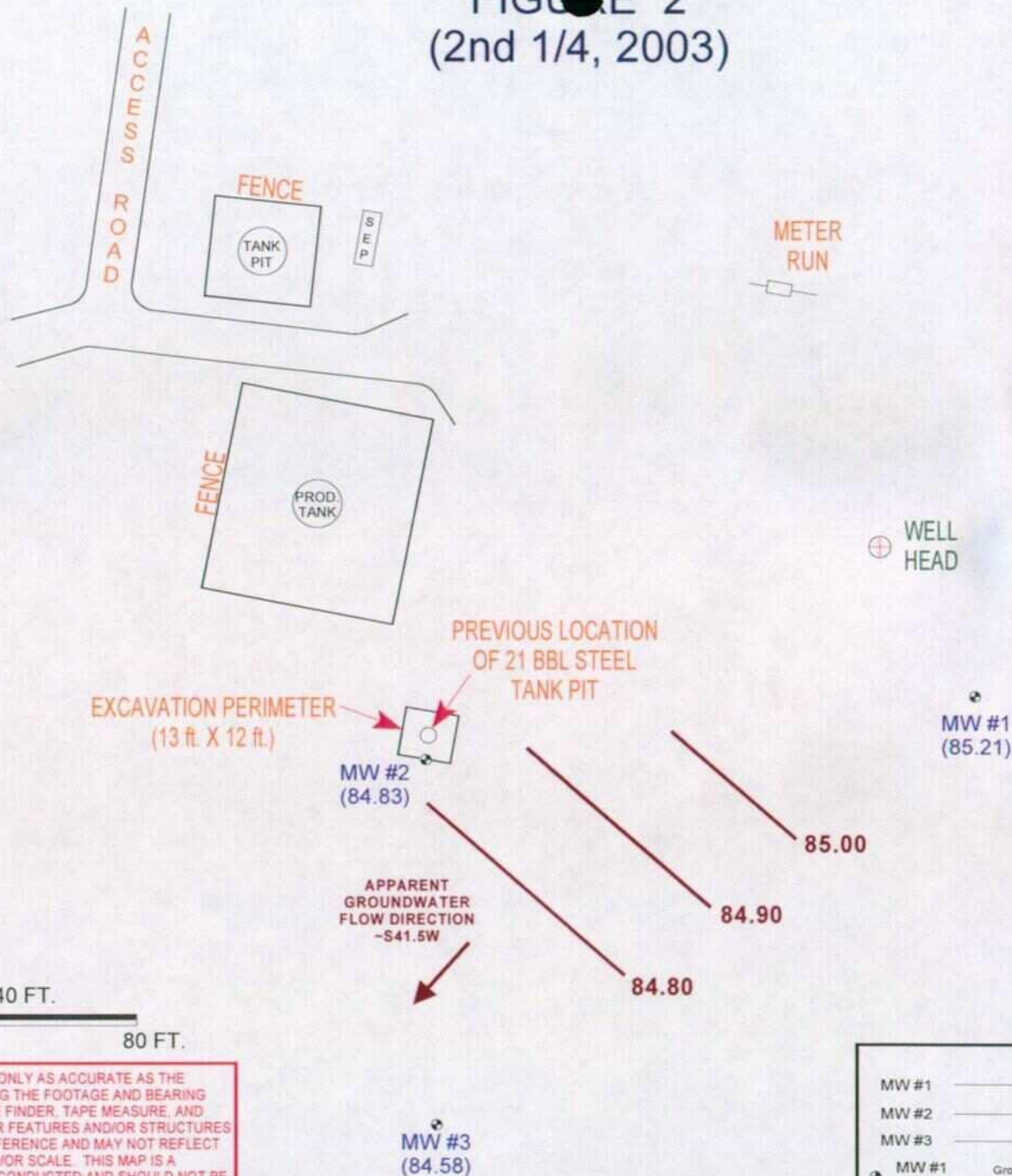
FILENAME: 09-01-03-SM.SKF

REVISED: 11/04/05 NJV

**SITE
MAP**

09/03

FIGURE 2
(2nd 1/4, 2003)



MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM WELL HEAD (LASER RANGE FINDER, TAPE MEASURE, AND BRUNTON COMPASS). ALL OTHER FEATURES AND/OR STRUCTURES DISPLAYED ARE SOLELY FOR REFERENCE AND MAY NOT REFLECT TRUE OR EXACT ACCURACY AND/OR SCALE. THIS MAP IS A GENERALIZATION OF THE WORK CONDUCTED AND SHOULD NOT BE USED FOR SURVEY INFORMATION.

Top of Well Elevation	
MW #1	(101.25)
MW #2	(98.47)
MW #3	(96.86)
Groundwater Elevation as of 5/6/03	
MW #1 (85.21)	

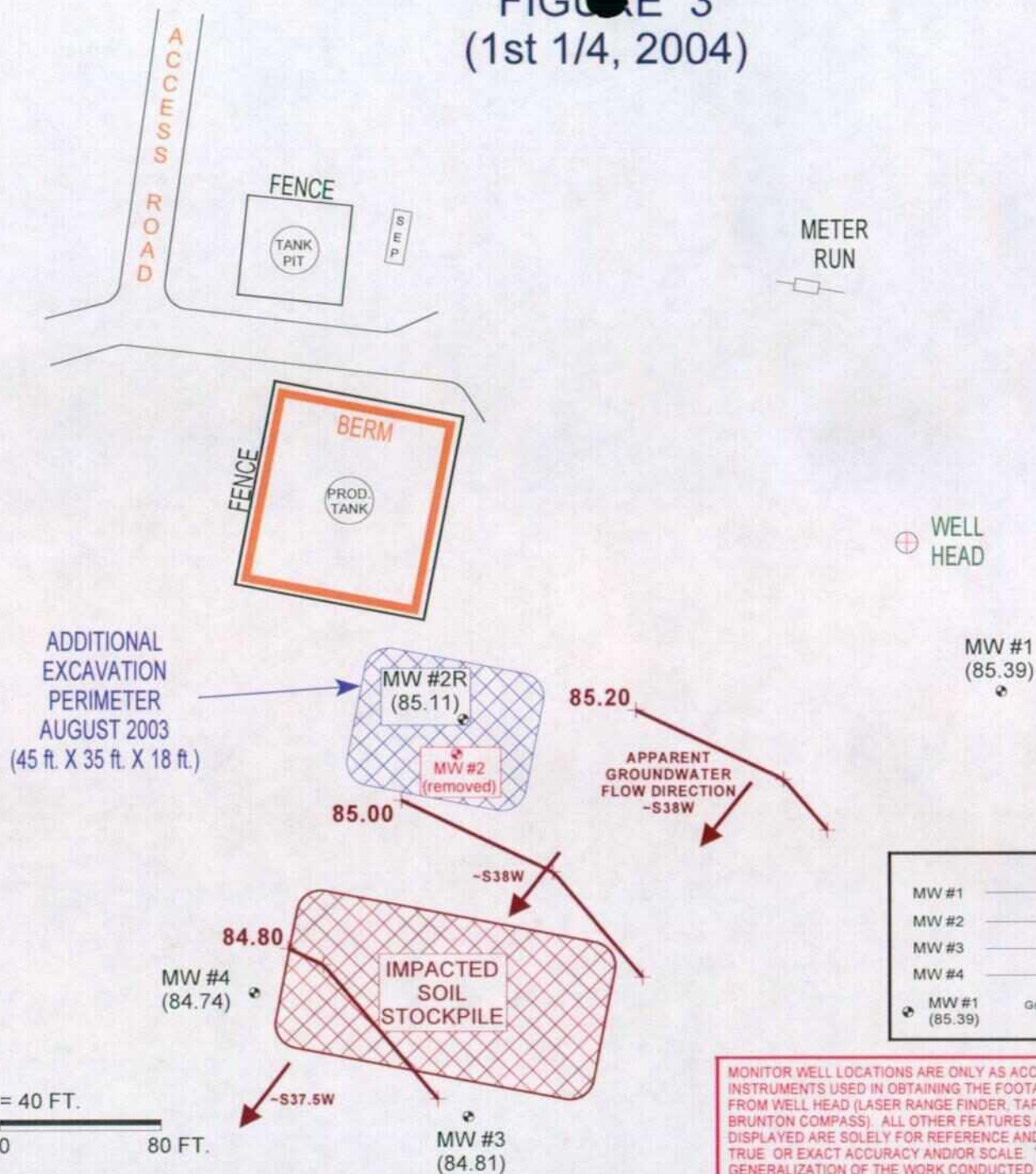
XTO ENERGY, INC.
ARMENTA GC C # 1E
NE/4 NW/4 SEC. 27, T29N, R10W, NMPM
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: GW MONITORING
DRAWN BY: NJV
FILENAME: 05-06-03-GW.SKF
REVISED: 5/6/03 NJV

**GROUNDWATER
CONTOUR
MAP**
05/03

FIGURE 3
(1st 1/4, 2004)



Top of Well Elevation	
MW #1	(101.25)
MW #2	(100.34)
MW #3	(96.87)
MW #4	(98.33)

MW #1 (85.39)	Groundwater Elevation as of 3/30/04.
---------------	--------------------------------------

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM WELL HEAD (LASER RANGE FINDER, TAPE MEASURE, AND BRUNTON COMPASS). ALL OTHER FEATURES AND/OR STRUCTURES DISPLAYED ARE SOLELY FOR REFERENCE AND MAY NOT REFLECT TRUE OR EXACT ACCURACY AND/OR SCALE. THIS MAP IS A GENERALIZATION OF THE WORK CONDUCTED AND SHOULD NOT BE USED FOR SURVEY INFORMATION.

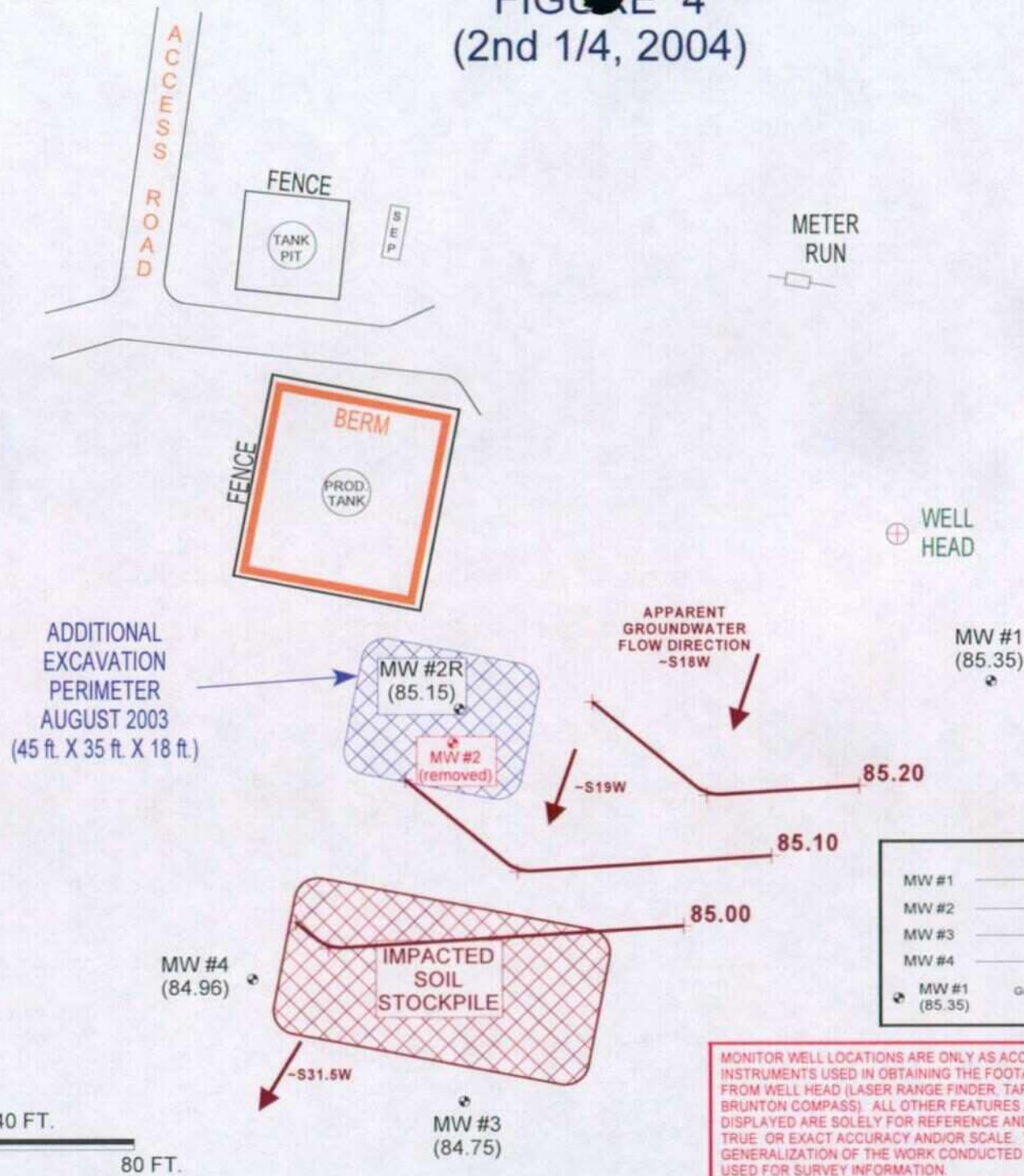
XTO ENERGY INC.
ARMENTA GC C # 1E
NE 1/4 NW 1/4 SEC. 27, T29N, R10W, NMPM
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, Inc.
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PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 03-30-04-GW.SKF
REVISED: 11/04/05 NJV

GROUNDWATER
CONTOUR
MAP
03/04

FIGURE 4
(2nd 1/4, 2004)



XTO ENERGY INC.
ARMENTA GC C # 1E
NE1/4 NW1/4 SEC. 27, T29N, R10W, NMPM
SAN JUAN COUNTY, NEW MEXICO

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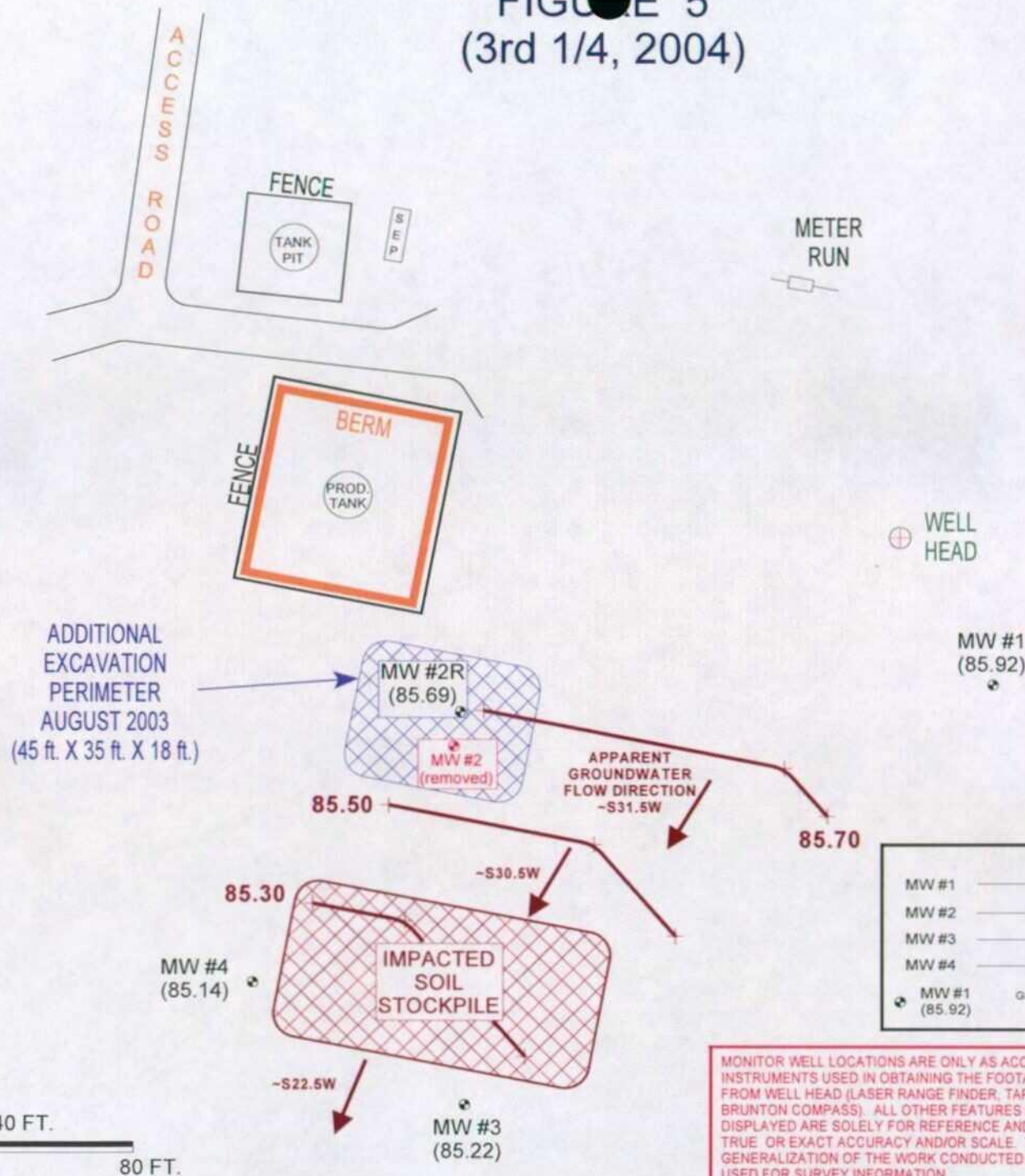
PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 06-16-04-GW.SKF
REVISED: 11/04/05 NJV

**GROUNDWATER
CONTOUR
MAP**
06/04

Top of Well Elevation	
MW #1	(101.25)
MW #2	(100.34)
MW #3	(96.87)
MW #4	(98.33)
Groundwater Elevation as of 6/16/04.	

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM WELL HEAD (LASER RANGE FINDER, TAPE MEASURE, AND BRUNTON COMPASS). ALL OTHER FEATURES AND/OR STRUCTURES DISPLAYED ARE SOLELY FOR REFERENCE AND MAY NOT REFLECT TRUE OR EXACT ACCURACY AND/OR SCALE. THIS MAP IS A GENERALIZATION OF THE WORK CONDUCTED AND SHOULD NOT BE USED FOR SURVEY INFORMATION.

FIGURE 5
(3rd 1/4, 2004)



MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM WELL HEAD (LASER RANGE FINDER, TAPE MEASURE, AND BRUNTON COMPASS). ALL OTHER FEATURES AND/OR STRUCTURES DISPLAYED ARE SOLELY FOR REFERENCE AND MAY NOT REFLECT TRUE OR EXACT ACCURACY AND/OR SCALE. THIS MAP IS A GENERALIZATION OF THE WORK CONDUCTED AND SHOULD NOT BE USED FOR SURVEY INFORMATION.

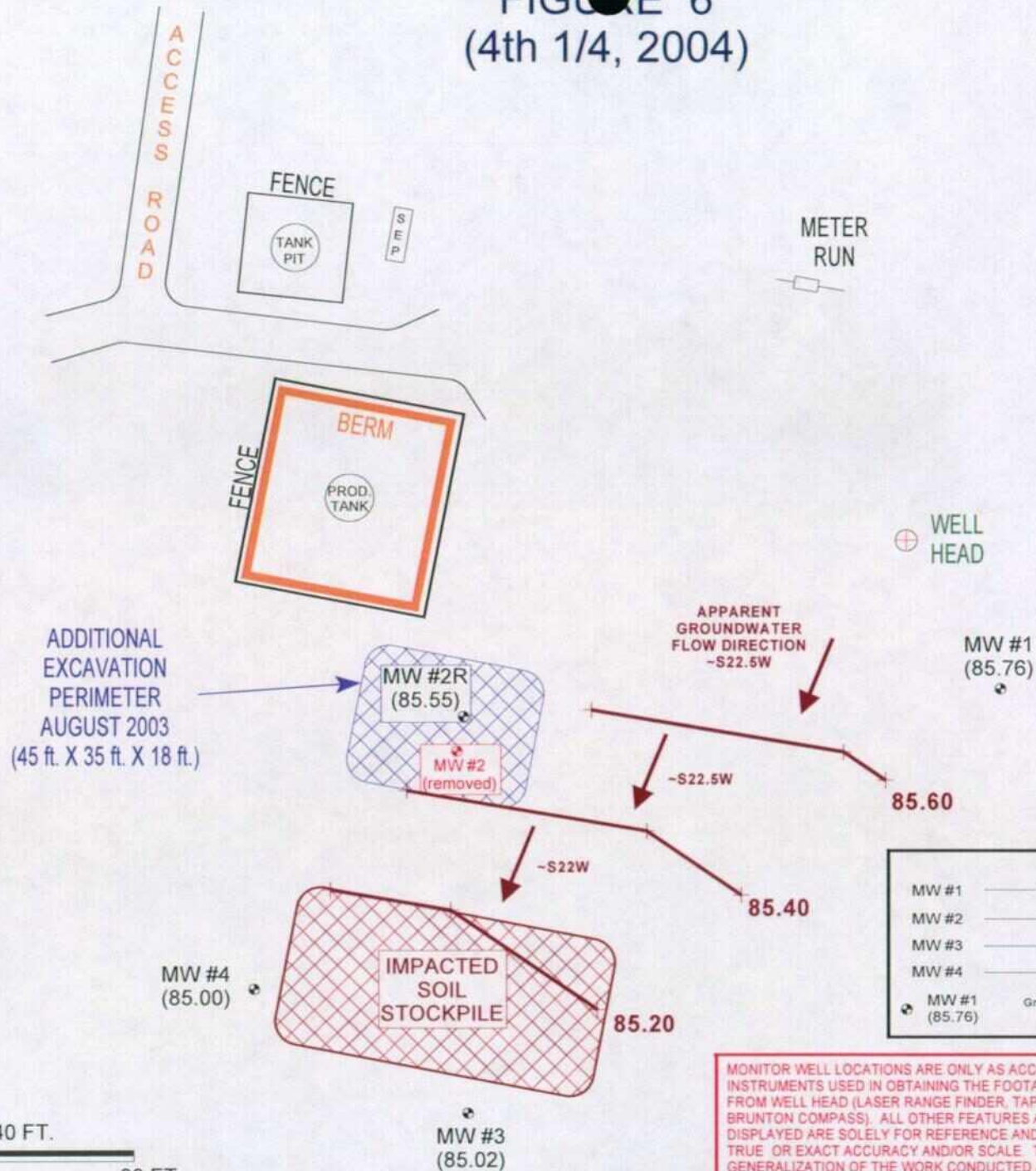
XTO ENERGY INC.
ARMENTA GC C # 1E
NE1/4 NW1/4 SEC. 27, T29N, R10W, NMPM
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, Inc.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 09-27-04-GW.SKF
REVISED: 11/05/05 NJV

**GROUNDWATER
CONTOUR
MAP**
09/04

FIGURE 6
(4th 1/4, 2004)



XTO ENERGY INC.
ARMENTA GC C # 1E
 NE1/4 NW1/4 SEC. 27, T29N, R10W, NMPM
 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: MW SAMPLING
 DRAWN BY: NJV
 FILENAME: 12-29-04-GW.SKF
 REVISED: 11/05/05 NJV

**GROUNDWATER
 CONTOUR
 MAP**
 12/04

Top of Well Elevation	
MW #1	(101.25)
MW #2	(100.34)
MW #3	(96.87)
MW #4	(98.33)
Groundwater Elevation as of 12/29/04.	
MW #1 (85.76)	

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM WELL HEAD (LASER RANGE FINDER, TAPE MEASURE, AND BRUNTON COMPASS). ALL OTHER FEATURES AND/OR STRUCTURES DISPLAYED ARE SOLELY FOR REFERENCE AND MAY NOT REFLECT TRUE OR EXACT ACCURACY AND/OR SCALE. THIS MAP IS A GENERALIZATION OF THE WORK CONDUCTED AND SHOULD NOT BE USED FOR SURVEY INFORMATION.

1 INCH = 40 FT.
 0 40 80 FT.

FIGURE 7

BLAGG ENGINEERING, INC.

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

BORE / TEST HOLE REPORT

CLIENT: **XTO ENERGY INC.**
LOCATION NAME: **ARMENTA GC C #1E - BLOW PIT, UNIT C, SEC. 27, T29N, R10W**
CONTRACTOR: **BLAGG ENGINEERING, INC.**
EQUIPMENT USED: **MOBILE DRILL RIG (EARTHPROBE 200)**
BORING LOCATION: **44 FT., S32E FEET FROM WELL HEAD.**

BORING #..... **BH - 2**
MW #..... **1**
PAGE #..... **1**
DATE STARTED **4/30/03**
DATE FINISHED **4/30/03**
OPERATOR..... **JCB**
PREPARED BY **NJV**

DEPTH
FEET

LITHOLOGY
INTERVAL

MW
SCHEMATIC

FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 0.85 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH BROWN SAND AND GRAVEL, NON COHESIVE, FIRM TO LOOSE, DRY TO SLIGHTLY MOIST, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 3.0 FT. BELOW GRADE).

DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (3.0 - 10.0 FT. BELOW GRADE).

DARK YELLOWISH BROWN SILTY CLAY TO CLAY, SLIGHTLY PLASTIC, FIRM, SLIGHTLY MOIST, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (10.0 - 15.0 FT. BELOW GRADE).

▼ GW DEPTH ON 5/06/03 = 15.19 FT. (APPROX.) FROM GROUND SURFACE.

OLIVE GRAY SAND AND GRAVEL, NON COHESIVE, FIRM TO LOOSE, SATURATED, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (15.0 - 20.0 FT. BELOW GRADE).

OLIVE GRAY SAND AND GRAVEL, NON COHESIVE, FIRM TO LOOSE, SATURATED, STRONG APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (20.0 - 25.0 FT. BELOW GRADE).

NOTE:  - SAND.
 - SILTY CLAY TO CLAY.
 - SAND AND GRAVEL.

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

Monitor well consist of 2 inch PVC piping - casing from 0.85 ft. above grade to 9 ft. below grade, 0.010 slotted screen between 9.00 to 19.00 feet below grade, sand packed annular to 5 ft. below grade, then with clean native fill material to grade.

FIGURE 8 BLAGG ENGINEERING, INC.

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

BORE / TEST HOLE REPORT

CLIENT: XTO ENERGY INC.
LOCATION NAME: ARMENTA GC C #1E - BLOW PIT, UNIT C, SEC. 27, T29N, R10W
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHROBE)
BORING LOCATION: 123 FT., S64.5W FEET FROM WELL HEAD.

BORING #..... BH - 1
MW #..... 2
PAGE #..... 2
DATE STARTED 4/22/03
DATE FINISHED 4/22/03
OPERATOR..... JCB
PREPARED BY NJV

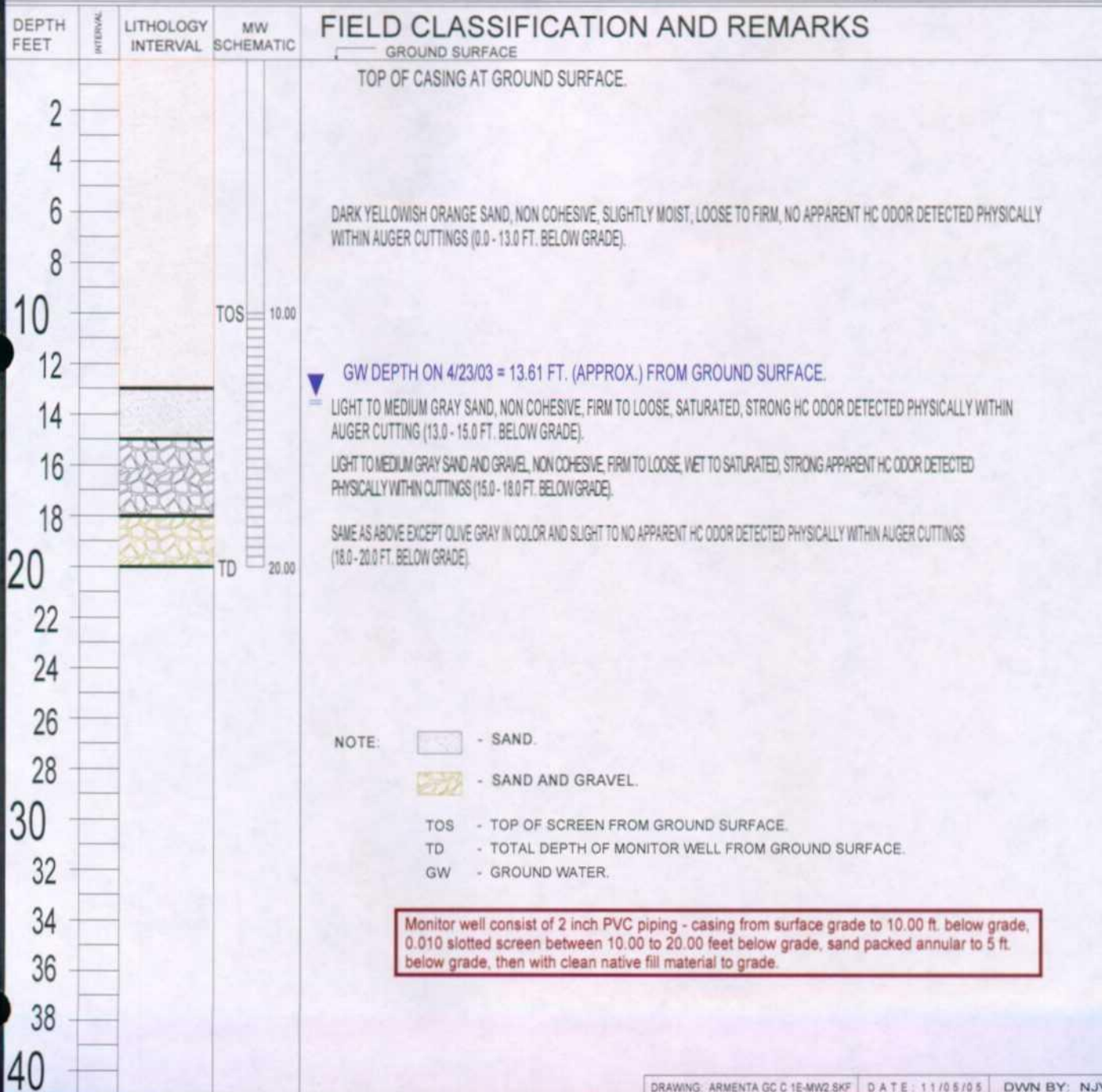


FIGURE 9

BLAGG ENGINEERING, INC.

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

BORE / TEST HOLE REPORT

CLIENT: **XTO ENERGY INC.**
LOCATION NAME: **ARMENTA GC C #1E - BLOW PIT, UNIT C, SEC. 27, T29N, R10W**
CONTRACTOR: **BLAGG ENGINEERING, INC. / ENVIROTECH**
EQUIPMENT USED: **MOBILE DRILL RIG (SIMILAR TO CME 75)**
BORING LOCATION: **118 FT., S68W FEET FROM WELL HEAD.**

BORING #..... **BH - 5**
MW #..... **2R**
PAGE #..... **3**
DATE STARTED **3/23/04**
DATE FINISHED **3/23/04**
OPERATOR..... **KP**
PREPARED BY **NJV**

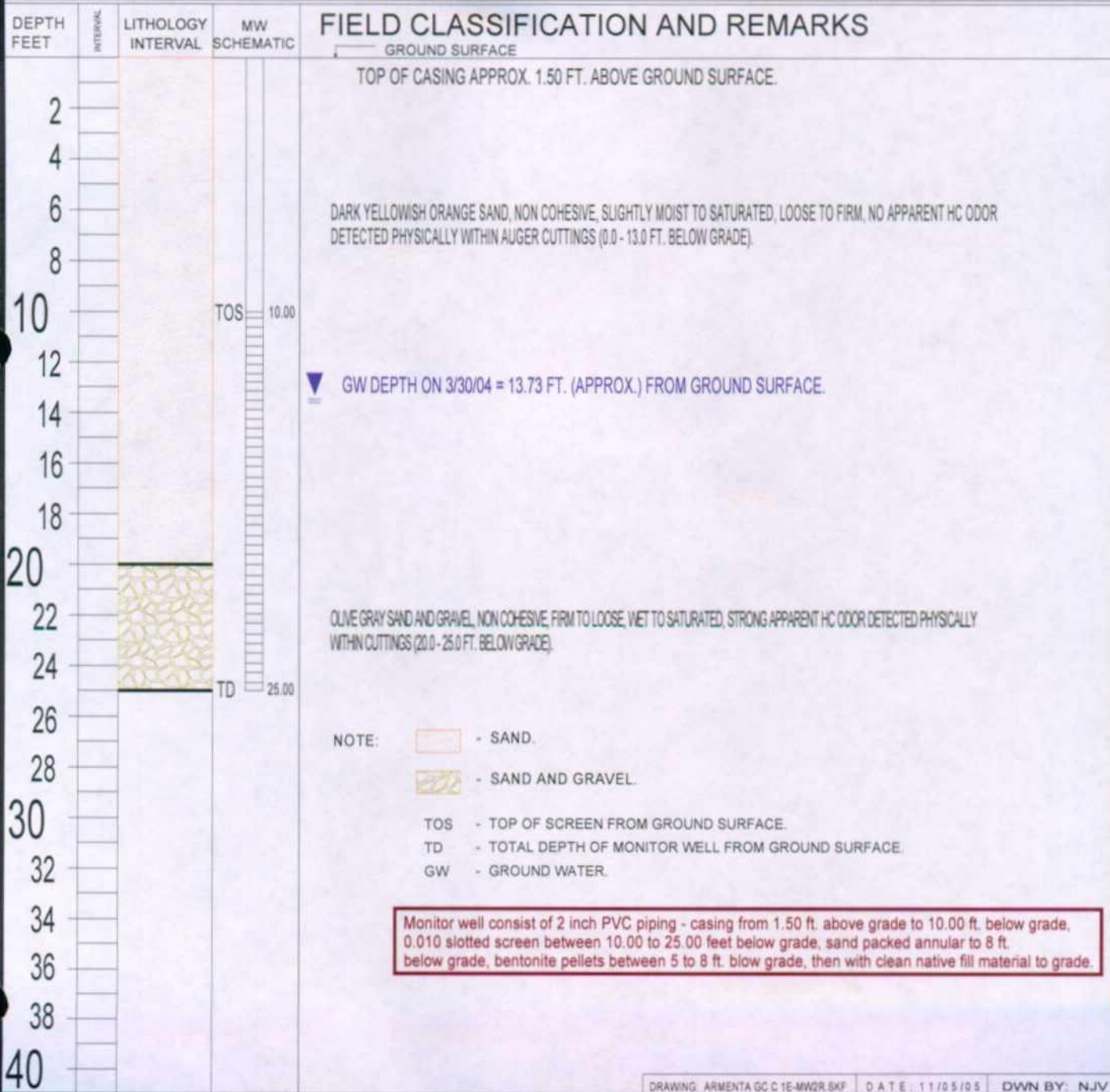


FIGURE 10

BLAGG ENGINEERING, INC.

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

BORE / TEST HOLE REPORT

CLIENT: XTO ENERGY INC.
LOCATION NAME: ARMENTA GC C #1E - BLOW PIT, UNIT C, SEC. 27, T29N, R10W
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE 200)
BORING LOCATION: 180 FT., S37W FEET FROM WELL HEAD.

BORING #..... BH - 3
MW #..... 3
PAGE #..... 4
DATE STARTED 4/30/03
DATE FINISHED 4/30/03
OPERATOR..... JCB
PREPARED BY NJV

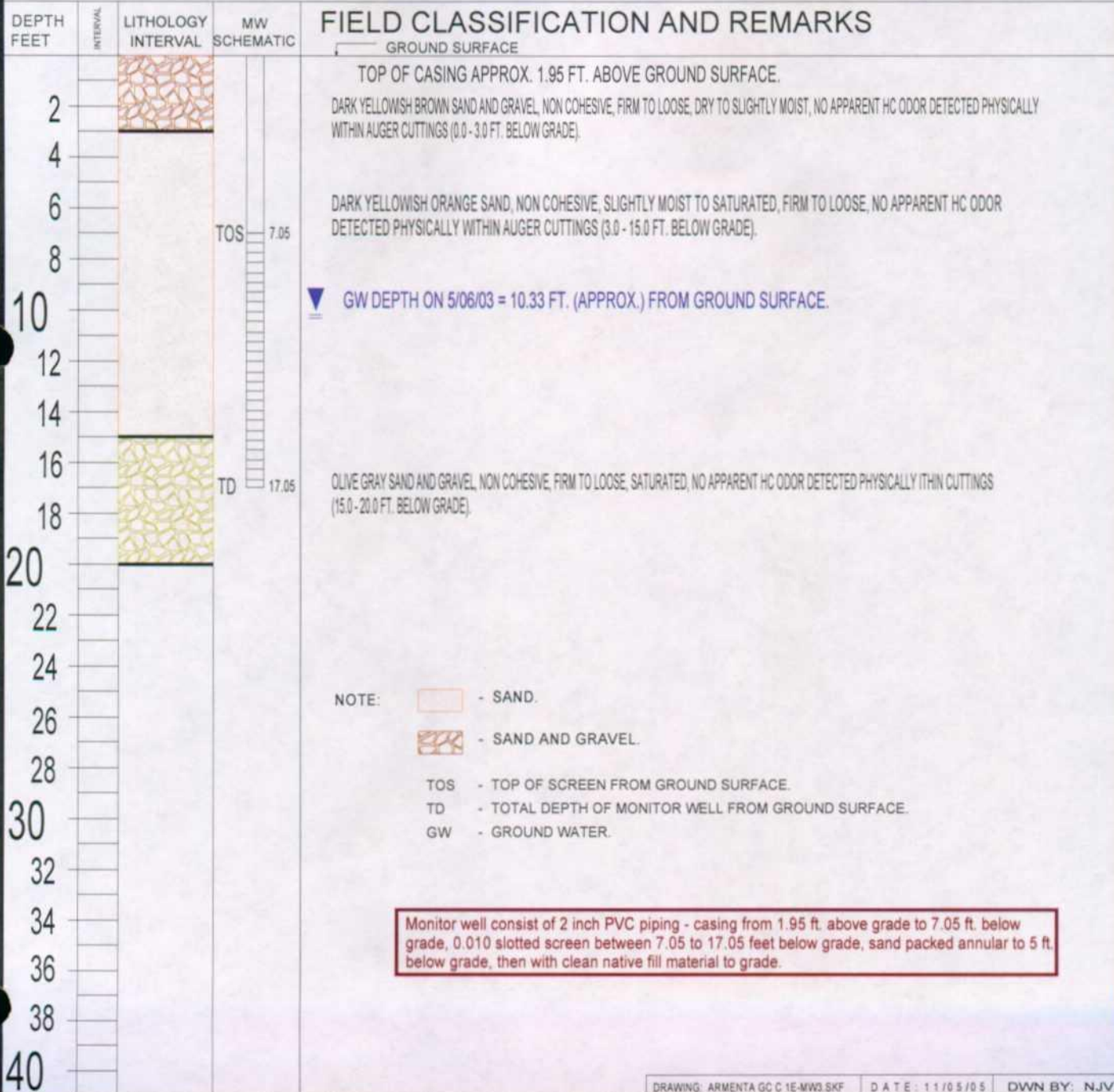


FIGURE 11

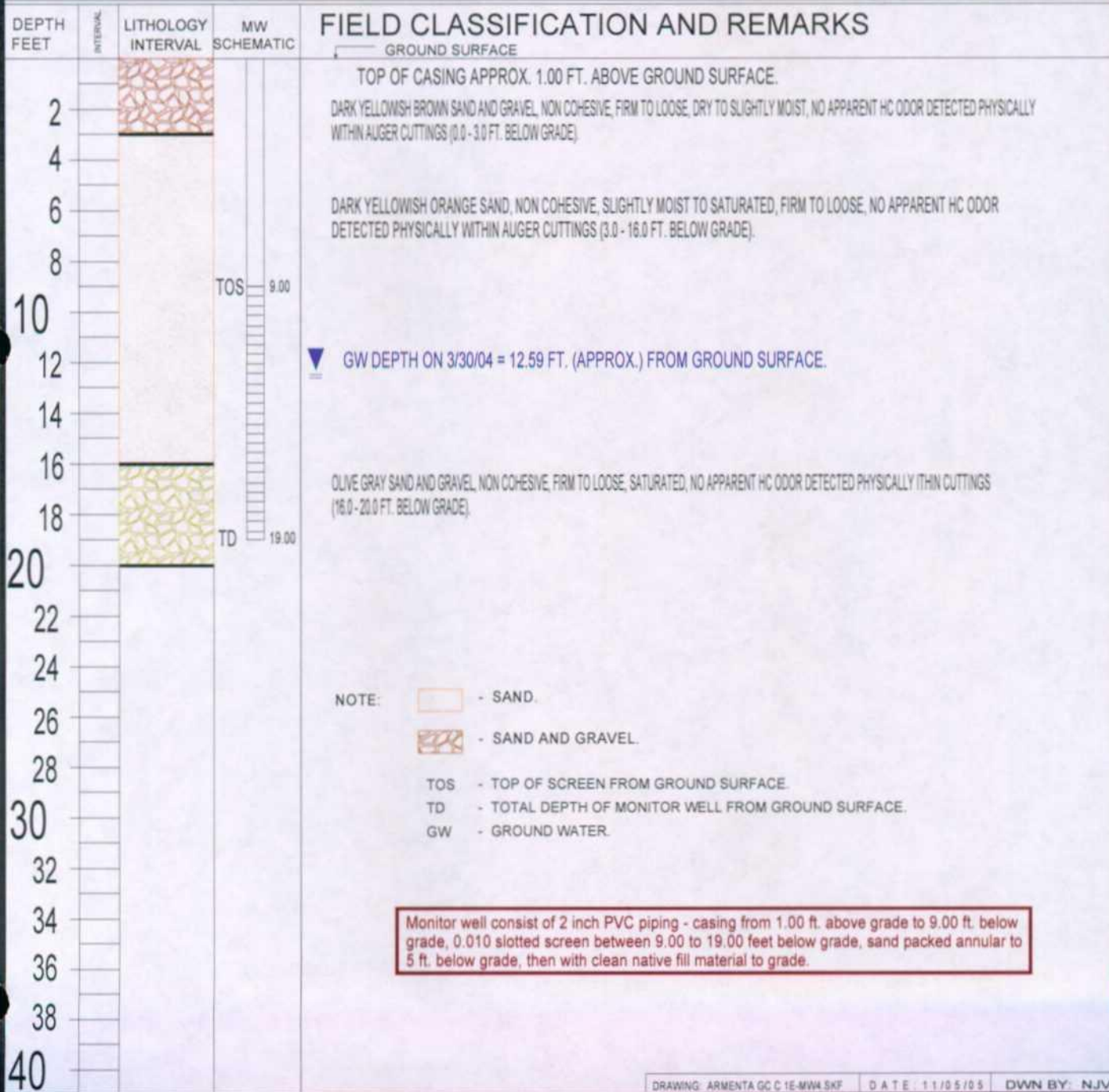
BLAGG ENGINEERING, INC.

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

BORE / TEST HOLE REPORT

CLIENT: **XTO ENERGY INC.**
LOCATION NAME: **ARMENTA GC C #1E - BLOW PIT, UNIT C, SEC. 27, T29N, R10W**
CONTRACTOR: **BLAGG ENGINEERING, INC.**
EQUIPMENT USED: **MOBILE DRILL RIG (EARTH PROBE 200)**
BORING LOCATION: **196 FT., S55W FEET FROM WELL HEAD.**

BORING #..... **BH - 4**
MW #..... **4**
PAGE #..... **5**
DATE STARTED **3/17/04**
DATE FINISHED **3/17/04**
OPERATOR..... **JCB**
PREPARED BY **NJV**



BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : **XTO ENERGY, INC.**

CHAIN-OF-CUSTODY # : _____

ARMENTA GC C #1E - BLOW PIT II
UNIT C, SEC. 27, T29N, R10W

LABORATORY (S) USED : _____

Date : **April 23, 2003**

SAMPLER : **N J V**

Filename : **04-23-03.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
2	-	-	13.61 *	20.00	-	-	-	-	1.50
DEPTH TO PRODUCT (FT.) =			13.34	PRODUCT THICKNESS (FT.) =			0.76		

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft. } h = 1 \text{ ft.}$ (i.e. 4" MW $r = (2/12) \text{ ft. } h = 1 \text{ ft.}$)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

BAILED MW TO TOTAL DEPTH - COMPLETED @ TIME 1408 . REMEASURED DEPTH TO PRODUCT
= 13.38 FT. , DEPTH TO WATER = 13.90 FT. @ TIME 1518 .

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65 .

Top of casing approx. @ grade .

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : **XTO ENERGY, INC.**

CHAIN-OF-CUSTODY # : _____

ARMENTA GC C #1E - BLOW PIT II
UNIT C, SEC. 27, T29N, R10W

LABORATORY (S) USED : _____

Date : **May 6, 2003**

SAMPLER : **N J V**

Filename : **05-06-03.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	85.21	16.04	20.00	-	-	-	-	1.00
2	98.47	84.83	13.64 *	20.00	-	-	-	-	1.00
DEPTH TO PRODUCT (FT.) =			13.32	PRODUCT THICKNESS (FT.) =			0.92		
3	96.86	84.58	12.28	19.00	-	-	-	-	4.00

INSTRUMENT CALIBRATIONS =

7.01	2,800
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DATE & TIME =

05/07/03	09:15 AM
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NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3$ (wellbores), (i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

SURVEYED MW TOPS & COLLECTED DEPTH TO WATER INFO. IN THE MORNING.

MW #1 RECOVERY RATE = 0.1 ft. / 19.05 sec. FULL RECOVERY ~ 12.6 MINUTES. MW #3 -

EXCELLENT RECOVERY. REMOVED FREE PRODUCT FROM MW #2 - ~ 1.00 GALLON OF FLUID PURGED.

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65.

Top of casings (approx.) MW #1 - 0.85 ft. , MW #2 - @ grade , MW #3 - 1.95 ft.

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & /OR SAMPLING DATA

CLIENT : XTO ENERGY, INC.

CHAIN-OF-CUSTODY # : N / A & 10873

ARMENTA GC C #1E - BLOW PIT II

LABORATORY (S) USED : HALL ENVIRONMENTAL

UNIT C, SEC. 27, T29N, R10W

ENVIROTECH

Date : May 12, 2003

SAMPLER : N J V

Filename : 05-12-03.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	85.34	15.91	20.00	935	7.07	1,100	15.7	1.00
2	98.47	84.98	13.49 *	20.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			13.23	PRODUCT THICKNESS (FT.) =			0.73		
3	96.86	84.70	12.16	19.00	0915	7.06	1,200	15.3	3.50

INSTRUMENT CALIBRATIONS =

7.00 2,800

DATE & TIME =

05/12/03 08:55

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$,
(i.e. 2" MW $r = (1/12) \text{ ft}$, $h = 1 \text{ ft}$) (i.e. 4" MW $r = (2/12) \text{ ft}$, $h = 1 \text{ ft}$)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

BAILED APPROX. 0.50 GAL. OF FLUID FROM MW #2. COLLECTED BTEX & MAJOR ANION / CATION SA FROM MW #1 & #2 .

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65 .

Top of casings (approx.) MW #1 - 0.85 ft. , MW #2 - @ grade , MW #3 - 1.95 ft.

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : XTO ENERGY, INC.

CHAIN-OF-CUSTODY # : _____

ARMENTA GC C #1E - BLOW PIT II

LABORATORY (S) USED : _____

UNIT C, SEC. 27, T29N, R10W

Date : May 20, 2003

SAMPLER : N J V

Filename : 05-20-03.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	-	-	20.00	-	-	-	-	-
2	98.47		13.52 *	20.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			13.26	PRODUCT THICKNESS (FT.) =			0.74		
3	96.86	-	-	19.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

DATE & TIME =

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$, (i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

BAILED APPROX. 0.50 GAL. OF FLUID FROM MW #2.

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65 .

Top of casings (approx.) MW #1 - 0.85 ft. , MW #2 - @ grade , MW #3 - 1.95 ft.

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : **XTO ENERGY INC.**

CHAIN-OF-CUSTODY # : _____

ARMENTA GC C #1E - BLOW PIT II
UNIT C, SEC. 27, T29N, R10W

LABORATORY (S) USED : _____

Date : **May 28, 2003**

SAMPLER : **N J V**

Filename : **05-28-03.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	-	-	20.00	-	-	-	-	-
2	98.47		13.46 *	20.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			13.22	PRODUCT THICKNESS (FT.) =			0.68		
3	96.86	-	-	19.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

-	-
---	---

DATE & TIME =

-	-
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NOTES : Volume of water purged from well prior to sampling; $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

BAILED APPROX. 0.50 - 0.75 GAL. OF FLUID FROM MW #2.

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65.

Top of casings (approx.) MW #1 - 0.85 ft., MW #2 - @ grade, MW #3 - 1.95 ft.

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : **XTO ENERGY INC.**

CHAIN-OF-CUSTODY # : _____

ARMENTA GC C #1E - BLOW PIT II
UNIT C, SEC. 27, T29N, R10W

LABORATORY (S) USED : _____

Date : **June 6, 2003**

SAMPLER : **N J V**

Filename : **06-06-03.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	-	-	20.00	-	-	-	-	-
2	98.47		13.52 *	20.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			13.26	PRODUCT THICKNESS (FT.) =			0.74		
3	96.86	-	-	19.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

-	-
-	-

DATE & TIME =

-	-
-	-

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

BAILED APPROX. 0.50 - 0.75 GAL. OF FLUID FROM MW #2.

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65.

Top of casings (approx.) MW #1 - 0.85 ft., MW #2 - @ grade, MW #3 - 1.95 ft.

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : **XTO ENERGY INC.**

CHAIN-OF-CUSTODY # : _____

ARMENTA GC C #1E - BLOW PIT II
UNIT C, SEC. 27, T29N, R10W

LABORATORY (S) USED : _____

Date : **June 19, 2003**

SAMPLER : **N J V**

Filename : **06-19-03.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	-	-	20.00	-	-	-	-	-
2	98.47		13.43 *	20.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			13.20	PRODUCT THICKNESS (FT.) =			0.66		
3	96.86	-	-	19.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

-	-
-	-

DATE & TIME =

-	-
-	-

NOTES : Volume of water purged from well prior to sampling; $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$,
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

BAILED APPROX. 2.50 - 3.00 GAL. OF FLUID FROM MW #2.

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65.

Top of casings (approx.) MW #1 - 0.85 ft., MW #2 - @ grade, MW #3 - 1.95 ft.

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : **XTO ENERGY INC.**

CHAIN-OF-CUSTODY # : _____

ARMENTA GC C # 1E - BLOW PIT II
UNIT C, SEC. 27, T29N, R10W

LABORATORY (S) USED : _____

Date : **June 27, 2003**

SAMPLER : **N J V**

Filename : **06-27-03.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	-	-	20.00	-	-	-	-	-
2	98.47		13.42 *	20.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			13.22	PRODUCT THICKNESS (FT.) =			0.58		
3	96.86	-	-	19.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

-	-
-	-

DATE & TIME =

-	-
-	-

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

BAILED APPROX. 2.50 - 3.00 GAL. OF FLUID FROM MW # 2.

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65.

Top of casings (approx.) MW # 1 - 0.85 ft. , MW # 2 - @ grade , MW # 3 - 1.95 ft.

BLAGG ENGINEERING, INC.**MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA**CLIENT : **XTO ENERGY INC.**

CHAIN-OF-CUSTODY # : _____

ARMENTA GC C #1E - BLOW PIT II

LABORATORY (S) USED : _____

UNIT C, SEC. 27, T29N, R10W

Date : **July 3, 2003**SAMPLER : **N J V**Filename : **07-03-03.WK4**PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	-	-	20.00	-	-	-	-	-
2	98.47		13.48 *	20.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			13.25	PRODUCT THICKNESS (FT.) =			0.66		
3	96.86	-	-	19.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

DATE & TIME =

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft.}$ $h = 1 \text{ ft.}$) (i.e. 4" MW $r = (2/12) \text{ ft.}$ $h = 1 \text{ ft.}$)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".BAILED APPROX. 2.50 - 3.00 GAL. OF FLUID FROM MW #2.* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65.Top of casings (approx.) MW #1 - 0.85 ft. , MW #2 - @ grade , MW #3 - 1.95 ft.

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : **XTO ENERGY INC.**

CHAIN-OF-CUSTODY # : **N / A**

ARMENTA GC C #1E - BLOW PIT II
UNIT C, SEC. 27, T29N, R10W

LABORATORY (S) USED : **HALL ENVIRONMENTAL**

Date : **March 30, 2004**

SAMPLER : **N J V**

Filename : **03-30-04.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	85.39	15.86	20.00	-	-	-	-	-
2R	100.34	85.11	15.23	25.00	1107	7.13	2,100	15.5	4.75
3	96.87	84.81	12.06	19.00	-	-	-	-	-
4	98.33	84.74	13.59	20.00	1010	7.10	2,000	14.4	3.25

INSTRUMENT CALIBRATIONS =

7.00 2,800

DATE & TIME =

03/27/04 0800

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft}$, $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$, $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

MW #4 installed 2/27/04, MW #2R installed 3/23/04. MW #4 - 10 ft., MW #2R - 15 ft. slotted screen. Both developed on 3/29/04. Excellent recovery in both wells. Collected BTEX samples from MW #2R & #4 only. MW #3 contained abundant amount of organic (root) material, therefore all depth to water measurement collected on 4/01/04 after clearing out MW #3.

MW #2R - 118 ft., S 68 W from well head; MW #4 - 78 ft., S 40 W from MW #2R.

Top of casings (approx.) MW #1 - 0.85 ft., MW #2 - 1.50 ft., MW #3 - 1.95 ft., MW #4 - 1.00 ft. above grade.

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : XTO ENERGY INC.

CHAIN-OF-CUSTODY # : N / A

ARMENTA GC C #1E - BLOW PIT II
UNIT C, SEC. 27, T29N, R10W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : June 16, 2004

SAMPLER : N J V

Filename : 06-16-04.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	85.35	15.9	20.00	-	-	-	-	-
2R	100.34	85.15	15.19	25.00	1420	6.91	2,000	21.6	4.75
3	96.87	84.75	12.12	19.00	-	-	-	-	-
4	98.33	84.96	13.37	20.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

7.00 2,800

DATE & TIME =

06/16/04 1130

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

Excellent recovery in MW # 2R. Collected BTEX sample from MW # 2R only.

Top of casings (approx.) MW # 1 - 0.85 ft., MW # 2 - 1.50 ft., MW # 3 - 1.95 ft., MW # 4 - 1.00 ft. above grade.

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : XTO ENERGY INC.

CHAIN-OF-CUSTODY # : N / A

ARMENTA GC C #1E - BLOW PIT II
UNIT C, SEC. 27, T29N, R10W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : September 27, 2004

SAMPLER : N J V

Filename : 09-27-04.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	85.92	15.33	20.00	-	-	-	-	-
2R	100.34	85.69	14.65	25.00	1250	6.96	2,000	20.3	5.00
3	96.87	85.22	11.65	19.00	-	-	-	-	-
4	98.33	85.14	13.19	20.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

7.00	2,800
------	-------

DATE & TIME =

09/27/04	1025
----------	------

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

Excellent recovery in MW #2R. Collected BTEX sample from MW #2R only.

Top of casings (approx.) MW #1 - 0.85 ft., MW #2 - 1.50 ft., MW #3 - 1.95 ft., MW #4 - 1.00 ft. above grade.

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : XTO ENERGY INC.

CHAIN-OF-CUSTODY # : N / A

ARMENTA GC C #1E - BLOW PIT II
UNIT C, SEC. 27, T29N, R10W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : December 29, 2004

SAMPLER : N J V

Filename : 12-29-04.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	85.76	15.49	20.00	-	-	-	-	-
2R	100.34	85.55	14.79	25.00	1540	6.98	2,100	15.2	5.00
3	96.87	85.02	11.85	19.00	-	-	-	-	-
4	98.33	85.00	13.33	20.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

7.00	2,800
------	-------

DATE & TIME =

12/29/04	1025
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NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 "

Excellent recovery in MW # 2R . Collected BTEX sample from MW # 2R only .

Top of casings (approx.) MW # 1 - 0.85 ft. , MW # 2 - 1.50 ft. , MW # 3 - 1.95 ft. , MW # 4 - 1.00 ft. above grade .

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
100 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-144
June 1, 2004

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☒ No ☐

Type of action: Registration of a pit or below-grade tank ☐ Closure of a pit or below-grade tank ☒

Operator: **XTO ENERGY INC.** Telephone: **(505)-324-1090** e-mail address: _____
Address: **2700 FARMINGTON AVE., BLDG. K, SUITE 1, FARMINGTON, NM 87401**
Facility or well name: **ARMENTA GAS COM C #1E** API #: **30-045- 23856** U/L or Qtr/Qtr **C** Sec **27** T **29N** R **10**
County: **SAN JUAN** Latitude **36.70320** Longitude **107.87558** NAD: 1927 ☐ 1983 ☒ Surface Owner Federal ☐ State ☐ Private ☒ Indian ☐

Pit	Below-grade tank
Type: Drilling ☐ Production ☒ Disposal ☐ BLOW Workover ☐ Emergency ☐ Lined ☒ Unlined ☒ STEEL TANK Liner type: Synthetic ☐ Thickness _____ mil Clay ☐ Pit Volume _____ bbl	Volume: _____ bbl Type of fluid: _____ Construction material: N/A Double-walled, with leak detection? Yes ☐ If not, explain why not: _____
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet (20 points) 50 feet or more, but less than 100 feet (10 points) 20 100 feet or more (0 points)
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes (20 points) No (0 points) 0
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet (20 points) 200 feet or more, but less than 1000 feet (10 points) 10 1000 feet or more (0 points)
Ranking Score (Total Points) 30	

If this is a pit closure: (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if you are burying in place) onsite ☒ offsite ☐ If offsite, name of facility: _____. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☒ If yes, show depth below ground surface **14** ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments: **PIT LOCATED APPROXIMATELY 123 FT. S64W FROM WELL HEAD.**

PIT EXCAVATION: WIDTH 45 ft., LENGTH 35 ft., DEPTH 18 ft.

PIT REMEDIATION: CLOSE AS IS: ☐, LANDFARM: ☐, COMPOST: ☒, STOCKPILE: ☐, OTHER ☐ (explain)

Cubic yards: 600

Groundwater impacted. Implemented XTO's Groundwater Management Plan (GMP).

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐, or an alternative OCD-approved plan ☒.

Date: **11/14/05**

Printed Name/Title **Jeff Blagg - P.E. # 11607** Signature *Jeff Blagg*

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval: _____
Printed Name/Title _____ Signature _____ Date: _____

VUL

3004523856

CLIENT: <u>XTO</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: _____ COCR NO: _____																																																	
FIELD REPORT: PIT CLOSURE VERIFICATION		PAGE No: <u>1</u> of <u>1</u>																																																	
LOCATION: NAME: <u>ALIMENTA GC C</u> WELL#: <u>1E</u> TYPE: <u>BLOW</u> QUAD/UNIT: <u>C SEC 7.7 TWP: 29N RNG: 10W PM: N17W CNTY: SJ ST: NM</u> QTR/FOOTAGE: <u>435'N/1590'W</u> NE(NU) CONTRACTOR: <u>HDE (LACK)</u>		DATE STARTED: <u>4/14/03</u> DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST: <u>NV</u>																																																	
EXCAVATION APPROX. <u>12</u> FT. x <u>13</u> FT. x <u>13</u> FT. DEEP. CUBIC YARDAGE: <u>75</u>																																																			
DISPOSAL FACILITY: <u>ON-SITE</u> REMEDIATION METHOD: <u>LANDFILL</u>																																																			
LAND USE: <u>OPEN PASTURE</u> LEASE: <u>FEE</u> FORMATION: <u>MV</u>																																																			
FIELD NOTES & REMARKS: <u>PIT LOCATED APPROXIMATELY 120 FT. S67W FROM WELLHEAD.</u> DEPTH TO GROUNDWATER: <u><50'</u> NEAREST WATER SOURCE: <u>>1000'</u> NEAREST SURFACE WATER: <u><1000'</u> NMOCD RANKING SCORE: <u>30</u> NMOCD TPH CLOSURE STD: <u>100</u> PPM SOIL AND EXCAVATION DESCRIPTION: <u>5506' ELEV.</u>																																																			
		OVM CALIB. READ. = _____ ppm OVM CALIB. GAS = _____ ppm <u>RF = 0.52</u> TIME: _____ am/pm DATE: _____																																																	
SOIL TYPE: <u>SAND</u> / SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER _____ SOIL COLOR: <u>LT GRAY TO BLACK</u> COHESION (ALL OTHERS): <u>NON COHESIVE</u> / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE CONSISTENCY (NON COHESIVE SOILS): <u>LOOSE</u> / <u>FIRM</u> / DENSE / VERY DENSE PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC DENSITY (COHESIVE CLAYS & SILTS): SOFT / FIRM / STIFF / VERY STIFF / HARD MOISTURE: DRY / <u>SLIGHTLY MOIST</u> / MOIST / WET / SATURATED / SUPER SATURATED DISCOLORATION/STAINING OBSERVED: <u>YES</u> / NO EXPLANATION: _____ ODOR DETECTED: <u>YES</u> / NO EXPLANATION: _____ SAMPLE TYPE: GRAB / COMPOSITE - # OF PTS. _____ ADDITIONAL COMMENTS: <u>NO SAMPLES COLLECTED. GROUNDWATER ~ 13' BELOW GRADE. OLIVE GRAY SAND OBSERVED WITH TEST HOLE ADVANCED BELOW 19' BEFORE COLLAPSING DUE TO GROUNDWATER. WHE BACKFILL & LATER INSTALL MONITOR WELL.</u>																																																			
FIELD 418.1 CALCULATIONS																																																			
SCALE 0 FT	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>SAMP. TIME</th> <th>SAMP. ID</th> <th>LAB NO.</th> <th>WEIGHT (g)</th> <th>mL FREON</th> <th>DILUTION</th> <th>READING</th> <th>CALC. (ppm)</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	SAMP. TIME	SAMP. ID	LAB NO.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. (ppm)																																										
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TRAVEL NOTES: <u>CALLOUT: 4/14/03 - AFTER. ONSITE: 4/14/03 - AFTER.</u>																																																			

BLAGG ENGINEERING, INC.
P.O. Box 87, Blandfield, New Mexico 87412

April 25, 2003

Mr. Roger Anderson
Chief of Environmental Bureau
State of New Mexico Oil Conservation Division (NMOCD)
1220 St. Francis Drive
Santa Fe, New Mexico 87505

**RE: Groundwater Impact
XTO Energy, Inc.**

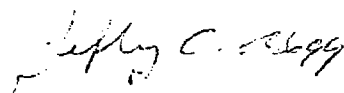
**Armenta GC C # 1E Well site
Legal Description: Unit C, Sec. 27, T29N, R10W
San Juan County, New Mexico**

Dear Mr. Anderson:

Physical observation of groundwater at the above referenced well site indicates approximately 0.76 ft. or 9.12 inches of free phase product on April 23, 2003. Monitor well installation and construction was completed on April 22, 2003. The monitor well is located within an abandoned blow pit excavated on April 18, 2003 to approximately the groundwater interface (thirteen [13] feet below grade). XTO Energy will adhere to its NMOCD approved groundwater management plan during further assessment of the apparent hydrocarbon contamination encountered. Depth to free phase product in the monitor well was approximately 13.34 ft. below grade.

If you have any questions concerning this information, please do not hesitate to contact Nelson Velez or myself at (505) 632-1199. Thank you for your cooperation.

Respectfully submitted,
Blagg Engineering, Inc.


Jeffrey C. Blagg, P.E.
President

cc: Denny Foust, Environmental Geologist, NMOCD, Aztec, NM
Terry Matthews, Production Superintendent, XTO Energy, Inc., Farmington, NM
Darrin Steed, Environmental & Safety Manager, XTO Energy, Inc., Farmington, NM

NJV/njv

ARMENTA-C1E.LTR

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: XTO ENERGY, INC.

CHAIN-OF-CUSTODY #: _____

ARMENTA GC C #1E - BLOW PIT II

LABORATORY (S) USED: _____

UNIT C, SEC. 27, T29N, R10W

Date: April 23, 2003

SAMPLER: NJV

Filename: 04-23-03.WK4

PROJECT MANAGER: NJV

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
2	-	-	13.61 *	20.00	-	-	-	-	1.50
DEPTH TO PRODUCT (FT.) =			13.34	PRODUCT THICKNESS (FT.) =			0.76		

NOTES: Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft.}$ $h = 1 \text{ ft.}$) (i.e. 4" MW $r = (2/12) \text{ ft.}$ $h = 1 \text{ ft.}$)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

BAILED MW TO TOTAL DEPTH - COMPLETED @ TIME 1408. REMEASURED DEPTH TO PRODUCT = 13.38 FT., DEPTH TO WATER = 13.90 FT. @ TIME 1518.

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65.

Top of casing approx. @ grade.

ALPS ENGINEERING INC.

MONITOR WELL DEVELOPMENT & /OR SAMPLING DATA

CLIENT : **XTC ENERGY, INC.**

CHAIN-OF-CUSTODY #: **N / A & 10873**

ARMENTA GC C #1E - BLOW PIT II
UNIT C, SEC. 27, T29N, R10W

LABORATORY (S) USED : **HALL ENVIRONMENTAL**
ENVIROTECH

Date : **May 12, 2003**

SAMPLER : **N J V**

Filename : **05-12-03.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	85.34	15.91	20.00	935	7.07	1,100	15.7	1.00
2	98.47	84.98	13.49 *	20.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			13.23	12.76	PRODUCT THICKNESS (FT.) =			0.73	
3	96.86	84.70	12.16	19.00	0915	7.06	1,200	15.3	3.50

INSTRUMENT CALIBRATIONS =

DATE & TIME =

7.00 2,800

05/12/03 08:55

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
 (i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00" well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2"

BAILED APPROX. 0.50 GAL. OF FLUID FROM MW #2. COLLECTED BTEX & MAJOR ANION / CATION SA
 FROM MW #1 & #2 .

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65.

Top of casings (approx.) MW #1 - 0.85 ft. , MW #2 - @ grade , MW #3 - 1.95 ft.

Hall Environmental Analysis Laboratory

Date: 20-May-03

CLIENT: Blagg Engineering
Lab Order: 0305099
Project: Armenta GC C #1E
Lab ID: 0305099-01

Client Sample ID: MW-1
Collection Date: 5/12/2003 9:35:00 AM
Matrix: AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.50		µg/L	1	5/15/2003 3:17:53 PM
Toluene	ND	0.50		µg/L	1	5/15/2003 3:17:53 PM
Ethylbenzene	ND	0.50		µg/L	1	5/15/2003 3:17:53 PM
Xylenes, Total	ND	0.50		µg/L	1	5/15/2003 3:17:53 PM
Surr: 4-Bromofluorobenzene	99.7	74-118		%REC	1	5/15/2003 3:17:53 PM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / XTO Energy	Project #:	94034-010
Sample ID:	MW #1	Date Reported:	05-12-03
Laboratory Number:	25630	Date Sampled:	05-12-03
Chain of Custody:	10873	Date Received:	05-12-03
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	05-12-03
Condition:	Cool & Intact		

Parameter	Analytical Result	Units	Units
pH	7.52	s.u.	
Conductivity @ 25° C	2,070	umhos/cm	
Total Dissolved Solids @ 180C	1,040	mg/L	
Total Dissolved Solids (Calc)	1,160	mg/L	
SAR	5.1	ratio	
Total Alkalinity as CaCO3	660	mg/L	
Total Hardness as CaCO3	412	mg/L	
Bicarbonate as HCO3	660	mg/L	10.82 meq/L
Carbonate as CO3	<0.1	mg/L	0.00 meq/L
Hydroxide as OH	<0.1	mg/L	0.00 meq/L
Nitrate Nitrogen	0.1	mg/L	0.00 meq/L
Nitrite Nitrogen	0.007	mg/L	0.00 meq/L
Chloride	26.4	mg/L	0.74 meq/L
Fluoride	0.46	mg/L	0.02 meq/L
Phosphate	1.4	mg/L	0.04 meq/L
Sulfate	337	mg/L	7.01 meq/L
Iron	0.003	mg/L	0.00 meq/L
Calcium	142	mg/L	7.11 meq/L
Magnesium	13.7	mg/L	1.13 meq/L
Potassium	5.20	mg/L	0.13 meq/L
Sodium	236	mg/L	10.27 meq/L
Cations			18.63 meq/L
Anions			18.64 meq/L
Cation/Anion Difference			0.03%

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Water And Waste Water", 18th ed., 1992.

Comments: Armenta GC C #1E.

Analyst

Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / XTO Energy	Project #:	94034-010
Sample ID:	MW #3	Date Reported:	05-12-03
Laboratory Number:	25631	Date Sampled:	05-12-03
Chain of Custody:	10873	Date Received:	05-12-03
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	05-12-03
Condition:	Cool & Intact		

Parameter	Analytical Result	Units	Units
pH	7.57	s.u.	
Conductivity @ 25° C	1,820	umhos/cm	
Total Dissolved Solids @ 180C	912	mg/L	
Total Dissolved Solids (Calc)	927	mg/L	
SAR	1.1	ratio	
Total Alkalinity as CaCO3	440	mg/L	
Total Hardness as CaCO3	604	mg/L	
Bicarbonate as HCO3	440	mg/L	7.21 meq/L
Carbonate as CO3	<0.1	mg/L	0.00 meq/L
Hydroxide as OH	<0.1	mg/L	0.00 meq/L
Nitrate Nitrogen	0.2	mg/L	0.00 meq/L
Nitrite Nitrogen	0.004	mg/L	0.00 meq/L
Chloride	32.4	mg/L	0.91 meq/L
Fluoride	1.09	mg/L	0.06 meq/L
Phosphate	0.6	mg/L	0.02 meq/L
Sulfate	330	mg/L	6.87 meq/L
Iron	0.081	mg/L	0.00 meq/L
Calcium	195	mg/L	9.74 meq/L
Magnesium	28.3	mg/L	2.33 meq/L
Potassium	8.85	mg/L	0.23 meq/L
Sodium	63.6	mg/L	2.77 meq/L
Cations			15.07 meq/L
Anions			15.08 meq/L
Cation/Anion Difference			0.07%

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Water And Waste Water", 18th ed., 1992.

Comments: Armenta GC C #1E.

Analyst

Review

Remarks: PLEASE FAX RESULTS UPON COMPLETION. THANKS. NJV

CHAIN OF CUSTODY RECORD

1083

Client / Project Name <i>BLAGG / XTO ENERGY</i>			Project Location <i>ARMENIA GC C #1E</i>		ANALYSIS / PARAMETERS								
Sampler: <i>NTV</i>			Client No. <i>94634-016</i>		No. of Containers	MAJOR ANALYSIS / CATION						Remarks	
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix								<i>PRESERVED COOL</i>	
		<i>0935</i>											
<i>MW #1</i>	<i>5/12/03</i>		<i>25630</i>	<i>WATER</i>	<i>1</i>	<i>✓</i>							
<i>MW #3</i>	<i>5/12/03</i>	<i>0715</i>	<i>25631</i>	<i>WATER</i>	<i>1</i>	<i>✓</i>							
Relinquished by: (Signature) <i>Nelson Vif</i>			Date <i>5/12/03</i>	Time <i>1110</i>	Received by: (Signature) <i>Don L. Adams</i>			Date <i>5/12/03</i>	Time <i>1110</i>				
Relinquished by: (Signature)					Received by: (Signature)								
Relinquished by: (Signature)					Received by: (Signature)								
ENVIROTECH INC. 5796 U.S. Highway 64 Farmington, New Mexico 87401 (505) 632-0615										Sample Receipt			
											Y	N	N/A
										Received Intact	<i>✓</i>		
										Cool - Ice/Blue Ice	<i>✓</i>		

Hall Environmental Analysis Laboratory

Date: 20-May-03

CLIENT: Blagg Engineering
Work Order: 0305099
Project: Armenta GC C #1E

QC SUMMARY REPORT

Method Blank

Sample ID	Reagent Blank 5m	Batch ID: R8292	Test Code: SW8021	Units: µg/L	Analysis Date	5/15/2003 8:57:32 AM	Prep Date				
Client ID:		Run ID: PIDHALL_030515A	SeqNo: 187754								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
1,2,4-Trimethylbenzene	ND	0.50									
1,3,5-Trimethylbenzene	ND	0.50									
1,2-Dichloroethane	ND	0.20									
Xylenes, Total	ND	0.50									
Surr: 4-Bromofluorobenzene	19.66	0	20	0	98.3	74	118	0			
Surr: Bromochloromethane	18.67	0	20	0	93.4	75.2	130	0			

Sample ID	Reagent Blank 5m	Batch ID: R8292	Test Code: SW8021	Units: µg/L	Analysis Date 5/15/2003 8:57:32 AM				Prep Date		
Client ID:			Run ID: PIDHALL_030515A	SeqNo: 187759							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
Xylenes, Total	ND	0.50									
Surr: 4-Bromofluorobenzene	19.66	0	20	0	98.3	74	118	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: 20-May-03

CLIENT: Blagg Engineering
Work Order: 0305099
Project: Armenta GC C #1E

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID	BTEX Std 100ng	Batch ID: R8292	Test Code: SW8021	Units: µg/L	Analysis Date	5/15/2003 5:55:29 PM	Prep Date				
Client ID:			Run ID: PIDHALL_030515A			SeqNo: 187757					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	39.88	2.5	40	0	99.7	54.9	142	0			
Benzene	19.97	0.50	20	0	99.8	81.3	121	0			
Toluene	19.98	0.50	20	0	99.9	84.9	118	0			
Ethylbenzene	19.67	0.50	20	0	98.3	53.8	149	0			
1,2,4-Trimethylbenzene	19.83	0.50	20	0	99.2	79.7	123	0			
1,3,5-Trimethylbenzene	19.66	0.50	20	0	98.3	82.4	123	0			
1,2-Dichloroethane	16.84	0.20	20	0	84.2	71	129	0			
Xylenes, Total	59.56	0.50	60	0	99.3	83.1	122	0			

Sample ID	BTEX Std 100ng	Batch ID: R8292	Test Code: SW8021	Units: µg/L	Analysis Date 5/15/2003 6:26:46 PM				Prep Date		
Client ID:	Run ID: PIDHALL_030515A			SeqNo: 187758							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	39.88	2.5	40	0	99.7	54.9	142	39.88	0.00301	28	
Benzene	19.75	0.50	20	0	98.8	81.3	121	19.97	1.08	27	
Toluene	19.82	0.50	20	0	99.1	84.9	118	19.98	0.794	19	
Ethylbenzene	20.14	0.50	20	0	101	53.8	149	19.67	2.40	10	
1,2,4-Trimethylbenzene	19.26	0.50	20	0	96.3	79.7	123	19.83	2.92	27	
1,3,5-Trimethylbenzene	19.47	0.50	20	0	97.4	82.4	123	19.66	0.953	10	
1,2-Dichloroethane	16.46	0.20	20	0	82.3	71	129	16.84	2.30	25	
Xylenes, Total	59.19	0.50	60	0	98.7	83.1	122	59.56	0.621	13	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0305099
Project: Armenta GC C #1E

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	BTEX Std 100ng	Batch ID:	R8292	Test Code:	SW8021	Units:	µg/L	Analysis Date	5/15/2003 5:55:29 PM	Prep Date	
Client ID:		Run ID:	PIDHALL_030515A	SeqNo:	187771						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.97	0.50	20	0	99.8	81.3	121	0			
Toluene	19.98	0.50	20	0	99.9	84.9	118	0			
Ethylbenzene	19.67	0.50	20	0	98.3	53.8	149	0			
Xylenes, Total	59.56	0.50	60	0	99.3	83.1	122	0			

Sample ID	BTEX Std 100ng	Batch ID:	R8292	Test Code:	SW8021	Units:	µg/L	Analysis Date	5/15/2003 6:26:46 PM	Prep Date	
Client ID:		Run ID:	PIDHALL_030515A	SeqNo:	187772						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.75	0.50	20	0	98.8	81.3	121	19.97	1.08	27	
Toluene	19.82	0.50	20	0	99.1	84.9	118	19.98	0.794	19	
Ethylbenzene	20.14	0.50	20	0	101	53.8	149	19.67	2.40	10	
Xylenes, Total	59.19	0.50	60	0	98.7	83.1	122	59.56	0.621	13	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name **BLAGG**

Date and Time Receive

Work Order Number **0305099**

Received by **AMG**

Checklist completed by

Abongale
Signature

5/12/03
Date

Matrix:

Carrier name: Greyhound

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☒	No ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒

Container/Temp Blank temperature?

12° 4° C ± 2 Acceptable

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

BLAC ENGINEERING INC

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : **XTI ENERGY INC**

CHAIN-OF-CUSTODY # : _____

ARMENTA GC C #1E - BLOW PIT II
UNIT C, SEC. 27, T29N, R10W

LABORATORY (S) USED : _____

Date : **May 20, 2003**

SAMPLER : **N J V**

Filename : **05-20-03.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	-	-	20.00	-	-	-	-	-
2	98.47	-	13.52 *	20.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			13.26	PRODUCT THICKNESS (FT.) =			0.74		
3	96.86	-	-	19.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

-	-
---	---

 DATE & TIME =

-	-
---	---

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
 (i.e. 2" MW $r = (1/12) \text{ ft}$, $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$, $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

BAILED APPROX. 0.50 GAL. OF FLUID FROM MW #2.

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65.

Top of casings (approx.) MW #1 - 0.85 ft. , MW #2 - @ grade , MW #3 - 1.95 ft.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : YTC ENERGY INC

CHAIN-OF-CUSTODY # : _____

ARMENTA GC C # 1E - BLOW PIT II

LABORATORY (S) USED : _____

UNIT C, SEC. 27, T29N, R10W

Date : May 28, 2003

SAMPLER : NJV

Filename : 05-28-03.WK4

PROJECT MANAGER : NJV

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	-	-	20.00	-	-	-	-	-
2	98.47	-	13.46 *	20.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			13.22	PRODUCT THICKNESS (FT.) =			0.68		
3	96.86	-	-	19.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

DATE & TIME =

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
 (i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 "

BAILED APPROX. 0.50 - 0.75 GAL. OF FLUID FROM MW #2.

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65 .

Top of casings (approx.) MW # 1 - 0.85 ft , MW # 2 - @ grade , MW # 3 - 1.95 ft.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : YMC REMEDIATION INC

CHAIN-OF-CUSTODY # : _____

ARMENTA GC C #1E - BLOW PIT II
UNIT C, SEC. 27, T29N, R10W

LABORATORY (S) USED : _____

Date : June 6, 2003

SAMPLER : N J V

Filename : 06-06-03.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	-	-	20.00	-	-	-	-	-
2	98.47	-	13.52 *	20.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			13.26	PRODUCT THICKNESS (FT.) =			0.74		
3	96.86	-	-	19.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

DATE & TIME =

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2"

BAILED APPROX. 0.50 - 0.75 GAL. OF FLUID FROM MW #2.

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65.

Top of casings (approx.) MW #1 - 0.85 ft. , MW #2 - @ grade , MW #3 - 1.95 ft.

ELAGS ENGINEERING INC

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : YTC ENERGY INC

CHAIN-OF-CUSTODY # : _____

ARMENTA GC C #1E - BLOW PIT II

LABORATORY (S) USED : _____

UNIT C, SEC. 27, T29N, R10W

Date : June 19, 2003

SAMPLER : NJV

Filename : 06-19-03.WK4

PROJECT MANAGER : NJV

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	-	-	20.00	-	-	-	-	-
2	98.47	-	13.43 *	20.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			13.20	PRODUCT THICKNESS (FT.) =			0.66		
3	96.86	-	-	19.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

DATE & TIME =

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
 (i.e. 2" MW $r = (1/12) \text{ ft. } h = 1 \text{ ft.}$) (i.e. 4" MW $r = (2/12) \text{ ft. } h = 1 \text{ ft.}$)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 "

BAILED APPROX. 2.50 - 3.00 GAL. OF FLUID FROM MW #2 .

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65 .

Top of casings (approx.) MW #1 - 0.85 ft. , MW #2 - @ grade , MW #3 - 1.95 ft.

BLAGG ENGINEERING INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : XTO ENERGY INC

CHAIN-OF-CUSTODY # : _____

ARMENTA GC C #1E - BLOW PIT II

LABORATORY (S) USED : _____

UNIT C, SEC. 27, T29N, R10W

Date : June 27, 2003

SAMPLER : NJV

Filename : 06-27-03.WK4

PROJECT MANAGER : NJV

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	-	-	20.00	-	-	-	-	-
2	98.47		13.42 *	20.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			13.22	PRODUCT THICKNESS (FT.) =			0.58		
3	96.86	-	-	19.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

DATE & TIME =

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

BAILED APPROX. 2.50 - 3.00 GAL. OF FLUID FROM MW #2.

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65.

Top of casings (approx.) MW #1 - 0.85 ft , MW #2 - @ grade , MW #3 - 1.95 ft.

MONITOR WELL DEVELOPMENT & /OR SAMPLING DATA

CLIENT : XTO ENERGY INC

CHAIN-OF-CUSTODY # : _____

ARMENTA GC C # 1E - BLOW PIT II

LABORATORY (S) USED : _____

UNIT C, SEC. 27, T29N, R10W

Date : July 3, 2003

SAMPLER : N J V

Filename : 07-03-03.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	-	-	20.00	-	-	-	-	-
2	98.47		13.48 *	20.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			13.25	PRODUCT THICKNESS (FT.) =			0.66		
3	96.86	-	-	19.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

DATE & TIME =

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
 (i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2"

BAILED APPROX. 2.50 - 3.00 GAL. OF FLUID FROM MW # 2 .

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65 .

Top of casings (approx.) MW # 1 - 0.85 ft. , MW # 2 - @ grade , MW # 3 - 1.95 ft.

ELECTRIC ENGINEERING INC. MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : XTO ENERGY INC.

CHAIN-OF-CUSTODY # : N / A

ARMENTA GC C #1E - BLOW PIT II
UNIT C, SEC. 27, T29N, R10W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : March 30, 2004

SAMPLER : N J V

Filename : 03-30-04.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	85.39	15.86	20.00	-	-	-	-	-
2R	100.34	85.11	15.23	25.00	1107	7.13	2,100	15.5	4.75
3	96.87	84.81	12.06	19.00	-	-	-	-	-
4	98.33	84.74	13.59	20.00	1010	7.10	2,000	14.4	3.25

INSTRUMENT CALIBRATIONS =

7.00 2,800

DATE & TIME =

03/27/04 0800

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2"

MW #4 installed 2/27/04, MW #2R installed 3/23/04. MW #4 - 10 ft., MW #2R - 15 ft. slotted screen. Both developed on 3/29/04. Excelient recovery in both wells. Collected BTEX samples from MW #2R & #4 only. MW #3 contained abundant amount of organic (root) material, therefore all depth to water measurement collected on 4/01/04 after clearing out MW #3.

MW #2R - 118 ft., S 68 W from well head; MW #4 - 78 ft., S 40 W from MW #2R.

Top of casings (approx.) MW #1 - 0.85 ft., MW #2 - 1.50 ft., MW #3 - 1.95 ft., MW #4 - 1.00 ft. above grade.

Hall Environmental Analysis Laboratory

Date: 05-Apr-04

CLIENT: Blagg Engineering
Project: Armenta GC C #1E**Lab Order:** 0403258**Lab ID:** 0403258-01**Collection Date:** 3/30/2004 10:10:00 AM**Client Sample ID:** MW #4**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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EPA METHOD 8021B: VOLATILES

Analyst: NSB

Benzene	ND	0.50		µg/L	1	4/1/2004 11:48:46 AM
Toluene	ND	0.50		µg/L	1	4/1/2004 11:48:46 AM
Ethylbenzene	ND	0.50		µg/L	1	4/1/2004 11:48:46 AM
Xylenes, Total	ND	0.50		µg/L	1	4/1/2004 11:48:46 AM
Surr: 4-Bromofluorobenzene	99.8	74-118		%REC	1	4/1/2004 11:48:46 AM

Lab ID: 0403258-02**Collection Date:** 3/30/2004 11:07:00 AM**Client Sample ID:** MW #2R**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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EPA METHOD 8021B: VOLATILES

Analyst: NSB

Benzene	4.1	0.50		µg/L	1	4/1/2004 12:19:16 PM
Toluene	ND	0.50		µg/L	1	4/1/2004 12:19:16 PM
Ethylbenzene	15	0.50		µg/L	1	4/1/2004 12:19:16 PM
Xylenes, Total	47	0.50		µg/L	1	4/1/2004 12:19:16 PM
Surr: 4-Bromofluorobenzene	127	74-118	S	%REC	1	4/1/2004 12:19:16 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank:

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

Client: BLACK EBR. / XTO ENERGY

Client: BLACK EBR. / XTO ENERGY

Address: P.O. BOX 87

Bloomfield, NM 87413

Phone #: 505-632-1199

Fax #: 505-632-3903

Accreditation Applicable:
NELAC ☐ USAC ☐

Other:

Project Name:

ARMENTA GC C #1E

Project #:

Project Manager:

NJV

Sampler:

NTV

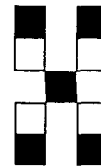
Sample Temperature:

5.

[illegible]

Date:	Time:	Relinquished By: (Signature)
3/5/12	0900	<i>[Signature]</i>
Date:	Time:	Relinquished By: (Signature)

Received By: (Signature) 3/31/04
[Signature] 1646
Received By: (Signature)



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

ANALYSIS REQUEST

✓	✓	BTEX + MTBE + TMB's (80218)
		BTEX + MTBE + TPH (Gasoline Only)
		TPH Method 8015B (Gas/Diesel)
		TPH (Method 418.1)
		EDB (Method 504.1)
		EDC (Method 8021)
		8310 (PNA or PAH)
		RCRA 8 Metals
		Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)
		8081 Pesticides / PCB's (8082)
		8260B (VOA)
		8270 (Semi-VOA)
		Air Bubbles or Headspace (Y or N)

Hall Environmental Analysis Laboratory

Date: 05-Apr-04

CLIENT: Blagg Engineering
Work Order: 0403258
Project: Armenta GC C #1E

QC SUMMARY REPORT

Method Blank

Sample ID	Reagent Blank 5m	Batch ID: R11486	Test Code: SW8021	Units: µg/L	Analysis Date	4/1/2004 8:07:11 AM	Prep Date				
Client ID:		Run ID: PIDFID_040401A			SeqNo:	263233					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
Xylenes, Total	ND	0.50									
Surr: 4-Bromofluorobenzene	19.87	0	20	0	99.4	74	118	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: 05-Apr-04

CLIENT: Blagg Engineering
Work Order: 0403258
Project: Armenta GC C #1E

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID	0403258-01aMS	Batch ID:	R11486	Test Code:	SW8021	Units:	µg/L	Analysis Date	4/1/2004 3:27:47 PM	Prep Date	
Client ID:	MW #4	Run ID:	PIDFID_040401A	SeqNo:	263247						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.08	0.50	20	0	105	77	122	0			
Toluene	20.44	0.50	20	0.1348	102	81	115	0			
Ethylbenzene	19.92	0.50	20	0	99.6	84	117	0			
Xylenes, Total	61.08	0.50	60	0	102	84	116	0			

Sample ID	0403258-01aMSD	Batch ID:	R11486	Test Code:	SW8021	Units:	µg/L	Analysis Date	4/1/2004 3:58:25 PM	Prep Date	
Client ID:	MW #4	Run ID:	PIDFID_040401A	SeqNo:	263248						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.65	0.50	20	0	103	77	122	21.08	2.07	27	
Toluene	19.81	0.50	20	0.1348	98.4	81	115	20.44	3.13	19	
Ethylbenzene	20.04	0.50	20	0	100	84	117	19.92	0.612	10	
Xylenes, Total	58.6	0.50	60	0	97.7	84	116	61.08	4.14	13	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: 05-Apr-04

CLIENT: Blagg Engineering
Work Order: 0403258
Project: Armenta GC C #1E

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID	BTEX STD 100ng	Batch ID: R11486	Test Code: SW8021	Units: µg/L	Analysis Date	4/1/2004 8:02:09 PM	Prep Date				
Client ID:		Run ID: PIDFID_040401A	SeqNo: 263246								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.13	0.50	20	0	101	81.3	121	0			
Toluene	19.5	0.50	20	0	97.5	84.9	118	0			
Ethylbenzene	19.15	0.50	20	0	95.7	53.8	149	0			
Xylenes, Total	57.7	0.50	60	0	96.2	83.1	122	0			

5 / 6

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

1

Hall Environmental Analysis Laboratory

Date: 05-Apr-04

CLIENT: Blagg Engineering
Project: Armenta GC C #1E
Lab Order: 0403258

CASE NARRATIVE

Analytical Comments for METHOD 8021BTEX_W, SAMPLE 0403258-02a: High surrogate recovery due to matrix interference.

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name **BLAGG**

Date and Time Received:

3/31/2004

Work Order Number 0403258

Received by **AT**

Checklist completed by

Signature

Date

3/31/04

Matrix

Carrier name Greyhound

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☐

No ☐

Not Present ☐

Not Shipped ☒

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

Yes ☒

No ☐

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

5°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

ELAGG ENGINEERING INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : ATC ENERGY INC.

CHAIN-OF-CUSTODY # : N / A

ARMENTA GC C #1E - BLOW PIT II

LABORATORY (S) USED : HALL ENVIRONMENTAL

UNIT C, SEC. 27, T29N, R10W

Date : June 16, 2004

SAMPLER : N J V

Filename : 06-16-04.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	85.35	15.9	20.00	-	-	-	-	-
2R	100.34	85.15	15.19	25.00	1420	6.91	2,000	21.6	4.75
3	96.87	84.75	12.12	19.00	-	-	-	-	-
4	98.33	84.96	13.37	20.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =	7.00	2,800
DATE & TIME =	06/16/04	1130

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
 (i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

Excellent recovery in MW # 2R. Collected BTEX sample from MW # 2R only.

Top of casings (approx.) MW # 1 - 0.85 ft., MW # 2 - 1.50 ft., MW # 3 - 1.95 ft., MW # 4 - 1.00 ft. above grade.

Hall Environmental Analysis Laboratory

Date: 29-Jun-04

CLIENT: Blagg Engineering
Lab Order: 0406174
Project: Armenta GC C #1E
Lab ID: 0406174-01

Client Sample ID: MW #2R
Collection Date: 6/16/2004 2:20:00 PM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	0.65	0.50		µg/L	1	6/25/2004 12:23:43 PM
Toluene	ND	0.50		µg/L	1	6/25/2004 12:23:43 PM
Ethylbenzene	ND	0.50		µg/L	1	6/25/2004 12:23:43 PM
Xylenes, Total	4.1	0.50		µg/L	1	6/25/2004 12:23:43 PM
Surr: 4-Bromofluorobenzene	105	74-118		%REC	1	6/25/2004 12:23:43 PM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Client: BLACK ENGR. / XTO ENERGY

Address: P.O. Box 87
B.F.D. NM 87413

Phone #: 505-632-1199

Fax #: 505-632-3903

Accreditation Applied:
NELAC ☐ USA ☐

Other:

Project Name: ARMENTA GC C #1E

Project #:

Project Manager: NTV

Sampler: NJV

Sample Temperature: 40

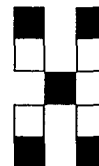
[illegible]

Date:	Time:	Relinquished By: (Signature)
6/17/04	0700	Nelson VM

Date:	Time:	Relinquished By: (Signature)
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Received By: (Signature),	6/17/04	708
---------------------------	---------	-----

Received By: (Signature)



4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
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ANALYSIS REQUEST

																			BTEX + MTBE + TMB's (8021)
																			BTEX + MTBE + TPH (Gasoline Only)
																			TPH Method 8015B (Gas/Diesel)
																			TPH (Method 418.1)
																			EDB (Method 504.1)
																			EDC (Method 8021)
																			8310 (PNA or PAH)
																			RCRA 8 Metals
																			Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)
																			8081 Pesticides / PCB's (8082)
																			8260B (VOA)
																			8270 (Semi-VOA)
																			Air Bubbles or Headspace (Y or N)

Hall Environmental Analysis Laboratory

Date: 29-Jun-04

CLIENT: Blagg Engineering
Work Order: 0406174
Project: Armenta GC C #1E

QC SUMMARY REPORT

Method Blank

Sample ID	Reagent Blank 5m	Batch ID: R12276	Test Code: SW8021	Units: µg/L	Analysis Date	6/25/2004 8:13:54 AM	Prep Date				
Client ID:		Run ID: PIDFID_040625A			SeqNo:	282684					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									
Toluene	ND	0.5									
Ethylbenzene	ND	0.5									
Xylenes, Total	ND	0.5									
Surr: 4-Bromofluorobenzene	20.13	0	20	0	101	74	118	0			

2 / 4

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

1

Hall Environmental Analysis Laboratory

Date: 29-Jun-04

CLIENT: Blagg Engineering
Work Order: 0406174
Project: Armenta GC C #1E

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID	BTEX std 100ng	Batch ID: R12276	Test Code: SW8021	Units: µg/L	Analysis Date	6/25/2004 9:15:51 AM	Prep Date				
Client ID:		Run ID: PIDFID_040625A			SeqNo:	282714					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.97	0.5	20	0	105	81.3	121	0			
Toluene	20.98	0.5	20	0	105	84.9	118	0			
Ethylbenzene	21.03	0.5	20	0	105	53.8	149	0			
Xylenes, Total	64.11	0.5	60	0	107	83.1	122	0			

3 / 4

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

/

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name BLAGG

Date and Time Received:

6/17/2004

Work Order Number 0406174

Received by AT

Checklist completed by

Signature

Date

Matrix

Carrier name Greyhound

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☐

No ☐

Not Present ☒

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☒

N/A ☐

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

Yes ☒

No ☐

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

4°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: XTC ENERGY INC

CHAIN-OF-CUSTODY #: N / A

ARMENTA GC C #1E - BLOW PIT II

LABORATORY (S) USED: HALL ENVIRONMENTAL

UNIT C, SEC. 27, T29N, R10W

Date: September 27, 2004

SAMPLER: N J V

Filename: 09-27-04.WK4

PROJECT MANAGER: N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	85.92	15.33	20.00	-	-	-	-	-
2R	100.34	85.69	14.65	25.00	1250	6.96	2,000	20.3	5.00
3	96.87	85.22	11.65	19.00	-	-	-	-	-
4	98.33	85.14	13.19	20.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

7.00 2,800

DATE & TIME =

09/27/04 1025

NOTES: Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2"

Excellent recovery in MW #2R. Collected BTEX sample from MW #2R only.

Top of casings (approx.) MW #1 - 0.85 ft., MW #2 - 1.50 ft., MW #3 - 1.95 ft., MW #4 - 1.00 ft. above grade.

Hall Environmental Analysis Laboratory

Date: 01-Oct-04

CLIENT: Blagg Engineering
Lab Order: 0409285
Project: Armenta GC C #1E
Lab ID: 0409285-01

Client Sample ID: MW #2R
Collection Date: 9/27/2004 12:50:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.50		µg/L	1	9/30/2004 2:24:27 AM
Toluene	ND	0.50		µg/L	1	9/30/2004 2:24:27 AM
Ethylbenzene	1.0	0.50		µg/L	1	9/30/2004 2:24:27 AM
Xylenes, Total	0.68	0.50		µg/L	1	9/30/2004 2:24:27 AM
Surr: 4-Bromofluorobenzene	102	74-118		%REC	1	9/30/2004 2:24:27 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 01-Oct-04

CLIENT: Blagg Engineering
Work Order: 0409285
Project: Armenta GC C #1E

QC SUMMARY REPORT

Method Blank

Sample ID	Reagent Blank 5m	Batch ID: R13281	Test Code: SW8021	Units: µg/L	Analysis Date	9/30/2004 4:52:49 AM	Prep Date				
Client ID:		Run ID: PIDFID_040929B			SeqNo:	308677					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									
Toluene	ND	0.5									
Ethylbenzene	ND	0.5									
Xylenes, Total	ND	0.5									
Surr: 4-Bromofluorobenzene	20.12	0	20	0	101	74	118	0			

2 / 5

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

1

Hall Environmental Analysis Laboratory

Date: 01-Oct-04

CLIENT: Blagg Engineering
Work Order: 0409285
Project: Armenta GC C #1E

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	0409285-01a ms	Batch ID:	R13281	Test Code:	SW8021	Units:	µg/L	Analysis Date	9/30/2004 2:54:05 AM	Prep Date	
Client ID:	MW #2R	Run ID:	PIDFID_040929B	SeqNo:	308685						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18.94	0.5	20	0	94.7	77	122	0			
Toluene	19.7	0.5	20	0	98.5	81	115	0			
Ethylbenzene	20.24	0.5	20	1.013	96.2	84	117	0			
Xylenes, Total	58.32	0.5	60	0.6814	96.1	84	116	0			
Surr: 4-Bromofluorobenzene	23.83	0	24	0	99.3	74	118	0			

Sample ID	0409285-01a msd	Batch ID:	R13281	Test Code:	SW8021	Units:	µg/L	Analysis Date	9/30/2004 3:23:47 AM	Prep Date	
Client ID:	MW #2R	Run ID:	PIDFID_040929B	SeqNo:	308686						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.08	0.5	20	0	95.4	77	122	18.94	0.736	27	
Toluene	19.88	0.5	20	0	99.4	81	115	19.7	0.922	19	
Ethylbenzene	20.46	0.5	20	1.013	97.2	84	117	20.24	1.07	10	
Xylenes, Total	57.99	0.5	60	0.6814	95.5	84	116	58.32	0.571	13	
Surr: 4-Bromofluorobenzene	23.6	0	24	0	98.3	74	118	23.83	0.967	0	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: 01-Oct-04

CLIENT: Blagg Engineering
Work Order: 0409285
Project: Armenta GC C #1E

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID	BTEX std 100ng	Batch ID: R13281	Test Code: SW8021	Units: µg/L	Analysis Date	9/29/2004 8:26:30 PM	Prep Date				
Client ID:		Run ID: PIDFID_040929B	SeqNo: 308687								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.04	0.5	20	0	95.2	81.3	121	0			
Toluene	19.21	0.5	20	0	96.0	84.9	118	0			
Ethylbenzene	19.51	0.5	20	0	97.6	53.8	149	0			
Xylenes, Total	58.2	0.5	60	0	97.0	83.1	122	0			

4 / 5

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

/

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name **BLAGG**

Date and Time Received:

Work Order Number **0409285**

Received by **AMG**

Checklist completed by

Bonzale 09/28/04
Signature Date

Matrix

Carrier name **Greyhound**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☒	
Chain of custody present?	Yes ☒	No ☐		
Chain of custody signed when relinquished and received?	Yes ☒	No ☐		
Chain of custody agrees with sample labels?	Yes ☒	No ☐		
Samples in proper container/bottle?	Yes ☒	No ☐		
Sample containers intact?	Yes ☒	No ☐		
Sufficient sample volume for indicated test?	Yes ☒	No ☐		
All samples received within holding time?	Yes ☒	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☒	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒	

Container/Temp Blank temperature?

5°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

EAGE ENERGY INC MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : EAGE ENERGY INC

CHAIN-OF-CUSTODY # : N / A

ARMENTA GC C #1E - BLOW PIT II
UNIT C, SEC. 27, T29N, R10W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : December 29, 2004

SAMPLER : N J V

Filename : 12-29-04.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	85.76	15.49	20.00	-	-	-	-	-
2R	100.34	85.55	14.79	25.00	1540	6.98	2,100	15.2	5.00
3	96.87	85.02	11.85	19.00	-	-	-	-	-
4	98.33	85.00	13.33	20.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

7.00 2,800

DATE & TIME =

12/29/04 1025

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
(i.e. 2" MW $r = (1/12) \text{ ft.}$ $h = 1 \text{ ft.}$) (i.e. 4" MW $r = (2/12) \text{ ft.}$ $h = 1 \text{ ft.}$)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2"

Excellent recovery in MW # 2R. Collected BTEX sample from MW # 2R only.

Top of casings (approx.) MW # 1 - 0.85 ft., MW # 2 - 1.50 ft., MW # 3 - 1.95 ft., MW # 4 - 1.00 ft. above grade.

Hall Environmental Analysis Laboratory

Date: 05-Jan-05

CLIENT: Blagg Engineering
Lab Order: 0501004
Project: Armenta GC C #1E
Lab ID: 0501004-01

Client Sample ID: MW #2R
Collection Date: 12/29/2004 3:40:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.50		µg/L	1	1/4/2005 12:43:24 PM
Toluene	ND	0.50		µg/L	1	1/4/2005 12:43:24 PM
Ethylbenzene	0.55	0.50		µg/L	1	1/4/2005 12:43:24 PM
Xylenes, Total	0.66	0.50		µg/L	1	1/4/2005 12:43:24 PM
Surr: 4-Bromofluorobenzene	105	83.3-121		%REC	1	1/4/2005 12:43:24 PM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Client: BLAGG ENER. / XTO ENERGY

Address: P.O. BOX 87
BLFD. NM 87413

Phone #: 505-632-1199

Fax #: 505-632-3903

Accreditation Agency: 
 NELAC ☐ USAC ☐
 Other: _____

Project Name: ARMENTA GC C #1E

Project #:

Project Manager: *NTV*

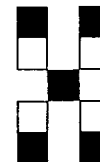
Sampler: NJV

Sample Temperature: 25 °C

[illegible]

Date: 12/30/04	Time: 1:55	Relinquished By: (Signature) <i>[Signature]</i>
Date:	Time:	Relinquished By: (Signature) <i>[Signature]</i>

Received By: (Signature)	1/3/05
Received By: (Signature)	0840



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

ANALYSIS REQUEST

			<	BTEX + MTBE + TMB's (8021 $\frac{B}{S}$)
				BTEX + MTBE + TPH (Gasoline Only)
				TPH Method 8015B (Gas/Diesel)
				TPH (Method 418.1)
				EDB (Method 504.1)
				EDC (Method 8021)
				8310 (PNA or PAH)
				RCRA 8 Metals
				Anions (F, Cl, NO ₃ , PO ₄ , SO ₄)
				8081 Pesticides / PCB's (8082)
				8260B (VOA)
				8270 (Semi-VOA)
				Air Bubbles or Headspace (Y or N)

Hall Environmental Analysis Laboratory

Date: 05-Jan-05

CLIENT: Blagg Engineering
Work Order: 0501004
Project: Armenta GC C #1E

QC SUMMARY REPORT

Method Blank

Sample ID	Reagent Blank 5m	Batch ID: R14206	Test Code: SW8021	Units: µg/L	Analysis Date	1/4/2005 8:43:42 AM			Prep Date		
Client ID:		Run ID:	PIDFID_050104A		SeqNo:	330470					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									
Toluene	ND	0.5									
Ethylbenzene	ND	0.5									
Xylenes, Total	ND	0.5									
Surr: 4-Bromofluorobenzene	19.97	0	20	0	99.9	83.3	121	0			

2 / 4

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

1

Hall Environmental Analysis Laboratory

Date: 05-Jan-05

CLIENT: Blagg Engineering
Work Order: 0501004
Project: Armenta GC C #1E

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID	BTEX std 100ng	Batch ID: R14206	Test Code: SW8021	Units: µg/L	Analysis Date	1/4/2005 7:42:37 PM	Prep Date				
Client ID:		Run ID: PIDFID_050104A	SeqNo: 330511								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.16	0.5	20	0	101	88.7	114	0			
Toluene	19.44	0.5	20	0	97.2	89.3	112	0			
Ethylbenzene	20.19	0.5	20	0	101	88.6	113	0			
Xylenes, Total	59.17	0.5	60	0	98.6	89.4	112	0			

3 / 4

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name BLAGG

Date and Time Received:

1/3/2005

Work Order Number 0501004

Received by AT

Checklist completed by

Signature

Date

1/3/05

Matrix

Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒ Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☒	N/A ☐
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☒	No ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒

Container/Temp Blank temperature?

2°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: XTO ENERGY INC.

CHAIN-OF-CUSTODY #: 14492 & N/A

ARMENTA GC C # 1E - BLOW PIT II
UNIT C, SEC. 27, T29N, R10W

LABORATORY (S) USED: ENVIROTECH & HALL

Date: November 8, 2005

SAMPLER: NJV

Filename: 11-08-05.WK4

PROJECT MANAGER: NJV

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.25	86.38	14.87	20.00	1102	6.88	1,300	19.5	2.75
2R	100.34	86.29	14.05	25.00	1320	6.86	2,000	20.2	5.50
3	96.87	85.52	11.35	19.00	1240	6.95	2,100	20.3	8.00
4	92.98	83.70	9.28	19.65	1255	6.96	2,000	19.9	4.25

estimate

INSTRUMENT CALIBRATIONS =

7.00 2,800

DATE & TIME =

11/08/05 1045

NOTES: Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2".

Collected metals and major anion / cation from all MW's. MW #3 contained large amount of organic (root) plant-like substance within casing. Cleaned out and allowed water to stabilize before sampling. MW #4 casing top damaged (cut off approx. 0.35 ft., then measured DTW). Organic substance also observed within MW #4, but not as abundant.

Top of casings (approx.) MW #1 - 0.85 ft., MW #2 - 1.50 ft., MW #3 - 1.95 ft., MW #4 - 0.65 ft. above grade.

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client: Blagg / XTO Energy
Sample ID: MW #1
Laboratory Number: 34946
Chain of Custody: 14492
Sample Matrix: Water
Preservative: Cool
Condition: Cool & Intact

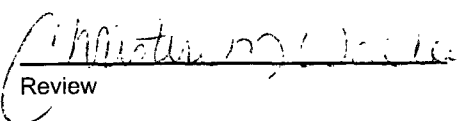
Project #: 94034-010
Date Reported: 11-10-05
Date Sampled: 11-08-05
Date Received: 11-08-05
Date Extracted: N/A
Date Analyzed: 11-08-05 / 11-09-05

Parameter	Analytical Result	Units		
pH	6.87	s.u.		
Conductivity @ 25° C	1,150	umhos/cm		
Total Dissolved Solids @ 180C	972	mg/L		
Total Dissolved Solids (Calc)	978	mg/L		
SAR	1.8	ratio		
Total Alkalinity as CaCO3	537	mg/L		
Total Hardness as CaCO3	572	mg/L		
Bicarbonate as HCO3	537	mg/L	8.80	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	<0.1	mg/L	0.00	meq/L
Nitrite Nitrogen	0.005	mg/L	0.00	meq/L
Chloride	28.8	mg/L	0.81	meq/L
Fluoride	0.61	mg/L	0.03	meq/L
Phosphate	0.10	mg/L	0.00	meq/L
Sulfate	293	mg/L	6.10	meq/L
Iron	<0.01	mg/L	0.00	meq/L
Calcium	229	mg/L	11.43	meq/L
Magnesium	<0.1	mg/L	0.00	meq/L
Potassium	3.14	mg/L	0.08	meq/L
Sodium	97.5	mg/L	4.24	meq/L
Cations			15.75	meq/L
Anions			15.75	meq/L
Cation/Anion Difference			0.01%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Armenta GC C #1E Grab Sample.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client: Blagg / XTO Energy
Sample ID: MW #2R
Laboratory Number: 34947
Chain of Custody: 14492
Sample Matrix: Water
Preservative: Cool
Condition: Cool & Intact

Project #: 94034-010
Date Reported: 11-10-05
Date Sampled: 11-08-05
Date Received: 11-08-05
Date Extracted: N/A
Date Analyzed: 11-08-05 / 11-09-05

Parameter	Analytical Result	Units		
pH	7.29	s.u.		
Conductivity @ 25° C	2,710	umhos/cm		
Total Dissolved Solids @ 180C	1,930	mg/L		
Total Dissolved Solids (Calc)	1,981	mg/L		
SAR	6.4	ratio		
Total Alkalinity as CaCO3	348	mg/L		
Total Hardness as CaCO3	660	mg/L		
Bicarbonate as HCO3	348	mg/L	5.70	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	0.2	mg/L	0.00	meq/L
Nitrite Nitrogen	0.012	mg/L	0.00	meq/L
Chloride	37.6	mg/L	1.06	meq/L
Fluoride	0.85	mg/L	0.04	meq/L
Phosphate	0.80	mg/L	0.03	meq/L
Sulfate	1,090	mg/L	22.69	meq/L
Iron	0.251	mg/L	0.01	meq/L
Calcium	264	mg/L	13.17	meq/L
Magnesium	<0.1	mg/L	0.00	meq/L
Potassium	1.28	mg/L	0.03	meq/L
Sodium	375	mg/L	16.31	meq/L
Cations			29.53	meq/L
Anions			29.53	meq/L
Cation/Anion Difference			0.01%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Armenta GC C #1E Grab Sample.

Analyst

Mary Bruce

Review

Christopher M. M. M.

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client: Blagg / XTO Energy
Sample ID: MW #3
Laboratory Number: 34948
Chain of Custody: 14492
Sample Matrix: Water
Preservative: Cool
Condition: Cool & Intact

Project #: 94034-010
Date Reported: 11-10-05
Date Sampled: 11-08-05
Date Received: 11-08-05
Date Extracted: N/A
Date Analyzed: 11-08-05 / 11-09-05

Parameter	Analytical Result	Units		
pH	7.54	s.u.		
Conductivity @ 25° C	3,010	umhos/cm		
Total Dissolved Solids @ 180C	2,120	mg/L		
Total Dissolved Solids (Calc)	2,137	mg/L		
SAR	6.0	ratio		
Total Alkalinity as CaCO3	427	mg/L		
Total Hardness as CaCO3	764	mg/L		
Bicarbonate as HCO3	427	mg/L	7.00	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	<0.1	mg/L	0.00	meq/L
Nitrite Nitrogen	0.010	mg/L	0.00	meq/L
Chloride	35.2	mg/L	0.99	meq/L
Fluoride	1.17	mg/L	0.06	meq/L
Phosphate	0.30	mg/L	0.01	meq/L
Sulfate	1,150	mg/L	23.94	meq/L
Iron	0.402	mg/L	0.01	meq/L
Calcium	306	mg/L	15.27	meq/L
Magnesium	<0.1	mg/L	0.00	meq/L
Potassium	1.46	mg/L	0.04	meq/L
Sodium	384	mg/L	16.70	meq/L
Cations			32.03	meq/L
Anions			32.01	meq/L
Cation/Anion Difference			0.06%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Armenta GC C #1E Grab Sample.

Analyst

Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client: Blagg / XTO Energy
Sample ID: MW #4
Laboratory Number: 34949
Chain of Custody: 14492
Sample Matrix: Water
Preservative: Cool
Condition: Cool & Intact

Project #: 94034-010
Date Reported: 11-10-05
Date Sampled: 11-08-05
Date Received: 11-08-05
Date Extracted: N/A
Date Analyzed: 11-08-05 / 11-09-05

Parameter	Analytical Result	Units		
pH	7.57	s.u.		
Conductivity @ 25° C	2,580	umhos/cm		
Total Dissolved Solids @ 180C	1,870	mg/L		
Total Dissolved Solids (Calc)	1,858	mg/L		
SAR	5.7	ratio		
Total Alkalinity as CaCO3	350	mg/L		
Total Hardness as CaCO3	662	mg/L		
Bicarbonate as HCO3	350	mg/L	5.74	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	0	mg/L	0.00	meq/L
Nitrite Nitrogen	0.006	mg/L	0.00	meq/L
Chloride	34.0	mg/L	0.96	meq/L
Fluoride	0.82	mg/L	0.04	meq/L
Phosphate	0.50	mg/L	0.02	meq/L
Sulfate	1,010	mg/L	21.03	meq/L
Iron	<0.01	mg/L	0.00	meq/L
Calcium	265	mg/L	13.22	meq/L
Magnesium	<0.1	mg/L	0.00	meq/L
Potassium	0.94	mg/L	0.02	meq/L
Sodium	334	mg/L	14.53	meq/L
Cations			27.78	meq/L
Anions			27.78	meq/L
Cation/Anion Difference			0.03%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Armenta GC C #1E Grab Sample.

Analyst

Review

Hall Environmental Analysis Laboratory

Date: 22-Nov-05

CLIENT: Blagg Engineering
Lab Order: 0511092
Project: Armenta GC C #1E
Lab ID: 0511092-01

Client Sample ID: MW #1
Collection Date: 11/8/2005 11:02:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 245.1: MERCURY						Analyst: CMC
Mercury	0.0016	0.00020		mg/L	1	11/14/2005
EPA 6010: TOTAL RECOVERABLE METALS						Analyst: NMO
Aluminum	0.51	0.020		mg/L	1	11/21/2005 10:15:38 AM
Arsenic	ND	0.020		mg/L	1	11/21/2005 10:15:38 AM
Barium	0.088	0.020		mg/L	1	11/21/2005 10:15:38 AM
Boron	0.20	0.040		mg/L	1	11/21/2005 10:15:38 AM
Cadmium	ND	0.0020		mg/L	1	11/21/2005 10:15:38 AM
Chromium	ND	0.0060		mg/L	1	11/21/2005 10:15:38 AM
Cobalt	ND	0.0060		mg/L	1	11/21/2005 10:15:38 AM
Copper	ND	0.0060		mg/L	1	11/21/2005 10:15:38 AM
Iron	0.25	0.050		mg/L	1	11/21/2005 10:15:38 AM
Lead	ND	0.0050		mg/L	1	11/21/2005 10:15:38 AM
Manganese	0.12	0.0020		mg/L	1	11/21/2005 10:15:38 AM
Molybdenum	ND	0.0080		mg/L	1	11/21/2005 10:15:38 AM
Nickel	ND	0.010		mg/L	1	11/21/2005 10:15:38 AM
Selenium	ND	0.050		mg/L	1	11/21/2005 10:15:38 AM
Silver	ND	0.0050		mg/L	1	11/21/2005 10:15:38 AM
Zinc	ND	0.050		mg/L	1	11/21/2005 10:15:38 AM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 22-Nov-05

CLIENT: Blagg Engineering
Lab Order: 0511092
Project: Armenta GC C #1E
Lab ID: 0511092-02

Client Sample ID: MW #2R
Collection Date: 11/8/2005 1:20:00 PM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 245.1: MERCURY						Analyst: CMC
Mercury	0.0017	0.00020		mg/L	1	11/14/2005
EPA 6010: TOTAL RECOVERABLE METALS						Analyst: NMO
Aluminum	2.2	0.10		mg/L	5	11/21/2005 10:57:10 AM
Arsenic	ND	0.020		mg/L	1	11/21/2005 10:18:50 AM
Barium	0.078	0.020		mg/L	1	11/21/2005 10:18:50 AM
Boron	0.18	0.040		mg/L	1	11/21/2005 10:18:50 AM
Cadmium	ND	0.0020		mg/L	1	11/21/2005 10:18:50 AM
Chromium	ND	0.0060		mg/L	1	11/21/2005 10:18:50 AM
Cobalt	0.016	0.0060		mg/L	1	11/21/2005 10:18:50 AM
Copper	ND	0.0060		mg/L	1	11/21/2005 10:18:50 AM
Iron	10	0.25		mg/L	5	11/21/2005 10:57:10 AM
Lead	0.0077	0.0050		mg/L	1	11/21/2005 10:18:50 AM
Manganese	4.8	0.0020		mg/L	1	11/21/2005 10:18:50 AM
Molybdenum	ND	0.0080		mg/L	1	11/21/2005 10:18:50 AM
Nickel	0.012	0.010		mg/L	1	11/21/2005 10:18:50 AM
Selenium	ND	0.050		mg/L	1	11/21/2005 10:18:50 AM
Silver	ND	0.0050		mg/L	1	11/21/2005 10:18:50 AM
Zinc	ND	0.050		mg/L	1	11/21/2005 10:18:50 AM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 22-Nov-05

CLIENT: Blagg Engineering
Lab Order: 0511092
Project: Armenta GC C #1E
Lab ID: 0511092-03

Client Sample ID: MW #3
Collection Date: 11/8/2005 12:40:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.50		µg/L	1	11/14/2005 6:01:39 PM
Toluene	ND	0.50		µg/L	1	11/14/2005 6:01:39 PM
Ethylbenzene	ND	0.50		µg/L	1	11/14/2005 6:01:39 PM
Xylenes, Total	ND	0.50		µg/L	1	11/14/2005 6:01:39 PM
Surr: 4-Bromofluorobenzene	100	82.2-119		%REC	1	11/14/2005 6:01:39 PM
EPA METHOD 245.1: MERCURY						Analyst: CMC
Mercury	0.0015	0.00020		mg/L	1	11/14/2005
EPA 6010: TOTAL RECOVERABLE METALS						Analyst: NMO
Aluminum	0.64	0.020		mg/L	1	11/21/2005 10:39:59 AM
Arsenic	ND	0.020		mg/L	1	11/21/2005 10:39:59 AM
Barium	0.064	0.020		mg/L	1	11/21/2005 10:39:59 AM
Boron	0.20	0.040		mg/L	1	11/21/2005 10:39:59 AM
Cadmium	ND	0.0020		mg/L	1	11/21/2005 10:39:59 AM
Chromium	ND	0.0060		mg/L	1	11/21/2005 10:39:59 AM
Cobalt	ND	0.0060		mg/L	1	11/21/2005 10:39:59 AM
Copper	ND	0.0060		mg/L	1	11/21/2005 10:39:59 AM
Iron	3.4	0.050		mg/L	1	11/21/2005 10:39:59 AM
Lead	ND	0.0050		mg/L	1	11/21/2005 10:39:59 AM
Manganese	3.1	0.0020		mg/L	1	11/21/2005 10:39:59 AM
Molybdenum	ND	0.0080		mg/L	1	11/21/2005 10:39:59 AM
Nickel	ND	0.010		mg/L	1	11/21/2005 10:39:59 AM
Selenium	ND	0.050		mg/L	1	11/21/2005 10:39:59 AM
Silver	ND	0.0050		mg/L	1	11/21/2005 10:39:59 AM
Zinc	ND	0.050		mg/L	1	11/21/2005 10:39:59 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 22-Nov-05

CLIENT: Blagg Engineering
 Lab Order: 0511092
 Project: Armenta GC C #1E
 Lab ID: 0511092-04

Client Sample ID: MW #4
 Collection Date: 11/8/2005 12:55:00 PM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.50		µg/L	1	11/14/2005 6:32:39 PM
Toluene	ND	0.50		µg/L	1	11/14/2005 6:32:39 PM
Ethylbenzene	ND	0.50		µg/L	1	11/14/2005 6:32:39 PM
Xylenes, Total	ND	0.50		µg/L	1	11/14/2005 6:32:39 PM
Surr: 4-Bromofluorobenzene	96.0	82.2-119		%REC	1	11/14/2005 6:32:39 PM
EPA METHOD 245.1: MERCURY						Analyst: CMC
Mercury	0.0047	0.00020		mg/L	1	11/14/2005
EPA 6010: TOTAL RECOVERABLE METALS						Analyst: NMO
Aluminum	1.8	0.10		mg/L	5	11/21/2005 10:59:12 AM
Arsenic	ND	0.020		mg/L	1	11/21/2005 10:21:03 AM
Barium	0.054	0.020		mg/L	1	11/21/2005 10:21:03 AM
Boron	0.13	0.040		mg/L	1	11/21/2005 10:21:03 AM
Cadmium	ND	0.0020		mg/L	1	11/21/2005 10:21:03 AM
Chromium	ND	0.0060		mg/L	1	11/21/2005 10:21:03 AM
Cobalt	0.0078	0.0060		mg/L	1	11/21/2005 10:21:03 AM
Copper	0.0067	0.0060		mg/L	1	11/21/2005 10:21:03 AM
Iron	1.4	0.050		mg/L	1	11/21/2005 10:21:03 AM
Lead	0.0080	0.0050		mg/L	1	11/21/2005 10:21:03 AM
Manganese	5.6	0.010		mg/L	5	11/21/2005 10:59:12 AM
Molybdenum	ND	0.0080		mg/L	1	11/21/2005 10:21:03 AM
Nickel	ND	0.010		mg/L	1	11/21/2005 10:21:03 AM
Selenium	ND	0.050		mg/L	1	11/21/2005 10:21:03 AM
Silver	ND	0.0050		mg/L	1	11/21/2005 10:21:03 AM
Zinc	ND	0.050		mg/L	1	11/21/2005 10:21:03 AM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

CHAIN OF CUSTODY RECORD

14492

Client / Project Name <i>8866/ XTO ENERGY</i>			Project Location <i>ARMENTA GC C #1E</i>		ANALYSIS / PARAMETERS								
Sampler: <i>AV</i>			Client No. <i>94034-010</i> <i>9403</i>		No. of Containers	MAJOR ANION/CATION							Remarks <i>PRESERVED COOL GRAB SAMPLES</i>
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix									
<i>34946</i>	<i>11/8/05</i>	<i>1102</i>	<i>34946</i>	<i>WATER</i>	<i>1</i>	<i>✓</i>							
<i>34947</i>	<i>11/8/05</i>	<i>1320</i>	<i>34947</i>	<i>WATER</i>	<i>1</i>	<i>✓</i>							
<i>34948</i>	<i>11/8/05</i>	<i>1235</i> <i>1240</i>	<i>AV 34948</i>	<i>WATER</i>	<i>1</i>	<i>✓</i>							
<i>34949</i>	<i>11/8/05</i>	<i>1255</i>	<i>34949</i>	<i>WATER</i>	<i>1</i>	<i>✓</i>							
Relinquished by: (Signature) <i>[Signature]</i>			Date <i>11/8/05</i>	Time <i>1419</i>	Received by: (Signature) <i>M Bruce</i>			Date <i>11/8/05</i>	Time <i>1419</i>				
Relinquished by: (Signature)					Received by: (Signature)								
Relinquished by: (Signature)					Received by: (Signature)								
ENVIROTECH INC. 5796 U.S. Highway 64 Farmington, New Mexico 87401 (505) 632-0615										Sample Receipt			
											Y	N	N/A
										Received Intact	<i>✓</i>		
										Cool - Ice/Blue Ice	<i>✓</i>		

Hall Environmental Analysis Laboratory

Date: 22-Nov-05

CLIENT: Blagg Engineering
Work Order: 0511092
Project: Armenta GC C #1E

QC SUMMARY REPORT

Method Blank

Sample ID	Reagent Blank 5m	Batch ID: R17290	Test Code: SW8021	Units: µg/L	Analysis Date	11/14/2005 7:37:31 AM	Prep Date				
Client ID:			Run ID: PIDFID_051114B		SeqNo:	422075					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									
Toluene	ND	0.5									
Ethylbenzene	ND	0.5									
Xylenes, Total	ND	0.5									
Surr: 4-Bromofluorobenzene	21.77	0	20	0	109	82.2	119	0			

Sample ID	MB-9184	Batch ID: 9184	Test Code: SW7470	Units: mg/L	Analysis Date	11/14/2005	Prep Date	11/14/2005			
Client ID:			Run ID: MI-LA254_051114A		SeqNo:	422036					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.0002									

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Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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CLIENT: Blagg Engineering
Work Order: 0511092
Project: Armenta GC C #1E

QC SUMMARY REPORT
Method Blank

Sample ID	MB-9176	Batch ID:	9176	Test Code:	SW6010A	Units:	mg/L	Analysis Date	11/22/2005 12:14:23 P	Prep Date	11/11/2005
Client ID:		Run ID:	ICP_051121A	SeqNo:	424886						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.02									
Arsenic	ND	0.02									
Barium	0.0006184	0.02									J
Boron	ND	0.04									
Cadmium	ND	0.002									
Chromium	ND	0.006									
Cobalt	ND	0.006									
Copper	0.0005311	0.006									J
Iron	ND	0.05									
Lead	ND	0.005									
Manganese	0.0002601	0.002									J
Molybdenum	ND	0.008									
Nickel	ND	0.01									
Selenium	ND	0.05									
Silver	ND	0.005									
Zinc	0.004426	0.05									J

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Qualifiers: ND - Not Detected at the Reporting Limit
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: 22-Nov-05

CLIENT: Blagg Engineering
Work Order: 0511092
Project: Armenta GC C #1E

QC SUMMARY REPORT

Sample Duplicate

Sample ID	0511092-01B DUP	Batch ID:	9184	Test Code:	SW7470	Units:	mg/L	Analysis Date	11/14/2005	Prep Date	11/14/2005
Client ID:	MW #1	Run ID:	MI-LA254_051114A	SeqNo:	422041						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.001685	0.0002	0	0	0	0	0	0.001631	3.22	20	

Sample ID	0511092-04B DUP	Batch ID:	9176	Test Code:	SW6010A	Units:	mg/L	Analysis Date	11/21/2005 10:43:56 A	Prep Date	11/11/2005
Client ID:	MW #4	Run ID:	ICP_051121A	SeqNo:	424437						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02	0	0	0	0	0	0	0	30	
Barium	0.05398	0.02	0	0	0	0	0	0.05421	0.435	30	
Boron	0.132	0.04	0	0	0	0	0	0.1306	1.12	30	
Cadmium	ND	0.002	0	0	0	0	0	0	0	30	
Chromium	ND	0.006	0	0	0	0	0	0	0	30	
Cobalt	0.007911	0.006	0	0	0	0	0	0.007814	1.23	30	
Copper	0.006766	0.006	0	0	0	0	0	0.006723	0.636	30	
Iron	1.418	0.05	0	0	0	0	0	1.422	0.286	30	
Lead	0.00632	0.005	0	0	0	0	0	0.007992	23.4	30	
Molybdenum	0.004013	0.008	0	0	0	0	0	0.00416	0	30	J
Nickel	0.007968	0.01	0	0	0	0	0	0.008017	0	30	J
Selenium	ND	0.05	0	0	0	0	0	0	0	30	
Silver	0.0006339	0.005	0	0	0	0	0	0	0	30	J
Zinc	0.01592	0.05	0	0	0	0	0	0.01635	0	30	J

Sample ID	0511092-04B DUP	Batch ID:	9176	Test Code:	SW6010A	Units:	mg/L	Analysis Date	11/21/2005 11:22:22 A	Prep Date	11/11/2005
Client ID:	MW #4	Run ID:	ICP_051121A	SeqNo:	424447						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1.817	0.1	0	0	0	0	0	1.81	0.385	30	
Manganese	5.518	0.01	0	0	0	0	0	5.55	0.571	30	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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Hall Environmental Analysis Laboratory

Date: 22-Nov-05

CLIENT: Blagg Engineering
Work Order: 0511092
Project: Armenta GC C #1E

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	0511092-04a ms	Batch ID:	R17290	Test Code:	SW8021	Units:	µg/L	Analysis Date	11/14/2005 7:03:42 PM	Prep Date	
Client ID:	MW #4	Run ID:	PIDFID_051114B	SeqNo:	422259						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.78	0.5	20	0	104	88.5	114	0			
Toluene	18.92	0.5	20	0	94.6	87.2	114	0			
Ethylbenzene	19.23	0.5	20	0	96.1	88.6	113	0			
Xylenes, Total	56.75	0.5	60	0	94.6	83.3	114	0			
Surr: 4-Bromofluorobenzene	24.15	0	24	0	101	82.2	119	0			

Sample ID	0511092-04a msd	Batch ID:	R17290	Test Code:	SW8021	Units:	µg/L	Analysis Date	11/14/2005 7:34:41 PM	Prep Date	
Client ID:	MW #4	Run ID:	PIDFID_051114B	SeqNo:	422261						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.09	0.5	20	0	105	88.5	114	20.78	1.48	27	
Toluene	19.35	0.5	20	0	96.8	87.2	114	18.92	2.25	19	
Ethylbenzene	19.88	0.5	20	0	99.4	88.6	113	19.23	3.35	10	
Xylenes, Total	58.56	0.5	60	0	97.6	83.3	114	56.75	3.13	13	
Surr: 4-Bromofluorobenzene	24.7	0	24	0	103	82.2	119	24.15	2.28	0	

Sample ID	0511092-01B MS	Batch ID:	9184	Test Code:	SW7470	Units:	mg/L	Analysis Date	11/14/2005	Prep Date	11/14/2005
Client ID:	MW #1	Run ID:	MI-LA254_051114A	SeqNo:	422042						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.006524	0.0002	0.005	0.001631	97.8	75	125	0			

Sample ID	0511092-01B MSD	Batch ID:	9184	Test Code:	SW7470	Units:	mg/L	Analysis Date	11/14/2005	Prep Date	11/14/2005
Client ID:	MW #1	Run ID:	MI-LA254_051114A	SeqNo:	422043						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.006831	0.0002	0.005	0.001631	104	75	125	0.006524	4.60	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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CLIENT: Blagg Engineering
 Work Order: 0511092
 Project: Armenta GC C #1E

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	0511092-04B MS	Batch ID:	9176	Test Code:	SW6010A	Units:	mg/L	Analysis Date	11/21/2005 10:48:01 A	Prep Date	11/11/2005
Client ID:	MW #4	Run ID:	ICP_051121A	SeqNo:	424438						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5541	0.02	0.5	0	111	75	125	0			
Barium	0.5477	0.02	0.5	0.05421	98.7	75	125	0			
Boron	0.6736	0.04	0.5	0.1306	109	75	125	0			
Cadmium	0.5124	0.002	0.5	0	102	75	125	0			
Chromium	0.5003	0.006	0.5	0	100	75	125	0			
Cobalt	0.5212	0.006	0.5	0.007814	103	75	125	0			
Copper	0.544	0.006	0.5	0.006723	107	75	125	0			
Iron	1.947	0.05	0.5	1.422	105	75	125	0			
Lead	0.4892	0.005	0.5	0.007992	96.2	75	125	0			
Molybdenum	0.5242	0.008	0.5	0.00416	104	75	125	0			
Nickel	0.481	0.01	0.5	0.008017	94.6	75	125	0			
Selenium	0.4922	0.05	0.5	0	98.4	75	125	0			
Silver	0.5249	0.005	0.5	0	105	75	125	0			
Zinc	0.4978	0.05	0.5	0.01635	96.3	75	125	0			

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Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
 Work Order: 0511092
 Project: Armenta GC C #1E

QC SUMMARY REPORT

Sample Matrix Spike Duplicate

Sample ID	0511092-04B MSD	Batch ID: 9176	Test Code: SW6010A	Units: mg/L	Analysis Date	11/21/2005 10:50:30 A	Prep Date	11/11/2005			
Client ID:	MW #4	Run ID:	ICP_051121A		SeqNo:	424439					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5565	0.02	0.5	0	111	75	125	0.5541	0.428	20	
Barium	0.5606	0.02	0.5	0.05421	101	75	125	0.5477	2.32	20	
Boron	0.6863	0.04	0.5	0.1306	111	75	125	0.6736	1.87	20	
Cadmium	0.524	0.002	0.5	0	105	75	125	0.5124	2.23	20	
Chromium	0.5119	0.006	0.5	0	102	75	125	0.5003	2.30	20	
Cobalt	0.5364	0.006	0.5	0.007814	106	75	125	0.5212	2.86	20	
Copper	0.5599	0.006	0.5	0.006723	111	75	125	0.544	2.88	20	
Iron	1.999	0.05	0.5	1.422	115	75	125	1.947	2.62	20	
Lead	0.5014	0.005	0.5	0.007992	98.7	75	125	0.4892	2.47	20	
Molybdenum	0.5381	0.008	0.5	0.00416	107	75	125	0.5242	2.61	20	
Nickel	0.4922	0.01	0.5	0.008017	96.8	75	125	0.481	2.31	20	
Selenium	0.5168	0.05	0.5	0	103	75	125	0.4922	4.88	20	
Silver	0.5412	0.005	0.5	0	108	75	125	0.5249	3.05	20	
Zinc	0.5077	0.05	0.5	0.01635	98.3	75	125	0.4978	1.98	20	

10/14

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: 22-Nov-05

CLIENT: Blagg Engineering
Work Order: 0511092
Project: Armenta GC C #1E

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID	BTEX Ics 100ng	Batch ID:	R17290	Test Code:	SW8021	Units:	µg/L	Analysis Date	11/14/2005 8:05:39 PM	Prep Date		
Client ID:		Run ID:	PIDFID_051114B					SeqNo:	422077			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		20.91	0.5	20	0	105	88.5	114	0			
Toluene		18.83	0.5	20	0	94.2	87.2	114	0			
Ethylbenzene		19.49	0.5	20	0	97.5	88.6	113	0			
Xylenes, Total		57.38	0.5	60	0	95.6	83.3	114	0			

Sample ID	LCS-9184	Batch ID:	9184	Test Code:	SW7470	Units:	mg/L	Analysis Date	11/14/2005	Prep Date	11/14/2005	
Client ID:		Run ID:	MI-LA254_051114A					SeqNo:	422037			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.004712	0.0002	0.005	0	94.2	80	120	0			

Sample ID	LCSD-9184	Batch ID:	9184	Test Code:	SW7470	Units:	mg/L	Analysis Date	11/14/2005	Prep Date	11/14/2005	
Client ID:		Run ID:	MI-LA254_051114A					SeqNo:	422051			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.004592	0.0002	0.005	0	91.8	80	120	0.004712	2.59	0	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

/

11/14

CLIENT: Blagg Engineering
 Work Order: 0511092
 Project: Armenta GC C #1E

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS-9176	Batch ID	9176	Test Code	SW6010A	Units	mg/L	Analysis Date	11/21/2005 10:03:44 A	Prep Date	11/11/2005
Client ID:		Run ID:	ICP_051121A	SeqNo:	424426						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.5574	0.02	0.5	0	111	80	120	0			
Arsenic	0.5357	0.02	0.5	0	107	80	120	0			
Barium	0.5119	0.02	0.5	0.0006184	102	80	120	0			
Boron	0.5305	0.04	0.5	0	106	80	120	0			
Cadmium	0.519	0.002	0.5	0	104	80	120	0			
Chromium	0.5269	0.006	0.5	0	105	80	120	0			
Cobalt	0.5276	0.006	0.5	0	106	80	120	0			
Copper	0.5351	0.006	0.5	0.0005311	107	80	120	0			
Iron	0.5209	0.05	0.5	0	104	80	120	0			
Lead	0.5096	0.005	0.5	0	102	80	120	0			
Manganese	0.521	0.002	0.5	0.0002601	104	80	120	0			
Molybdenum	0.5406	0.008	0.5	0	108	80	120	0			
Nickel	0.4969	0.01	0.5	0	99.4	80	120	0			
Selenium	0.5221	0.05	0.5	0	104	80	120	0			
Silver	0.529	0.005	0.5	0	106	80	120	0			
Zinc	0.5091	0.05	0.5	0.004426	101	80	120	0			

12/14

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
 Work Order: 0511092
 Project: Armenta GC C #1E

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID **LCSD-9176** Batch ID: **9176** Test Code: **SW6010A** Units: **mg/L** Analysis Date **11/21/2005 10:06:19 A** Prep Date **11/11/2005**

Client ID: Run ID: **ICP_051121A** SeqNo: **424427**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.5555	0.02	0.5	0	111	80	120	0.5574	0.354	20	
Arsenic	0.5374	0.02	0.5	0	107	80	120	0.5357	0.322	20	
Barium	0.5104	0.02	0.5	0.0006184	102	80	120	0.5119	0.298	20	
Boron	0.5294	0.04	0.5	0	106	80	120	0.5305	0.202	20	
Cadmium	0.5195	0.002	0.5	0	104	80	120	0.519	0.0933	20	
Chromium	0.5258	0.006	0.5	0	105	80	120	0.5269	0.224	20	
Cobalt	0.5305	0.006	0.5	0	106	80	120	0.5276	0.552	20	
Copper	0.5318	0.006	0.5	0.0005311	106	80	120	0.5351	0.610	20	
Iron	0.5127	0.05	0.5	0	103	80	120	0.5209	1.58	20	
Lead	0.5125	0.005	0.5	0	103	80	120	0.5096	0.576	20	
Manganese	0.5191	0.002	0.5	0.0002601	104	80	120	0.521	0.376	20	
Molybdenum	0.5423	0.008	0.5	0	108	80	120	0.5406	0.303	20	
Nickel	0.4961	0.01	0.5	0	99.2	80	120	0.4969	0.171	20	
Selenium	0.523	0.05	0.5	0	105	80	120	0.5221	0.170	20	
Silver	0.527	0.005	0.5	0	105	80	120	0.529	0.388	20	
Zinc	0.5082	0.05	0.5	0.004426	101	80	120	0.5091	0.187	20	

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Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name **BLAGG**

Date and Time Received:

11/9/2005

Work Order Number **0511092**

Received by **AT**

Checklist completed by

Signature

Date

Matrix

Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐ Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☒	N/A ☐
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
VOA - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☒	No ☐
Water - pH acceptable upon receipt?	Yes ☒	No ☐	N/A ☐

Container/Temp Blank temperature?

6°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding

Comments:

Adjusted PH on all HNO₃ samples. From 5.0 to 1.0 w/ 1mL of HNO₃ - GS 11/10/05

Corrective Action