3RP-113

Annual Groundwater Remediation Reports

Volume 1

January 2007

XTO ENERGY

RECEIVED

MAR 05 2007

Oil Conservation Division
Environmental Bureau

March 2, 2007

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

RE: Annual Groundwater Remediation Reports

Dear Mr. von Gonten,

XTO Energy Inc. (XTO) is submitting the Annual Groundwater Remediation Reports 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:

- Baca Gas Com A #1A 3R0104
- Bruington Gas Com #1 3R0106
- Carson Gas Com #1E 3R415
- EJ Johnson C #1E 3R0385
- Federal Gas Com #H1 3R0110
- Frost, Jack B #2 3R416
- Garcia Gas Com B #1 3R0111
- Haney Gas Com B #1E 3R0113
- Hare Gas Com B #1 3R413
- Hare Gas Com B #1E 3R0384
- Hare Gas Com I #1 3R412
- Masden Gas Com #1E 3R0120
- McDaniel Gas Com B #1E 3R0121
- OH Randel #7 3R0386
- PO Pipken #3E 3R409
- Romero Gas Com A #1 3R0123
- Rowland Gas Com #1 3R124
- Snyder Gas Com #1A 3R0126
- Stedje Gas Com #1 3R0128
- Sullivan Frame A #1A
- Sullivan Gas Com D #1 3R0131
- Valdez A #1E 3R0134

We have also enclosed an Annual Report for one site that meets the closure requirements outlined in the GMP. XTO respectfully requests closure of:

- Abrams J #1 3R0100

In previously submitted reports three sites met the closure requirements outlined in the GMP and XTO requested closure on those sites in January 2006. Per your request reports for the below listed sites are being submitted again.

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

Thank you for your review of the reports. XTO looks forward to hearing from you regarding closure requests and proposed remediation actions. If you have any questions please do not hesitate to contact me at (505) 566-7942.

Respectfully,

Lisa Winn
Environmental Coordinator
San Juan Division

cc: Mr. Brandon Powell, Environmental, NMOCD District III Office, Aztec, NM
Mr. Martin Nee, Lodestar Services Inc.
File- San Juan Groundwater

HANEY GC B #1E

XTO ENERGY INC.

ANNUAL GROUNDWATER REPORT

2006

HANEY GAS COM B #1E
(M) SECTION 20 – T29N – R10W, NMPM
SAN JUAN COUNTY, NEW MEXICO

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

January 2007

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Table 2: General Water Chemistry (12/18/97)

Table 3: General Water Chemistry (05/25/99)

Figure 1: Site Map

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Attachment 1: 2006 Laboratory Reports

Attachment 2: Pit Assessment Report (06/92)

Attachment 3: Pit Closure Report (02/96)

2006 XTO GROUNDWATER REPORT

HANEY GAS COM B #1E

SITE DETAILS

Legals - Twn: 29N **Rng:** 10W **Sec:** 20 **Unit:** M
Land Type: FEE

PREVIOUS ACTIVITIES

Excavation: Feb-96 (3000 cy)
Monitor Wells: Dec-97
Air Sparge System Installed: Feb-96
Quarterly Sampling Initiated: Dec-97

SITE MAP

A site map is presented as Figure 1.

SUMMARY TABLES

Groundwater samples were collected 1992, 1997 and 2006 for laboratory analysis. A summary of laboratory results for benzene, toluene, ethyl benzene and total xylenes (BTEX) is presented as Table 1 and a summary of general water chemistry from 1997 and 1999 are presented in Tables 2 and 3. Copies of the laboratory data sheets and associated quality assurance/quality control data for 2006 are presented as Attachment 1.

POTENTIOMETRIC SURFACE DIAGRAMS

Site monitoring has indicated a groundwater gradient that trends towards the north with a northwest component. Figures 2-3 illustrate the estimated groundwater gradients for September 2006 and December 2006, respectively.

2006 ACTIVITIES

Annual Groundwater Remediation Report- The 2005 annual report was submitted to New Mexico Oil Conservation Division (NMOCD) in April 2006. The proposed activities for 2006 include installation of a fourth monitor well to confirm gradient and continue quarterly sampling of the groundwater monitoring wells, in accordance with the NMOCD approved Groundwater Management Plan.

Groundwater Monitoring – In September 2006 MW-1 was replaced with MW-1R and a down gradient well was installed (MW-4). Quarterly groundwater samples were collected from monitor wells MW-1R, MW-2 and MW-4 in 2006. Laboratory analyses of groundwater samples indicate no detectable levels of BTEX constituents during September and December 2006 sampling events (Table 1). Quarterly groundwater samples will be collected in March and June 2007 until four consecutive quarters are below New Mexico Water Quality Control Commission (NMWQCC) standards.

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

Bore/Test Hole Reports are presented as Figures 4-10 representing drilling that occurred on site in December 1997 and September 2006.

DISPOSITION OF GENERATED WASTES

Waste generated (groundwater) during monitor well sampling and development was placed in the produced water separator tank located on the well site.

2006 XTO GROUNDWATER REPORT

CONCLUSIONS

January 1998 XTO Energy Inc. (XTO) acquired the Haney Gas Com B #1E from Amoco Production Company. XTO understands the initial evaluation of groundwater impact came from samples of groundwater collected in test holes during the assessment phase (Attachment 2) followed by groundwater samples collected from the bottom of the pit following excavation of hydrocarbon impacted soil in 1996 (Attachment 3). Laboratory analysis of the initial samples indicated elevated levels of dissolved phase BTEX constituents in groundwater. In 1997 three groundwater monitoring wells were installed to delineate the extent of hydrocarbon impact to groundwater (Figure 1). Monitor well number MW-2 was installed within the area excavated and backfilled during closure activities. Monitor well number MW-1 was installed up to cross gradient of MW-2 and monitor well number MW-3 was located down gradient of the source area. Samples collected from groundwater monitor wells in 1997 exhibit trace levels or levels below the detection limits of laboratory equipment (0.2 ug/L). Sampling was terminated and site closure requests were submitted. NMOCD correspondence dated April 22, 1999 denied closure until four quarters of groundwater samples demonstrated BTEX levels below NMWQCC standards.

Groundwater analytical data from MW-1R, MW-2 and MW-4 for two quarters in 2006 have demonstrated no detectable levels of BTEX constituents. MW-1R was damaged at the end of 2006 and will be replaced during the first quarter of 2007. The quarterly sampling will continue until four (4) consecutive quarters are below NMWQCC standards for BTEX constituents.

RECOMMENDATIONS

- Replace damaged MW-1R.
- Quarterly sampling will continue at all monitoring wells until analytical results show hydrocarbon constituents are below New Mexico groundwater standards for four (4) consecutive quarters.
- Following OCD approval for closure, all monitor well locations will be abandoned in accordance with the monitoring well abandonment plan.

TABLE 1
XTO ENERGY INC. GROUNDWATER LAB RESULTS

HANEY GC B #1E- SEPARATOR PIT
UNIT M, SEC. 20, T29N, R10W

Revised Date: January 29, 2007

Sample Date	Monitor Well No.	DTW (ft)	TD (ft)	Product (ft)	Benzene ug/L	Toluene ug/L	Ethyl Benzene ug/L	Total Xylene ug/L
18-Dec-97	MW #1	6.75	9		ND	ND	ND	0.1
26-Sep-06	MW #1R	8.75	11.77		ND	ND	ND	ND
6-Dec-06		7.87	11.77		ND	ND	ND	ND
18-Dec-97	MW #2	9.07	15		ND	ND	1.5	0.4
26-Sep-06		9.67	12.07		ND	ND	ND	ND
6-Dec-06		8.68	12.07		ND	ND	ND	ND
18-Dec-97	MW #3	10.34	15		ND	0.7	2.4	10.6
26-Sep-06	MW #4	11.86	14.8		ND	ND	ND	ND
6-Dec-06		11.13	14.8		ND	ND	ND	ND
NMWQCC GROUNDWATER STANDARDS					10	750	750	620

TABLE 2
XTO ENERGY INC. GROUNDWATER LAB RESULTS

HANEY GC B #1E- SEPARATOR PIT
UNIT M, SEC. 20, T29N, R10W

Sample Date: December 18, 1997

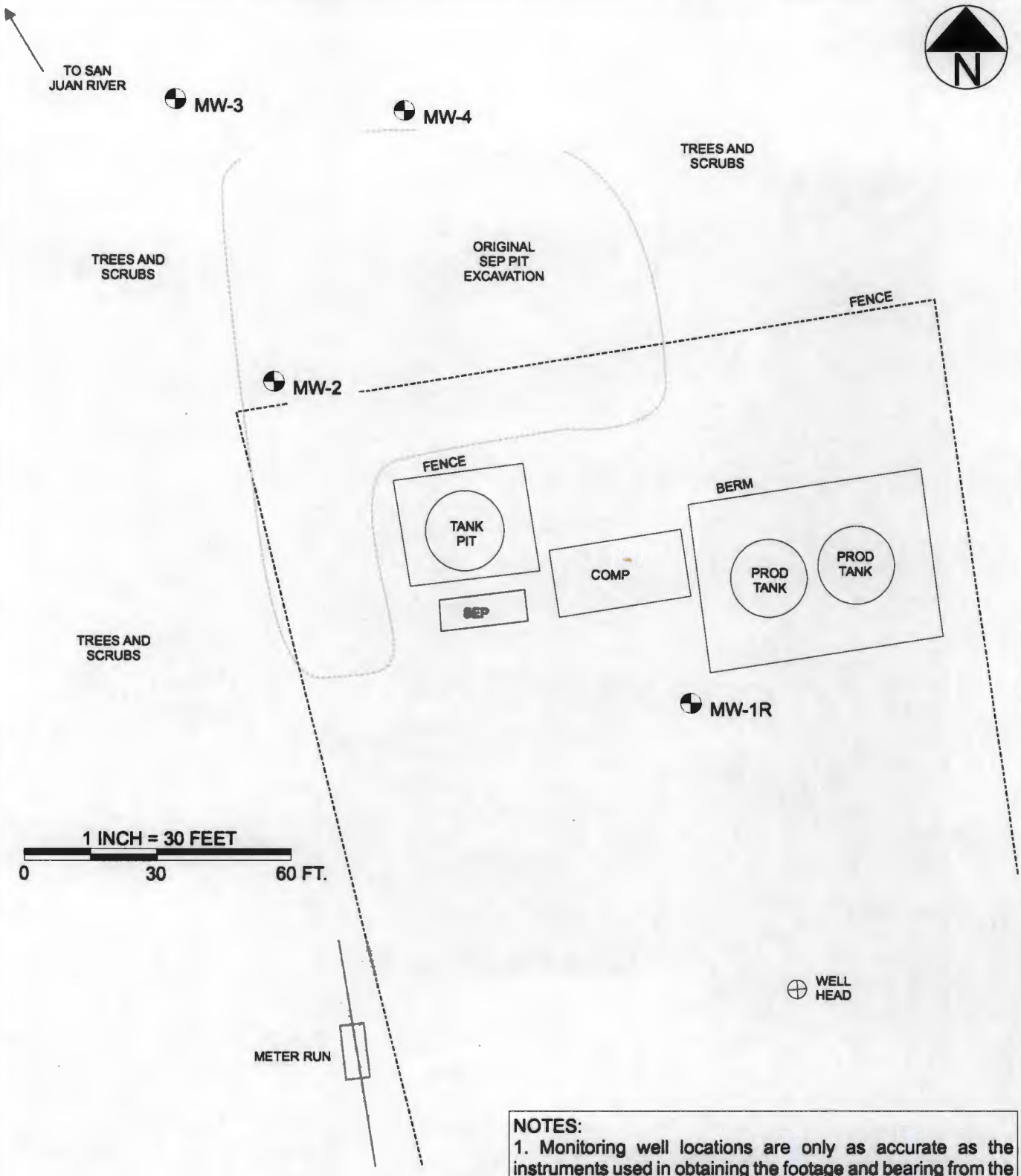
PARAMETERS	MW #1	MW #2	MW #3	UNITS
LAB Ph	7.27	7.07	7.07	s.u.
LAB CONDUCTIVITY @ 25 C	5,584	3,280	3,092	umhos/cm
TOTAL DISSOLVED SOLIDS @ 180 C	2,792	1,636	1,544	mg/L
TOTAL DISSOLVED SOLIDS (Calc)	2,807	1,620	1,544	mg/L
SODIUM ABSORPTION RATIO	0.1	0.4	0.3	ratio
TOTAL ALKALINITY AS CaCO3	620	400	438	mg/L
TOTAL HARDNESS AS CaCO3	2,704	1,378	1,332	mg/L
BICARBONATE AS HCO3	620	400	438	mg/L
CARBONATE AS CO3	< 1	< 1	< 1	mg/L
HYDROXIDE AS OH	< 1	< 1	< 1	mg/L
NITRATE NITORGEN	0.4	0.3	0.2	mg/L
NITRITE NITROGEN	0.013	0.001	0.007	mg/L
CHLORIDE	1546	755	719	mg/L
FLUORIDE	1.75	4.4	1.14	mg/L
PHOSPHATE	0.8	0.2	0.1	mg/L
SULFATE	47	55	23	mg/L
IRON				mg/L
CALCIUM	402	476	448	mg/L
MAGNESIUM	415	46	51.8	mg/L
POTASSIUM	7.0	4.7	5.7	mg/L
SODIUM	11	36	29	mg/L
CATION/ANION DIFFERENCE	0	0	0	%

TABLE 3
XTO ENERGY INC. GROUNDWATER LAB RESULTS

HANEY GC B #1E- SEPARATOR PIT
UNIT M, SEC. 20, T29N, R10W

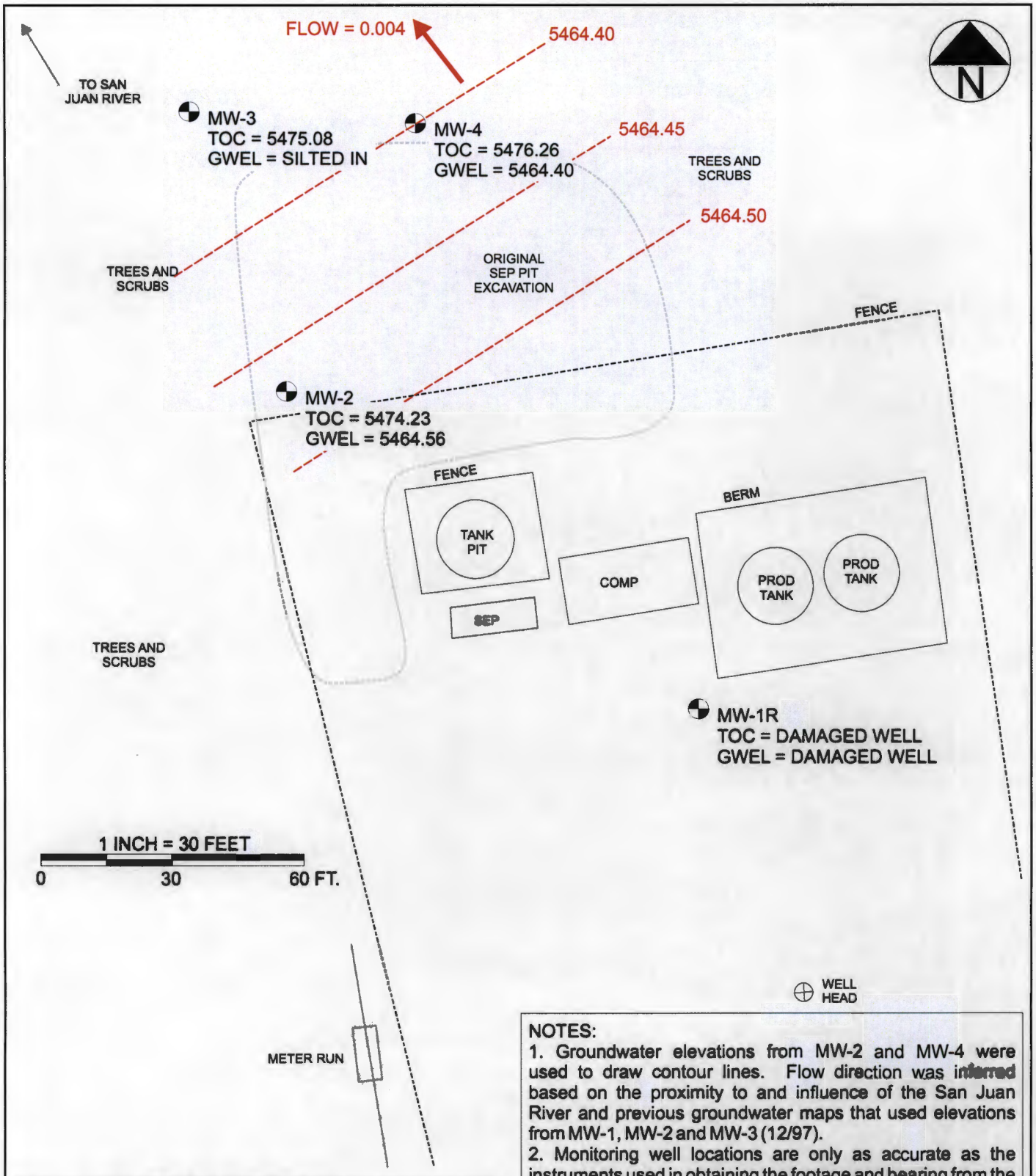
Sample Date: May 25, 1999

PARAMETERS	MW #1	MW #2	MW #3	UNITS
LAB Ph	7.57	7.06	7.24	s.u.
LAB CONDUCTIVITY @ 25 C	6,500	6,680	7,830	umhos/cm
TOTAL DISSOLVED SOLIDS @ 180 C	3,225	3,330	3,910	mg/L
TOTAL DISSOLVED SOLIDS (Calc)	3,202	3,296	3,851	mg/L
SODIUM ABSORPTION RATIO	8.3	7.6	8.9	ratio
TOTAL ALKALINITY AS CaCO3	652	622	480	mg/L
TOTAL HARDNESS AS CaCO3	1,052	1,130	1,250	mg/L
BICARBONATE AS HCO3	652	622	480	mg/L
CARBONATE AS CO3	< 1	< 1	< 1	mg/L
HYDROXIDE AS OH	< 1	< 1	< 1	mg/L
NITRATE NITORGEN	0.1	0.2	0.4	mg/L
NITRITE NITROGEN	0.001	0.004	0.003	mg/L
CHLORIDE	5.6	6	4.8	mg/L
FLUORIDE	1.07	1.06	1.18	mg/L
PHOSPHATE	23.6	< 0.1	18.2	mg/L
SULFATE	1,760	1,860	2,320	mg/L
IRON	0.1	1.65	1.63	mg/L
CALCIUM	331	373	413	mg/L
MAGNESIUM	54.7	47.9	52.7	mg/L
POTASSIUM	10.0	40.0	30.0	mg/L
SODIUM	62	590	720	mg/L
CATION/ANION DIFFERENCE	0.10	0.17	0.13	%



NOTES:
1. Monitoring well locations are only as accurate as the instruments used in obtaining the footage and bearing from the well head (Brunton Compass and Laser Range Finder). All other structures displayed on the site map are solely for reference and may not be to scale.

Lodestar Services, Inc PO Box 3861 Farmington, NM 87499	HANEY GAS COM B #1E SW/4 SW/4 SEC. 20, T29N, R10W SAN JUAN COUNTY, NEW MEXICO	PROJECT: XTO GROUND WATER DRAWN BY: ALA REVISED: 01/24/07	FIGURE 1 SITE MAP

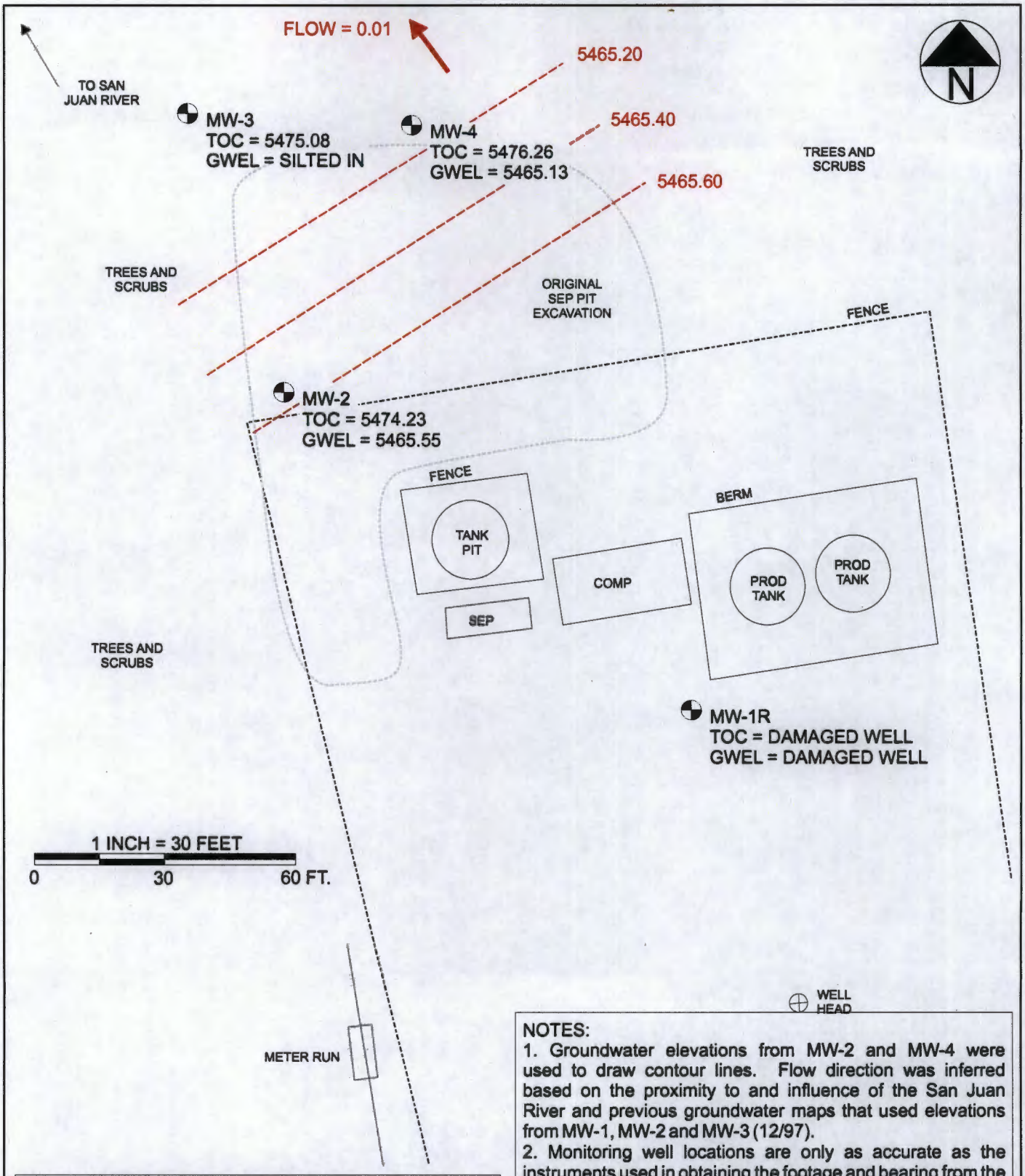


NOTES:

1. Groundwater elevations from MW-2 and MW-4 were used to draw contour lines. Flow direction was inferred based on the proximity to and influence of the San Juan River and previous groundwater maps that used elevations from MW-1, MW-2 and MW-3 (12/97).
2. Monitoring well locations are only as accurate as the instruments used in obtaining the footage and bearing from the well head (Brunton Compass and Laser Range Finder). All other structures displayed on the site map are solely for reference and may not be to scale.

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

Lodestar Services, Inc PO Box 3861 Farmington, NM 87499	HANEY GAS COM B #1E SW/4 SW/4 SEC. 20, T29N, R10W SAN JUAN COUNTY, NEW MEXICO	PROJECT: XTO GROUND WATER DRAWN BY: ALA REVISED: 12/04/06	FIGURE 2 GROUNDWATER GRADIENT MAP 09/26/2006



NOTES:

1. Groundwater elevations from MW-2 and MW-4 were used to draw contour lines. Flow direction was inferred based on the proximity to and influence of the San Juan River and previous groundwater maps that used elevations from MW-1, MW-2 and MW-3 (12/97).
2. Monitoring well locations are only as accurate as the instruments used in obtaining the footage and bearing from the well head (Brunton Compass and Laser Range Finder). All other structures displayed on the site map are solely for reference and may not be to scale.

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

Lodestar Services, Inc PO Box 3861 Farmington, NM 87499	HANEY GAS COM B #1E SW/4 SW/4 SEC. 20, T29N, R10W SAN JUAN COUNTY, NEW MEXICO	PROJECT: XTO GROUND WATER DRAWN BY: ALA REVISED: 01/05/07	FIGURE 3 GROUNDWATER GRADIENT MAP 12/06/2006

FIGURE 4

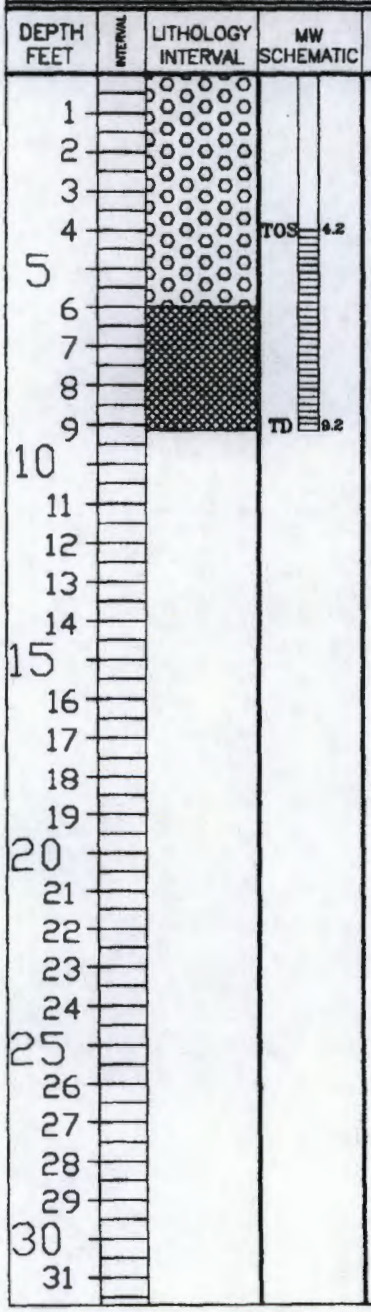
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

LOCATION NAME:	HANEY GC B # 1E
CLIENT:	XTO ENERGY INC.
CONTRACTOR:	BLAGG ENGINEERING, INC. / PAUL & SONS
EQUIPMENT USED:	MOBILE DRILL RIG/PAUL & SONS
BORING LOCATION:	N31.5W, 66 FEET FROM WELL HEAD.

BORING #.....	BH - 1
MW #.....	1
PAGE #.....	1
DATE STARTED	12/17/97
DATE FINISHED	12/17/97
OPERATOR.....	GG
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 0.80 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH BROWN SAND AND GRAVEL, NON COHESIVE, SLIGHTLY MOIST, LOOSE TO FIRM, NO APPARENT HYDROCARBON ODOR DETECTED (0.0 - 6.0 FT. INTERVAL).

▼ GW DEPTH ON 12/18/97 = 5.95 FT. (APPROX.) FROM GROUND SURFACE.

DARK GRAY SILTY SAND & GRAVEL, NON COHESIVE, SLIGHTLY MOIST, LOOSE TO FIRM, NO APPARENT HYDROCARBON ODOR DETECTED (6.0 - 9.2 FT. INTERVAL).

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

DRAWING: HANE-1	DATE: 12/22/97	DWN BY: NJV

FIGURE 5

BLAGG ENGINEERING, Inc.

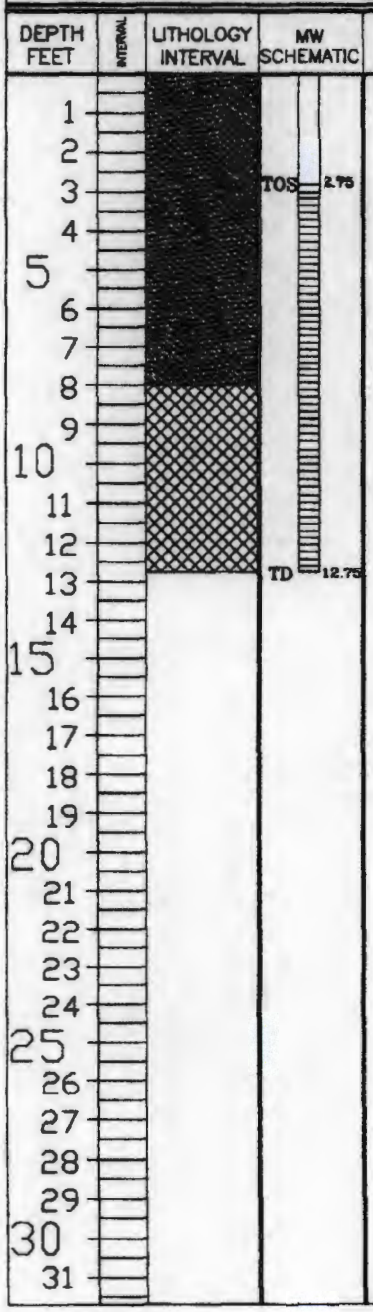
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

BORING #..... BH - 2
MW #..... 2
PAGE #..... 2

LOCATION NAME:	HANEY GC B # 1E
CLIENT:	XTO ENERGY INC.
CONTRACTOR:	BLAGG ENGINEERING, INC. / PAUL & SONS
EQUIPMENT USED:	MOBILE DRILL RIG / PAUL & SONS
BORING LOCATION:	N40.5W, 192 FEET FROM WELL HEAD.

DATE STARTED 12/17/97
DATE FINISHED 12/17/97
OPERATOR..... GG
PREPARED BY NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.25 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, LOOSE TO FIRM, NO APPARENT HYDROCARBON ODOR DETECTED (0.0 - 8.0 FT. INTERVAL).

▼ GW DEPTH ON 12/18/97 = 6.82 FT. (APPROX.) FROM GROUND SURFACE.

LIGHT GRAY SILTY SAND & GRAVEL, NON COHESIVE, SLIGHTLY MOIST, LOOSE TO FIRM, NO APPARENT HYDROCARBON ODOR DETECTED (8.0 - 12.75 FT. INTERVAL).

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

DRAWING: HANE-2 | DATE: 12/22/97 | DWN BY: NJV

FIGURE 6

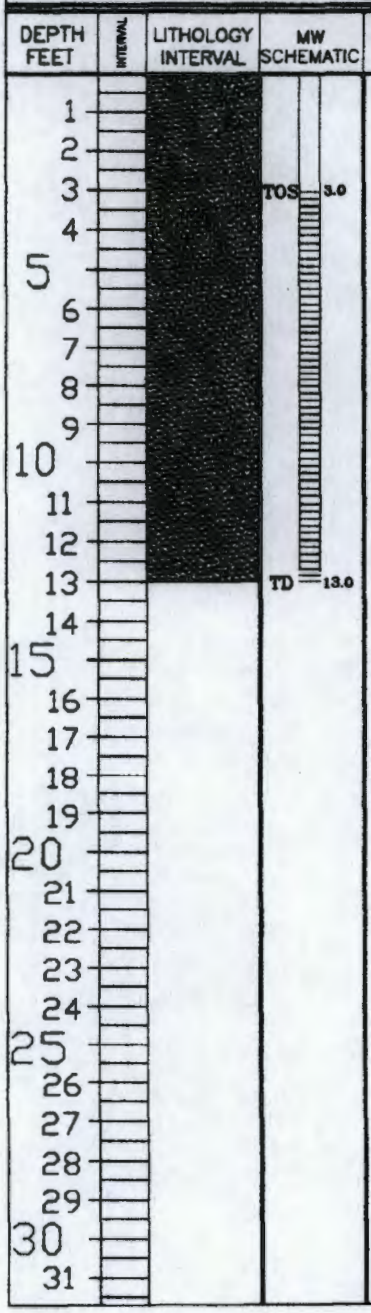
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

LOCATION NAME:	HANEY GC B # 1E
CLIENT:	XTO ENERGY INC.
CONTRACTOR:	BLAGG ENGINEERING, INC. / PAUL & SONS
EQUIPMENT USED:	MOBILE DRILL RIG / PAUL & SONS
BORING LOCATION:	N35W, 258 FEET FROM WELL HEAD.

BORING #.....	BH - 3
MW #.....	3
PAGE #.....	3
DATE STARTED	12/17/97
DATE FINISHED	12/17/97
OPERATOR.....	GG
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.00 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH BROWN SAND THROUGHOUT ENTIRE BORING, NON COHESIVE, SLIGHTLY MOIST, LOOSE TO FIRM, NO APPARENT HYDROCARBON ODOR OR DISCOLORATION DETECTED (0.0 - 13.0 FT. INTERVAL).

▼ GW DEPTH ON 12/18/97 = 8.34 FT. (APPROX.) FROM GROUND SURFACE.

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

DRAWING: HANE-3	DATE: 12/22/97	DWN BY: NJV

FIGURE 7
RECORD OF SUBSURFACE EXPLORATION

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

Borehole #: 1
Well #: MW-1R
Page: 1 of 1
Project Number:
Project Name: XTO Ground Water
Project Location: Haney Gas Com B #1E

Borehole Location: 36° 42.404' N, 107° 54.814' W
GWL Depth: 7.15
Drilled By: Envirotech
Well Logged By: Ashley Ager
Date Started: 9/1/2006
Date Completed: 9/1/2006

Drilling Method: Hollow Stem Auger
Air Monitoring Method: PID

Depth (feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description	Air Monitoring	Drilling Conditions
0		0-3	cuttings	Tan, poorly sorted gravelly sand w/ <10% cobbles, dry, angular to sub-rounded (fill)	0	Slow
		3-7	cuttings	Dark brown, moderately sorted silty sand, medium grain size, damp, sub-rounded, roots	0	Fast
5		7-7.5	cuttings	cobbles	0	Slow
		7.5-10	cuttings	Gray, clayey sand, fine grain size, wet, sub-rounded, roots, no odor	0	Easy
10						
15						
20						

Comments: Started hole and hit big cobble at ~0.5'. Pulled rig and started new hole 1' to the southeast. Moved hole three times before aboe to get penetration through cobbles.

Geologist Signature: Ashley L. Ager

FIGURE 8
MONITORING WELL INSTALLATION RECORD

Borehole # 1
Well # MW-1R
Page 1 of 1

Lodestar Services, Inc
PO Box 3861
Farmington, New Mexico 87499
(505) 334-2791

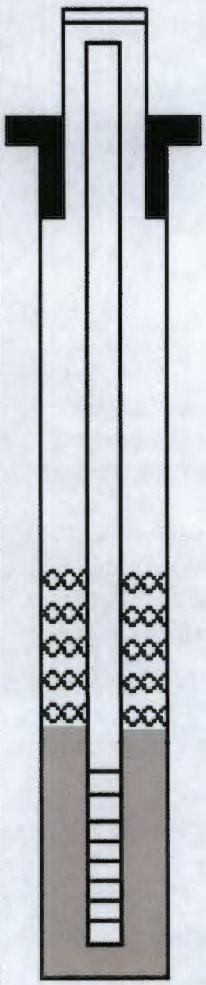
Project Name XTO Ground Water
Project Number _____ Cost Code _____
Project Location Haney Gas Com B #1E

Elevation 5482'
Well Location 36° 42.404' N, 107° 54.814' W
GWL Depth 7.15'
Installed By Envirotech

On-Site Geologist Ashley Ager
Personnel On-Site
Contractors On-Site Kelly Padilla and assistant
Client Personnel On-Site

Date/Time Started 09/01/06, 07:15
Date/Time Completed 09/01/06, 08:22

Depths in Reference to Ground Surface		
Item	Material	Depth (feet)
Top of Protective Casing	Steel	2
Bottom of Protective Casing		-1
Top of Permanent Borehole Casing	Sch. 40 PVC	1.9
Bottom of Permanent Borehole Casing		-9.9
Top of Concrete	Concrete	0.1
Bottom of Concrete		-0.2
Top of Grout		NA
Bottom of Grout		NA
Top of Well Riser	Sch. 40 PVC	1.9
Bottom of Well Riser		-9.9
Top of Well Screen	Sch. 40 PVC	-4.8
Bottom of Well Screen		-9.8
Top of Peltonite Seal	Bentonite	-0.2
Bottom of Peltonite Seal		-3
Top of Gravel Pack	Sand	-3
Bottom of Gravel Pack		-9.9
Top of Natural Cave-In	Sand and cobbles	-9.9
Bottom of Natural Cave-In		-10
Top of Groundwater		-7.15
Total Depth of Borehole		-10



Top of Protective Casing 2
Top of Riser 1.9
Ground Surface 0
Top of Seal -0.2
Top of Gravel Pack -3
Top of Screen -4.8
Bottom of Screen -9.8
Bottom of Borehole -10

Comments: 50 lb bags of sand used: 4 ea. , 50 lb bags of bentontie used: 1 ea.

Cannot install bumper posts b/c of cobbles. Will flag protective casing.

Geologist Signature Ashley L. Ager

FIGURE 9
RECORD OF SUBSURFACE EXPLORATION

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

Borehole #: 1
Well #: MW-4
Page: 1 of 1
Project Number:
Project Name: XTO Ground Water
Project Location: Haney Gas Com B #1E

Borehole Location: 36° 42.441' N, 107° 54.834' W
GWL Depth: 12'
Drilled By: Envirotech
Well Logged By: Ashley Ager
Date Started: 9/1/2006
Date Completed: 9/1/2006

Drilling Method: Hollow Stem Auger
Air Monitoring Method: PID

Depth (feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description	Air Monitoring	Drilling Conditions
0		0-8'	cuttings	tan, poorly sorted coarse sand, dry, various mineralogies, sub-rounded to subangular	0	Easy
5						
		8-14'	cuttings	brown, coarse, silty sand, damp, subangular to sub-rounded;	0	Easy
10				wet at 12'		
		14-15'	cuttings	Grayish brown, silty sand w/gravel and cobbles; wet, poorly sorted, roots	0	Easy
15						
20						

Comments: Unable to put well in preferred location b/c of terrain and tree branches on existing trees. Put as far to the northeast as possible. No steel casing or bumper posts installed since well is outside of well pad.

Geologist Signature: Ashley L. Ager

FIGURE 10
MONITORING WELL INSTALLATION RECORD

Borehole # 1
Well # MW-4
Page 1 of 1

Lodestar Services, Inc
PO Box 3861
Farmington, New Mexico 87499
(505) 334-2791

Project Name XTO Ground Water
Project Number _____ Cost Code _____
Project Location Haney Gas Com B #1E

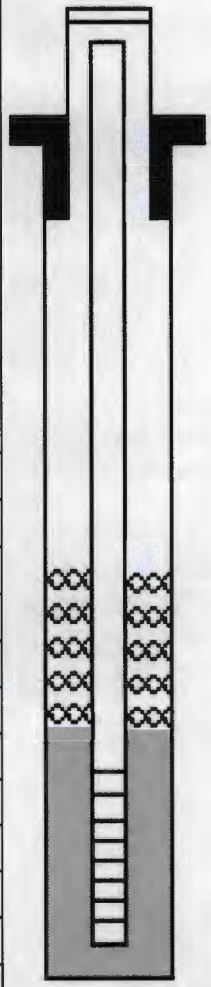
Elevation 5482'
Well Location 36° 42.441' N, 107° 54.834' W
GWL Depth 12'
Installed By Envirotech

On-Site Geologist Ashley Ager
Personnel On-Site
Contractors On-Site Kelly Padilla and assistant
Client Personnel On-Site

Date/Time Started 09/01/06, 08:40
Date/Time Completed 09/01/06, 09:45

Depths in Reference to Ground Surface

Item	Material	Depth (feet)
Top of Protective Casing		NA
Bottom of Protective Casing		NA
Top of Permanent Borehole Casing	Sch. 40 PVC	3.1
Bottom of Permanent Borehole Casing		-11.88
Top of Concrete	Concrete	0.1
Bottom of Concrete		-0.3
Top of Grout		NA
Bottom of Grout		NA
Top of Well Riser	Sch. 40 PVC	3.1
Bottom of Well Riser		-11.88
Top of Well Screen	Sch. 40 PVC	-1.87
Bottom of Well Screen		-11.87
Top of Peltonite Seal	Bentonite	-0.3
Bottom of Peltonite Seal		-3
Top of Gravel Pack	Sand	-3
Bottom of Gravel Pack		-11.88
Top of Natural Cave-In	Sand	-11.88
Bottom of Natural Cave-In		-15
Top of Groundwater		-8.95
Total Depth of Borehole		-15



Top of Protective Casing NA
Top of Riser 3.1
Ground Surface 0
Top of Seal -0.3
Top of Gravel Pack -3
Top of Screen -1.87
Bottom of Screen -11.87
Bottom of Borehole -11.88

Comments: 50 lb bags of sand used: 5 ea.
50 lb bags of bentontie used: 1 ea.

Geologist Signature Ashley L. Ager

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Oct-06*

CLIENT:	XTO Energy	**Client Sample ID:**	Haney Gas Com B1E MW-1I
Lab Order:	0609347	**Collection Date:**	9/26/2006 8:28:00 AM
Project:	XT0 Groundwater	**Date Received:**	9/27/2006
Lab ID:	0609347-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	10/5/2006 2:20:07 AM
Toluene	ND	1.0		µg/L	1	10/5/2006 2:20:07 AM
Ethylbenzene	ND	1.0		µg/L	1	10/5/2006 2:20:07 AM
Xylenes, Total	ND	3.0		µg/L	1	10/5/2006 2:20:07 AM
Surr: 4-Bromofluorobenzene	92.3	72.2-125		%REC	1	10/5/2006 2:20:07 AM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Oct-06*

CLIENT:	XTO Energy	**Client Sample ID:**	Haney Gas Com B1E MW-2
Lab Order:	0609347	**Collection Date:**	9/26/2006 9:20:00 AM
Project:	XTO Groundwater	**Date Received:**	9/27/2006
Lab ID:	0609347-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	10/5/2006 2:49:10 AM
Toluene	ND	1.0		µg/L	1	10/5/2006 2:49:10 AM
Ethylbenzene	ND	1.0		µg/L	1	10/5/2006 2:49:10 AM
Xylenes, Total	ND	3.0		µg/L	1	10/5/2006 2:49:10 AM
Surr: 4-Bromofluorobenzene	90.5	72.2-125		%REC	1	10/5/2006 2:49:10 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Oct-06*

CLIENT:	XTO Energy	**Client Sample ID:**	Haney Gas Com B1E MW-4
Lab Order:	0609347	**Collection Date:**	9/26/2006 9:28:00 AM
Project:	XT0 Groundwater	**Date Received:**	9/27/2006
Lab ID:	0609347-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	10/5/2006 3:38:34 PM
Toluene	ND	1.0		µg/L	1	10/5/2006 3:38:34 PM
Ethylbenzene	ND	1.0		µg/L	1	10/5/2006 3:38:34 PM
Xylenes, Total	ND	3.0		µg/L	1	10/5/2006 3:38:34 PM
Surr: 4-Bromofluorobenzene	101	72.2-125		%REC	1	10/5/2006 3:38:34 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Oct-06*

CLIENT:	XTO Energy	**Client Sample ID:**	25092006TB01
Lab Order:	0609347	**Collection Date:**	
Project:	XT0 Groundwater	**Date Received:**	9/27/2006
Lab ID:	0609347-11	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	10/5/2006 6:16:33 AM
Toluene	ND	1.0		µg/L	1	10/5/2006 6:16:33 AM
Ethylbenzene	ND	1.0		µg/L	1	10/5/2006 6:16:33 AM
Xylenes, Total	ND	3.0		µg/L	1	10/5/2006 6:16:33 AM
Surr: 4-Bromofluorobenzene	97.5	72.2-125		%REC	1	10/5/2006 6:16:33 AM

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: XTO Energy
Project: XT0 Groundwater **Work Order:** 0609347

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML REAGENT BLA		*MBLK*			Batch ID: R20938		Analysis Date: 10/4/2006 11:00:33 AM		
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 5ML REAGENT BLA		*MBLK*			Batch ID: R20958		Analysis Date: 10/5/2006 10:03:16 AM		
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID: R20938		Analysis Date: 10/4/2006 9:28:27 PM		
Benzene	20.90	µg/L	1.0	105	85	115			
Toluene	20.64	µg/L	1.0	103	85	118			
Ethylbenzene	20.83	µg/L	1.0	104	85	116			
Xylenes, Total	63.36	µg/L	3.0	106	85	119			
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID: R20958		Analysis Date: 10/5/2006 1:42:53 PM		
Benzene	20.96	µg/L	1.0	105	85	115			
Toluene	20.53	µg/L	1.0	103	85	118			
Ethylbenzene	20.82	µg/L	1.0	104	85	116			
Xylenes, Total	63.12	µg/L	3.0	105	85	119			
Sample ID: 100NG BTEX LCSD		*LCSD*			Batch ID: R20958		Analysis Date: 10/5/2006 9:31:35 PM		
Benzene	21.14	µg/L	1.0	106	85	115	0.855	27	
Toluene	20.72	µg/L	1.0	104	85	118	0.892	19	
Ethylbenzene	20.79	µg/L	1.0	104	85	116	0.173	10	
Xylenes, Total	63.10	µg/L	3.0	105	85	119	0.0317	13	
Method: SW7470									
Sample ID: 0609347-04A msd		*MSD*			Batch ID: 11395		Analysis Date: 9/27/2006		
Mercury	0.005070	mg/L	0.00020	101	75	125	7.36	20	
Sample ID: MB-11395		*MBLK*			Batch ID: 11395		Analysis Date: 9/27/2006		
Mercury	ND	mg/L	0.00020						
Sample ID: LCS-11395		*LCS*			Batch ID: 11395		Analysis Date: 9/27/2006		
Mercury	0.005070	mg/L	0.00020	101	80	120			
Sample ID: 0609347-04A ms		*MS*			Batch ID: 11395		Analysis Date: 9/27/2006		
Mercury	0.004710	mg/L	0.00020	94.2	75	125			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name XTO ENERGY | Date and Time Received: 9/27/2006

Work Order Number 0609347 | Received by AT

Checklist completed by _____ 9/27/06
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? 2° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA/QC Package: Std ☒ Level 4 ☐
Other:

Client: Kim Champlin
XTO Energy

Address: 2700 Farmington Ave
Bldg. I Ste K
Farmington, NM

Phone #: 505-566-7954

Fax #:

Project Name: XTO Ground Water

Project #:

Project Manager: Lisa Winn

Sampler: ALA

Sample Temperature: 4° 2 AT

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

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative HCl	HEAL No.	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)	B310 (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)	8021 B BTEX	Mercury	Temperature		Air Bubbles or Headspace (Y or N)
09-25-06	1257	GW	McDaniel Gas Com B	1E MW-1			✓	0609347-1													✓				
09-25-06	1232	GW	McDaniel Gas Com B	1E MW-2			✓	-2													✓				
09-25-06	1340	GW	McDaniel Gas Com B	1E MW-3			✓	-3													✓				
09-25-06	1545	GW	Romero Gas Com A	1 MW-3X		✓		-4														✓			
09-26-06	0828	GW	Haney Gas Com B	1E MW-1R	✓			-5													✓				
09-26-06	0920	GW	Haney Gas Com B	1E MW-2			✓	-6													✓				
09-26-06	0928	GW	Haney Gas Com B	1E MW-4			✓	-7													✓				
09-26-06	1302	GW	Stedje Gas Com 1	MW-3R			✓	-8													✓				
09-26-06	1220	GW	Stedje Gas Com 1	MW-2			✓	-9													✓				
09-26-06	1254	GW	Stedje Gas Com 1	MW-1			✓	-10													✓				
09-25-06	0700	water	25092006TB01				✓	-11													✓				
																					✓				

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
09-27-06	10:30	Ashley L. Ager	[signature] 9/27/06
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature) 15:57

Remarks:

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Dec-06*

CLIENT: XTO Energy
Project: Ground Water
Lab Order: 0612121

Lab ID: 0612121-01 **Collection Date:** 12/6/2006 9:00:00 AM
Client Sample ID: Haney Gas Com 1E MW-1R **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	12/13/2006 12:00:00 PM
Toluene	ND	1.0		µg/L	1	12/13/2006 12:00:00 PM
Ethylbenzene	ND	1.0		µg/L	1	12/13/2006 12:00:00 PM
Xylenes, Total	ND	3.0		µg/L	1	12/13/2006 12:00:00 PM
Surr: 4-Bromofluorobenzene	80.3	70.2-105		%REC	1	12/13/2006 12:00:00 PM

Lab ID: 0612121-02 **Collection Date:** 12/6/2006 9:50:00 AM
Client Sample ID: Haney Gas Com 1E MW-2 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	12/13/2006 12:30:04 PM
Toluene	ND	1.0		µg/L	1	12/13/2006 12:30:04 PM
Ethylbenzene	ND	1.0		µg/L	1	12/13/2006 12:30:04 PM
Xylenes, Total	ND	3.0		µg/L	1	12/13/2006 12:30:04 PM
Surr: 4-Bromofluorobenzene	82.2	70.2-105		%REC	1	12/13/2006 12:30:04 PM

Lab ID: 0612121-03 **Collection Date:** 12/6/2006 9:44:00 AM
Client Sample ID: Haney Gas Com 1E MW-4 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	12/13/2006 1:00:09 PM
Toluene	ND	1.0		µg/L	1	12/13/2006 1:00:09 PM
Ethylbenzene	ND	1.0		µg/L	1	12/13/2006 1:00:09 PM
Xylenes, Total	ND	3.0		µg/L	1	12/13/2006 1:00:09 PM
Surr: 4-Bromofluorobenzene	82.8	70.2-105		%REC	1	12/13/2006 1:00:09 PM

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: XTO Energy
Project: Ground Water **Work Order:** 0612121

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 0612121-01A MSD		*MSD*			Batch ID: R21800		Analysis Date: 12/13/2006 5:33:06 PM		
Benzene	18.11	µg/L	1.0	90.6	85.9	113	2.89	27	
Toluene	18.24	µg/L	1.0	91.2	86.4	113	1.16	19	
Ethylbenzene	17.68	µg/L	1.0	88.4	83.5	118	1.39	10	
Xylenes, Total	53.06	µg/L	3.0	88.4	83.4	122	0.923	13	
Sample ID: 5ML REAGENT BLA		*MBLK*			Batch ID: R21800		Analysis Date: 12/13/2006 1:26:25 AM		
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID: R21800		Analysis Date: 12/13/2006 4:33:03 PM		
Benzene	18.09	µg/L	1.0	90.4	85.9	113			
Toluene	17.99	µg/L	1.0	89.9	86.4	113			
Ethylbenzene	17.55	µg/L	1.0	87.7	83.5	118			
Xylenes, Total	52.58	µg/L	3.0	87.6	83.4	122			
Sample ID: 0612121-01A MS		*MS*			Batch ID: R21800		Analysis Date: 12/13/2006 5:03:05 PM		
Benzene	18.65	µg/L	1.0	93.2	85.9	113			
Toluene	18.45	µg/L	1.0	92.2	86.4	113			
Ethylbenzene	17.93	µg/L	1.0	89.6	83.5	118			
Xylenes, Total	53.56	µg/L	3.0	89.3	83.4	122			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name XTO ENERGY | Date and Time Received: 12/8/2006

Work Order Number 0612121 | Received by TLS

Checklist completed by Tonya Shannon (Signature) Dec 8, 06 (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? 2° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☒ Level 4 ☐
Other:

Client: XTO Energy
Kim Champlin

Address: 2700 Farmington Ave
Bldg I, Stc K
Farmington, NM

Phone #: 505 566 7954

Fax #:

Project Name:

Project #: Ground Water

Project Manager: Lisa Winn

Sampler: Ashley Ager

Sample Temperature: 3°

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

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative:	HEAL No.
								0712121
12-6-07	0900	GW	Haney Gas Com 1E	MW-1R	✓			1
12-6-07	0950	GW	Haney Gas Com 1E	MW-2	✓			2
12-6-07	0944	GW	Haney Gas Com 1E	MW-4	✓			3
12-6-07	1232	GW	Stedje Gas Com	1 MW-3R	✓			4
12-6-07	1222	GW	Stedje Gas Com	1 MW-2R	✓			5
12-6-07	1257	GW	Stedje Gas Com	1 MW-1	✓			6
12-6-07	1349	GW	Carson Gas Com	1E MW-1A	✓			7
12-6-07	1442	GW	Carson Gas Com	1E MW-2A	✓	2 vials		8
12-6-07	1616	GW	Federal Gas Com	H1 MW-3	✓			9

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)	8021 BTEX				Air Bubbles or Headspace (Y or N)
												✓				
												✓				
												✓				
												✓				
												✓				
												✓				
												✓				
												✓				
												✓				
												✓				

Date	Time	Relinquished By: (Signature)	Received By: (Signature)	
12-7-06	1500	Ashley L. Ager		12/6/07
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	930

Remarks:
* Copy results to ala@gladestarservices.com
only 2 sample bottles for Carson Gas Com 1E MW2A

94238 JJ

ENVIROTECH Inc.

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

1359

FIELD REPORT: SITE ASSESSMENT

JOB No: 92140
PAGE No: 1 of 1

PROJECT: PIT ASSESSMENTS & CLOSURE
CLIENT: AMOCO PRODUCTION COMPANY
CONTRACTOR: ENVIROTECH INC.
EQUIPMENT USED: EXTENDAHOE

DATE STARTED: 6-3-92
DATE FINISHED: 6-3-92
ENVIRO. SPCLT: J.W.
OPERATOR: G.S.
ASSISTANT: T.C.

LOCATION: LSE: Haney Gas Com 'B' WELL: No. 1E QD: SW¼ SW¼ (M)
SEC: 20 TWP: 29N RNG: 10W PM: N.M CNTY: S.J. ST: N.M PIT: Separator
LAND USE: River Bottom Federal Com. No. 94000208
SURFACE CONDITIONS: Steel tank 12'x5'

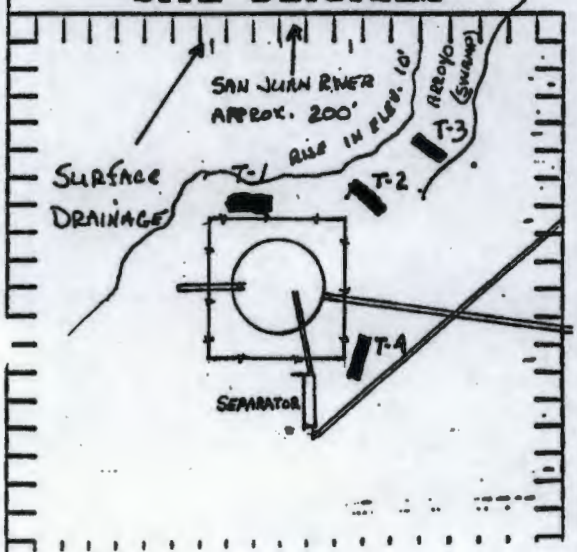
FIELD NOTES & REMARKS: ~~Pit is located~~ approx. 115' North and 95' west of well head. Most of the contamination seems to be on North side of pit area.

SAMPLE INVENTORY:

SMPL ID:	SMPL TYPE:	LABORATORY ANALYSIS:
T-1@5'	Soil	TPH
T-1@5'	WATER	TPH
T-1@5'	WATER	BETEX -(8020)
T-1@5'	WATER	BETEX -(8020)
T-2@5'	WATER	HEADSPACE BETEX
T-3@5'	WATER	HEADSPACE BETEX
T-4@8'	WATER	HEADSPACE BETEX

SCALE
0 5' 10' FEET

SITE DIAGRAM



TEST HOLE LOGS:

TH#: 1 SOIL TYPE:	SMPL TYPE:	OVM/TPH	TH#: 2 SOIL TYPE:	SMPL TYPE:	OVM/TPH	TH#: 3 SOIL TYPE:	SMPL TYPE:	OVM/TPH	TH#: 4 SOIL TYPE:	SMPL TYPE:	OVM/TPH
SP	Soil	235	SC	Soil	875		H2O	26.2	SC	Soil	3.6
	H2O	319		H2O	724					H2O	5.3

- SOIL TYPE: C = Clay M = Silt S = Sand G = Gravel

ENVIROTECH LABS

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

EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	AMOCO	Project #:	92140
Sample ID:	T-1 @ 5'	Date Reported:	07-16-92
Laboratory Number:	1074	Date Sampled:	06-03-92
Sample Matrix:	Soil	Date Received:	06-03-92
Preservative:	Cool	Date Analyzed:	07-15-92
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	2,790	5.0

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

ND - Parameter not detected at the stated detection limit.

Comments: Haney Gas Com. 'B' #1E Separator Pit 94238

Vanessa Ranson
Analyst

Review

ENVIROTECH LABS

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

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	T1 @ 5'	Date Reported:	10-05-92
Laboratory Number:	1074	Date Sampled:	06-03-92
Sample Matrix:	Soil	Date Received:	06-03-92
Preservative:	Cool	Date Extracted:	07-15-92
Condition:	Cool & Intact	Date Analyzed:	10-01-92
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	20,800	19.6
Toluene	326,100	79
Ethylbenzene	118,700	29.5
p,m-Xylene	444,600	59
o-Xylene	225,200	39.3

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Bromfluorobenzene	101 %

Method: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

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

ND - Parameter not detected at the stated detection limit.

Comments: Haney Gas Com B 1E---Separator Pit---94238.

Robert M Young
Analyst

Review

ENVIROTECH LABS

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

EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	AMOCO	Project #:	92140
Sample ID:	T-1 @ 5'	Date Reported:	06-18-92
Laboratory Number:	1075	Date Sampled:	06-03-92
Sample Matrix:	Water	Date Received:	06-03-92
Preservative:	Cool	Date Analyzed:	06-04-92
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/L)	Det. Limit (mg/L)
TPH	2,630	10.0

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

ND - Parameter not detected at the stated detection limit.

Comments: Haney Gas Com. 'B' 1E Separator Pit 94238

Vanessa Dawson
Analyst

Review

ENVIROTECH LABS

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

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	T1 @ 5'	Date Reported:	09-15-92
Laboratory Number:	1076	Date Sampled:	06-03-92
Sample Matrix:	Water	Date Received:	06-03-92
Preservative:	HgCl & Cool	Date Analyzed:	07-22-92
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	8,000	40.0
Toluene	12,900	100
Ethylbenzene	740	40.0
p,m-Xylene	5,100	60
o-Xylene	1,810	60

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	80.8 %

Method: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

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

ND - Parameter not detected at the stated detection limit.

Comments: Haney Gas Com 'B' No.1E---Separator Pit---94238

Analyst

Review

ENVIROTECH LABS

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

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
HEADSPACE EXTRACTION

Client:	Amoco	Project #:	92140
Sample ID:	T2 @ 5'	Date Reported:	09-03-92
Laboratory Number:	1077	Date Sampled:	06-03-92
Sample Matrix:	Water	Date Received:	06-03-92
Preservative:	Cool	Date Analyzed:	08-13-92
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	9.0	6.4
Toluene	16.0	1.6
Ethylbenzene	6.4	5.6
p,m-Xylene	ND	6.4
o-Xylene	33.9	4.0

Method: Method 3810, Headspace, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

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

ND - Parameter not detected at the stated detection limit.

Comments: Haney Gas Com 'B' No. 1E Separator Pit 94238

Analyst

Review

ENVIROTECH LABS

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

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
HEADSPACE EXTRACTION

Client:	AMOCO	Project #:	92140
Sample ID:	T4 @ 8'	Date Reported:	11-02-92
Laboratory Number:	1079	Date Sampled:	06-03-92
Sample Matrix:	Soil	Date Received:	06-03-92
Preservative:	Cool	Date Analyzed:	08-17-92
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	ND	1.6
Toluene	ND	4.8
Ethylbenzene	ND	10.4
p,m-Xylene	ND	6.4
o-Xylene	ND	4.8

Method: Method 3810, Headspace, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

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

ND - Parameter not detected at the stated detection limit.

Comments: Haney GC B 1E---Separator Pit---94238.

Robert M Young
Analyst

David D Young
Review

CHAIN OF CUSTODY RECORD

94 238

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
Amoco 92140	Separator Pit HANEY Gas Com 'B' No 1E	
Sampler: (Signature) J. Weakley	Chain of Custody Tape No.	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH	BETEX	HEADSPACE BETEX				Remarks
T-1@5'	6-3-92	917	1074	SOIL	1	✓	✓					
T-1@ 5'	6-3-92	940	1075	WATER	1	✓						
T-1@ 5'	6-3-92	940	1076	WATER	2		✓					
T-2@ 5'	6-3-92	1015	1077	WATER	1			✓				
T-3@ 5'	6-3-92	1030	1078	WATER	1			✓				not analyzed 11/18/92
T-4@ 8'	6-3-92	1050	1079	WATER	1			✓				

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
J. Weakley	6-3-92	1725	Michael J. Ea	6-3-92	1725
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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

San Juan repro Form 578-81

BO 332

Form 3160-5
1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

5. Lease Designation and Serial No.
FED. COM # 94000208

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE

7. If Unit or (CA,) Agreement Designation
SW 208

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.
HANEY GC B 1E

2. Name of Operator
Amoco Production Company

9. API Well No.
3004524646

3. Address and Telephone No.
200 Amoco Court, Farmington, N.M. 87401 Tel: (505) 326-9200

10. Field and Pool, or Exploratory Area
DAKOTA

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SW/SW SEC, 20, T29N, R10W. NMPM,

11. County or Parish, State
SAN JUAN, N.M.

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
☐ Notice of Intent	☐ Abandonment	☐ Change of Plans
☒ Subsequent Report	☐ Recompletion	☐ New Construction
☐ Final Abandonment Notice	☐ Plugging Back	☐ Non-Routine Fracturing
	☐ Casing Repair	☐ Water Shut-Off
	☐ Altering Casing	☐ Conversion to Injection
	☒ Other Pit closure	☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Pit closure verification - see attached documentation.

SEPARATOR PIT - ABANDONED, GROUNDWATER IMPACTED.

14. I hereby certify that the foregoing is true and correct
Signed R A Shaw Title ENVIRO. COORDINATOR Date 4-9-96

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

B0332

District I
P.O. Box 1980, Hobbs, NM
District II
Drawer DD, Artesia, NM 88211
District III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

PIT REMEDIATION AND CLOSURE REPORT

Operator: Amoco Production Company **Telephone:** (505) -326-9200

Address: 200 Amoco Court, Farmington, New Mexico 87401

Facility Or: Well Name HANEY GC B 1E

Location: Unit or Qtr/Qtr Sec M Sec 20 T 29N R 10W County SAN JUAN

Pit Type: Separator X Dehydrator ___ Other ___

Land Type: BLM ___, State ___, Fee ___, Other COM. AGMT.

Pit Location: (Attach diagram)
Pit dimensions: length 110', width 100', depth 8'
Reference: wellhead X, other ___
Footage from reference: 150
Direction from reference: 45 Degrees ___ East North X of
X West South ___

Depth To Ground Water: (Vertical distance from contaminants to seasonal high water elevation of ground water)	Less than 50 feet (20 points) 50 feet to 99 feet (10 points) Greater than 100 feet (0 Points)	20
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)	20
Distance To Surface Water: Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet (20 points) 200 feet to 1000 feet (10 points) Greater than 1000 feet (0 points)	10
	RANKING SCORE (TOTAL POINTS):	50

B0332

ate Remediation Started: _____ **Date Completed:** IN PROGRESS

mediation Method: (Check all appropriate sections) Excavation X Approx. cubic yards 3000

Landfarmed ___ Insitu Bioremediation ___

Other COMPOST

Remediation Location: (ie. landfarmed onsite, name and location of offsite facility) Onsite X Offsite _____

General Description Of Remedial Action:

Excavation OF SOILS - PUMP CONTAMINATED WATER.

GROUNDWATER CONTAMINATION EXTENT DEFINED - SOIL EXCAVATION LIMITED BY EQUIPMENT ON LOCATION. AIR SYSTEM INSTALLED TO REMEDIATE REMAINING SOIL + WATER CONTAMINATION.

Ground Water Encountered: No ___ Yes X Depth 8'

Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)

Sample location see Attached Documents - MULTIPLE SAMPLES

Sample depth ~ 8'

Sample date 2/12 - 2/16 Sample time _____

Sample Results

Benzene(ppm) _____

Total BTEX(ppm) _____

Field headspace(ppm) _____

TPH _____

Ground Water Sample: Yes X No ___ (If yes, attach sample results)

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 4-9-96

SIGNATURE B J Shaw

PRINTED NAME AND TITLE Buddy D. Shaw ENVIRONMENTAL COORDINATOR

CLIENT: Amoco

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

LOCATION NO: B0332
C.O.C. NO: ANALYTICA

FIELD REPORT: PIT CLOSURE VERIFICATION P. 1/2

LOCATION: HANEY GAS Com B 1E PIT TYPE: Sep.
QUAD/UNIT: M SEC: 20 TWP: 29N RNG: 10W BM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: SW/SW CONTRACTOR: EPC

DATE STARTED: 2-12-96
DATE FINISHED: 2-16-96
ENVIRONMENTAL SPECIALIST: RLT

EXCAVATION APPROX. 110' FT. x 100 FT. x 8 FT. DEEP. CUBIC YARDS: 3000
DISPOSAL FACILITY: ON SITE REMEDIATION METHOD: COMPOST
LAND USE: RIVER BOTTOMS LEASE: Fed. Com # 94000208 FORMATION:

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 150 FEET N45°W FROM WELLHEAD.
DEPTH TO GROUNDWATER: 8' NEAREST WATER SOURCE: 200' NEAREST SURFACE WATER: 200' San Juan River
NMOCD RANKING SCORE: 60 NMOCD TPH CLOSURE STD: 100 PPM

SOIL AND EXCAVATION DESCRIPTION: PIT DISPOSITION: ABANDONED

SOIL MIXTURE OF SAND - SILT - CLAY - COBBLE - EXCAVATED TO GROUNDWATER ~ 1-2' GRAY STAINED SOIL ABOVE WATER TABLE. PIT HAS BEEN PUMPED - NEED TEST HOLES DUG.
TH1 ENCOUNTERED DARK GRAY CONTAMINATED SOIL @ 3.5' - GROUNDWATER AT 8' - HEAVY ODOR - NO SAMPLE COLLECTED.
TH2 " " " " @ 7' - GROUNDWATER AT 10' - HEAVY ODOR - NO SAMPLE.
TH3 SILTY SILTY OVER SAND - LIGHT GRAY / BROWN - SAMPLE OF G.W. COLLECTED
ADDITIONAL EXCAVATION WILL BE DONE. TH4 = 55' WEST OF STEEL PIT (20' WEST OF EXCAVATION)

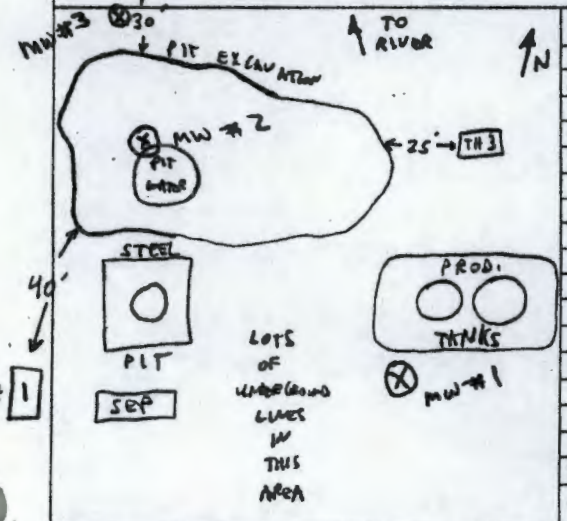
SEE ATTACHED DIAGRAM

FIELD 418.1 CALCULATIONS

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

SCALE 0 10 20 FT

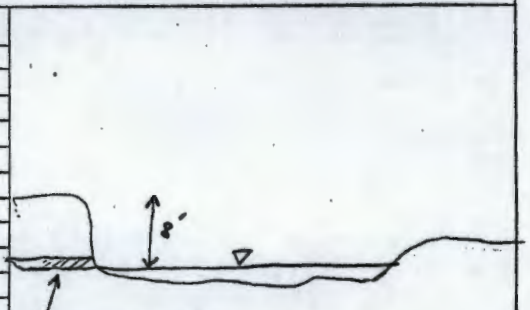
PIT PERIMETER



OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1	
2	
3	
4	
5	
LAB	SAMPLES
PIT WATER	BTEX
	CATION/ANION
TH3 @ 5'	BTEX
TH4 @ 8'	BTEX
TH6 @ 8'	BTEX

PIT PROFILE



TRAVEL NOTES: CALLOUT: 2-8-96 ONSITE: 2-9-96

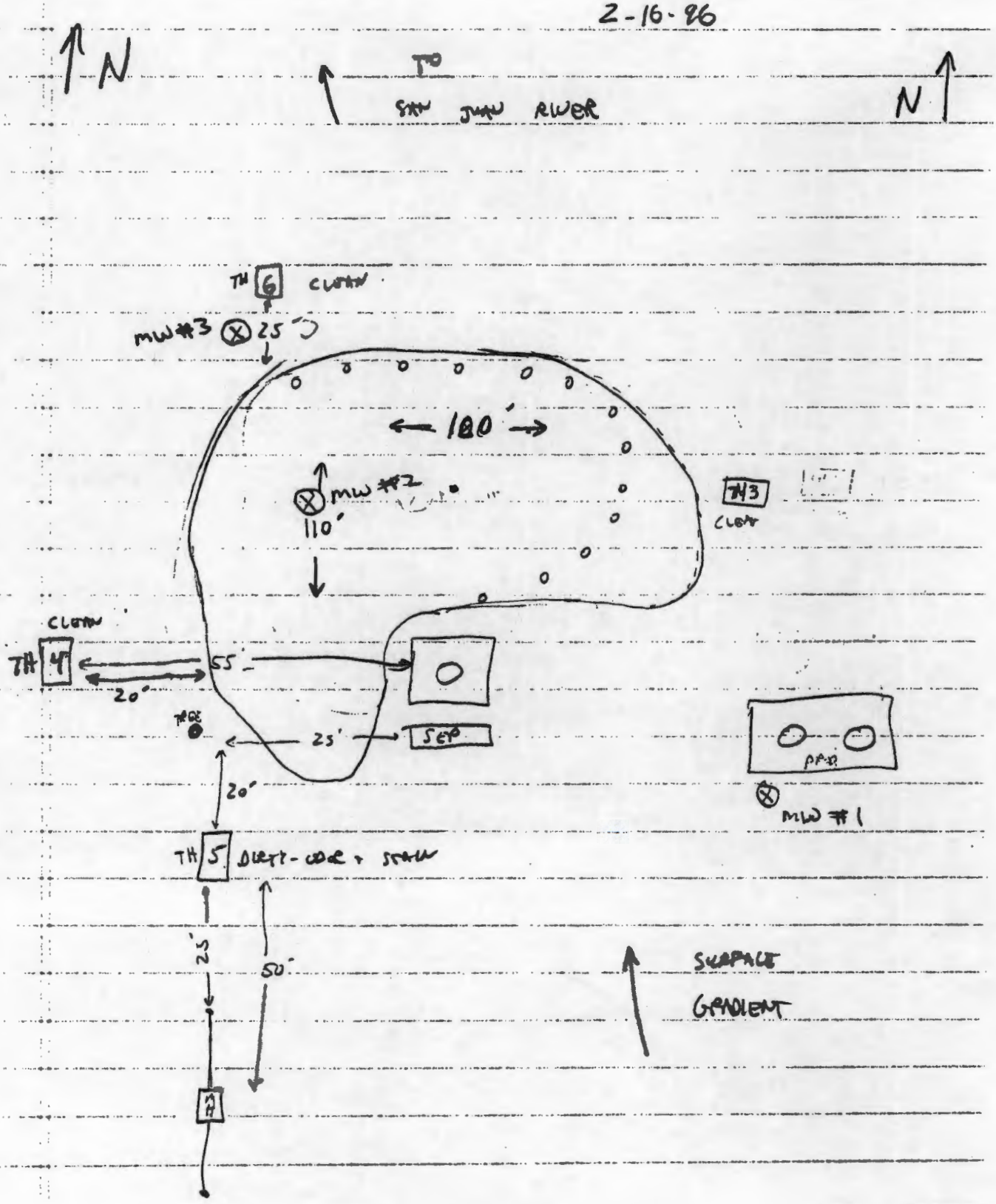
FORM REVISED 7/95

AMOCO

B0332

HNET 6C BIE

2-16-86



ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	Haney GC B1E	Report Date:	02/13/96
Sample ID:	Pit water	Date Sampled:	02/12/96
Lab ID:	2615	Date Received:	02/12/96
Sample Matrix:	Water	Date Analyzed:	02/12/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	195	40.0
Toluene	720	40.0
Ethylbenzene	127	40.0
m,p-Xylenes	1,350	80.0
o-Xylene	287	40.0
Total BTEX	2,680	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	100	88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	Haney GC B1E	Report Date:	02/13/96
Sample ID:	TH - 3 @ 5'	Date Sampled:	02/12/96
Lab ID:	2616	Date Received:	02/12/96
Sample Matrix:	Water	Date Analyzed:	02/12/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	3.77	0.20
Toluene	15.2	0.20
Ethylbenzene	13.4	0.20
m,p-Xylenes	95.0	4.00
o-Xylene	21.8	0.20
Total BTEX	168	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	102	88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	Haney GC B 1E	Report Date:	02/23/96
Sample ID:	TH - 4	Date Sampled:	02/16/96
Lab ID:	2691	Date Received:	02/16/96
Sample Matrix:	Water	Date Analyzed:	02/19/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	2.21	1.00
o-Xylene	ND	0.50
Total BTEX	2.21	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	98	88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	Haney GC B 1E	Report Date:	02/22/96
Sample ID:	TH - 6	Date Sampled:	02/16/96
Lab ID:	2692	Date Received:	02/16/96
Sample Matrix:	Water	Date Analyzed:	02/19/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	1.00
o-Xylene	ND	0.50
Total BTEX	ND	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	98	88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

General Water Quality
Blagg Engineering, Inc.

Project ID:	Haney GC B1E	Date Reported:	02/15/96
Sample ID:	Pit Water	Date Sampled:	02/12/96
Laboratory ID:	2615	Time Sampled:	8:30
Sample Matrix:	Water	Date Received:	02/12/96

Parameter		Analytical Result	Units
General	Lab pH	7.3	s.u.
	Lab Conductivity @ 25° C	5,090	µmhos/cm
	Total Dissolved Solids @ 180°C	4,650	mg/L
	Total Dissolved Solids (Calc)	4,330	mg/L
Anions	Total Alkalinity as $CaCO_3$	503	mg/L
	Bicarbonate Alkalinity as $CaCO_3$	503	mg/L
	Carbonate Alkalinity as $CaCO_3$	NA	mg/L
	Hydroxide Alkalinity as $CaCO_3$	NA	mg/L
	Chloride	5.50	mg/L
	Sulfate	2,740	mg/L
	Nitrate + Nitrite - N	NA	
	Nitrate - N	NA	
	Nitrite - N	NA	
Cations	Total Hardness as $CaCO_3$	1,560	mg/L
	Calcium	424	mg/L
	Magnesium	121	mg/L
	Potassium	13	mg/L
	Sodium	720	mg/L
Data Validation			Acceptance Level
	Cation/Anion Difference	3.53	+/- 5 %
	TDS (180):TDS (calculated)	1.1	1.0 - 1.2

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 Wastewater, 18th ed., 1992.

Review

ANALYTICA
ENVIRONMENTAL LABORATORY
807 S. CARLTON • FARMINGTON, NM 87401 • (505) 326-2395

CHAIN OF CUSTODY

Page 1 of 1

PROJECT MANAGER:
Analytica Lab I.D.:

Company: BLAGG
Address:

Phone: 632-1199
Fax:

Bill To: SAME
Company:
Address:

Sample ID	Date	Time	Matrix	Lab ID	Petroleum Hydrocarbons (418.1)	Gasoline / Diesel (mod. 8015)	Gasoline (GRO)	Aromatic HCs (BTEX/MTBE (602 / 8020)	Chlorinated Hydrocarbons (8010)	SDWA Volatiles (502.1 / 503.1)	Chlorinated Pesticides / PCBs (608 / 8080)	Herbicides (615 / 8150)	Volatiles GC/MS (624 / 8240 / 8260)	Base / Neutral / Acid GC/MS (625 / 8270)	Polynuclear Aromatic Hydrocarbons (8100)	TCLP Extraction	Other (specify):	Cation / Anion	Specific Cations (specify):	Specific Anions (specify):	BOD / Fecal / Total Coliform	Solids: TDS / TSS / SS	Nutrients: NH4+ / NO2– / NO3– / TKN	Oil and Grease	Other (specify):	Priority Pollutants	RCRA Metals (Total)	RCRA Metals TCLP (1311)	Other (specify):	COMMENTS
																														PRES:
PIT WATER	2-12	0830	WATER					✓										✓												Cool + HgCl2 (6020)
TH3@5'	2-12	0930	WATER					✓																						" "

Project Information	Sample Receipt
Proj. #: AMOCO	No. Containers:
Proj. Name: HANEY 6C	Custody Seals: Y / N / NA
P.O. No: BIE	Received Intact:
Shipped Via: DELD	Received Cold:

Required Turnaround Time (Prior Authorization Required for Rush)

Sampled By:	Relinquished By:	Relinquished By:
Signature: R. T. O'Neill	Signature: RTO	Signature:
Date: 2-12-96	Date: 2-12-96	Date:
Company: BEI	Company: BEI	Company:
Time: —	Time: 1043	Time:

Received By:	Received By:	Received By:
Signature:	Signature:	Signature: Dhiraj Kumar 7/2
Date:	Date:	Date:
Company:	Company:	Company: Analytica DLS
Time:	Time:	Time:

Please Fill Out Thoroughly.

Shaded areas for lab use only.

White/Yellow: Analytica
Pink: Client

ANALYTICA
ENVIRONMENTAL LABORATORY
807 S. CARLTON • FARMINGTON, NM 87401 • (505) 326-2395

CHAIN OF CUSTODY

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PROJECT MANAGER:
Analytica Lab I.D.:

Company: BLAGG
Address:

Phone: 632-1199
Fax:

Bill To: SAME
Company:
Address:

Sample ID	Date	Time	Matrix	Lab ID
TH #4	2-16	0950	WATER	
TH #6	2-16	1030	"	

ORGANIC ANALYSES														
Petroleum Hydrocarbons (418.1)	Gasoline / Diesel (mod. 8015)	Gasoline (GRO)	Aromatic HCs BTEX/MTBE (602 / 8020)	Chlorinated Hydrocarbons (8010)	SDWA Volatiles (502.1 / 503.1)	Chlorinated Pesticides / PCBs (608 / 8080)	Herbicides (615 / 8150)	Volatiles GC/MS (624 / 8240 / 8260)	Base / Neutral / Acid GC/MS (625 / 8270)	Polynuclear Aromatic Hydrocarbons (8100)	TCLP Extraction	Other (specify):		
			✓											
			✓											

WATER ANALYSES								
Cation / Anion	Specific Cations (specify):	Specific Anions (specify):	BOD / Fecal / Total Coliform	Solids: TDS / TSS / SS	Nutrients: NH_4^+ / NO_2^- / NO_3^- / TKN	Oil and Grease	Other (specify):	

METALS				
Priority Pollutants	RCRA Metals (Total)	RCRA Metals TCLP (1311)	Other (specify):	

COMMENTS

PRES:
H_2SO_4 - cool
" "

Project Information	Sample Receipt
Proj. #: Amoco	No. Containers:
Proj. Name: HANEY GC	Custody Seals: Y / N / NA
~~P.O. No:~~ BIE	Received Intact:
Shipped Via: DELTA	Received Cold:

Required Turnaround Time (Prior Authorization Required for Rush)

Sampled By:	Relinquished By:	Relinquished By:
Signature: R. S. O'Neill Date: 2-16-96	Signature: R. S. O'Neill Date: 2-16-96	Signature: Date:
Company: BEI Time: —	Company: BEI Time: 1137	Company: Time:
Received By:	**Received By:**	**Received By:**
Signature: Date:	Signature: Date:	Signature: Date: 2/16/96
Company: Time:	Company: Time:	Company: ANALYTICA Time: 11:45

Please Fill Out Thoroughly.

Shaded areas for lab use only.

White/Yellow: Analytica
Pink: Client