

3R - 120

REPORTS

DATE:

2005



320120

May 15, 2006

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 presenting a second submission of the Annual Groundwater Remediation Report in accordance with the NMOCD approved Groundwater Management Plan (GMP), which will complete this years reporting. Enclosed are summary reports with analytical data, summary tables, site maps, potentiometric surface diagrams and recommendations/proposed actions for:

- Baca Gas Com A #1A
- Frost, Jack B #2
- Haney Gas Com B #1E
- Hare Gas Com B #1E
- Masden Gas Com #1E
- McDaniel Gas Com B #1E
- Snyder Gas Com #1A
- Stedje Gas Com #1
- Sullivan Frame A #1E

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,

A handwritten signature in cursive script that reads 'Lisa Winn'.

Lisa Winn
Environmental Specialist
San Juan Division

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

3R0120

XTO ENERGY INC.

ANNUAL GROUNDWATER REPORT

2005

***MASDEN GC #1E
(D) SECTION 28 – T29N – R11W, NMPPM
SAN JUAN COUNTY, NEW MEXICO***

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

APRIL 2006

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Field Sampling Data Summaries

Laboratory Reports

Pit Assessment Report (5/92)

Pit Closure Report (12/93)

**XTO Energy Inc.
Masden GC #1E
NW/4 NW/4 S28, T29N, R11W**

Pit Assessment Date: 5/11/92 (Documentation Included)

Pit Closure Date: 11-12/93 (Documentation Included)

Monitor Well Installations: 9/24/99 & 10/14/99

Monitor Well Sampling: 11/4/99

Historical Information:

- May 1992- Soil impacts were found during an assessment of a blow pit at a site operated by Amoco Production Company (Amoco).
- November/December 1993- Amoco excavated approximately 350 cubic yards of hydrocarbon impacted soil.
- January 1998- XTO Energy Inc. (XTO) acquired the Masden GC #1E from Amoco.
- September/October 1999- Monitor wells MW1, MW2 and MW3 were installed to evaluate groundwater quality.
- February 2000- Original request submitted for site closure.
- December 2000- Correspondence was received from New Mexico Oil Conservation Division (NMOCD) denying the request for closure pending submittal of four consecutive quarters of sample analyses.
- April 2006- XTO submits annual groundwater report recommending continued monitoring.

Groundwater Monitor Well Sampling Procedures:

Groundwater samples were collected from site monitor wells (Figure 1) 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 & 2. 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:

Groundwater elevation data (Figure 2) indicates that groundwater trends towards the west.

XTO understands the initial evaluation of groundwater impact came from samples of groundwater collected during the pit assessment phase in 1992. It seems the detection limits of the laboratory equipment were

extraordinarily high causing the parameters to appear low (below detection limits). Additional samples were collected from the bottom of the blow pit following excavation of impacted soil. Laboratory analysis of the initial sample indicated elevated levels of dissolved phase BTEX in groundwater. In 1999 three groundwater monitoring wells were installed to delineate the extent of hydrocarbon impact to groundwater. Monitoring well numbered MW#2 was installed near the center of the source area (closed and backfilled earthen blow pit). Monitoring wells numbered MW#1 and MW#3 were placed down gradient of MW#2. BTEX constituents were not detected above the laboratory equipment detection limits (0.2 ug/L) in any of the three monitoring wells. Sampling was terminated and site closure requests were submitted.

Summary:

Analytical data from the November 1999 groundwater monitoring well sampling event indicated that groundwater quality standards were observed. Correspondence from NMOCD in 2000 requested four consecutive quarters of testing in compliance with XTO's Groundwater Management Plan. XTO proposes to place this site on a quarterly sampling schedule.

TABLE 1

XTO ENERGY INC. GROUNDWATER MONITOR WELL LAB RESULTS
SUBMITTED BY BLAGG ENGINEERING, INC.

MASDEN GC # 1E - BLOW PIT
UNIT D, SEC. 28, T29N, R11W

DRAFTED: DECEMBER 5, 1999

FILENAME: (MA-4Q-99.WK4) NJV

SAMPLE DATE	MONITOR WELL No:	D.T.W. (ft)	T.D. (ft)	TDS mg/L	COND. umhos	pH	PRODUCT (in)	BTEX EPA METHOD 8020 (PPB)			
								Benzene	Toluene	Ethyl Benzene	Total Xylene
04-Nov-99	MW #1	7.71	10.00	10,150	20,230	7.5		ND	ND	ND	ND
04-Nov-99	MW #2	5.81	13.00	7,540	15,100	7.5		ND	ND	ND	ND
04-Nov-99	MW #3	4.95	12.00	8,800	17,620	7.2		ND	ND	ND	ND

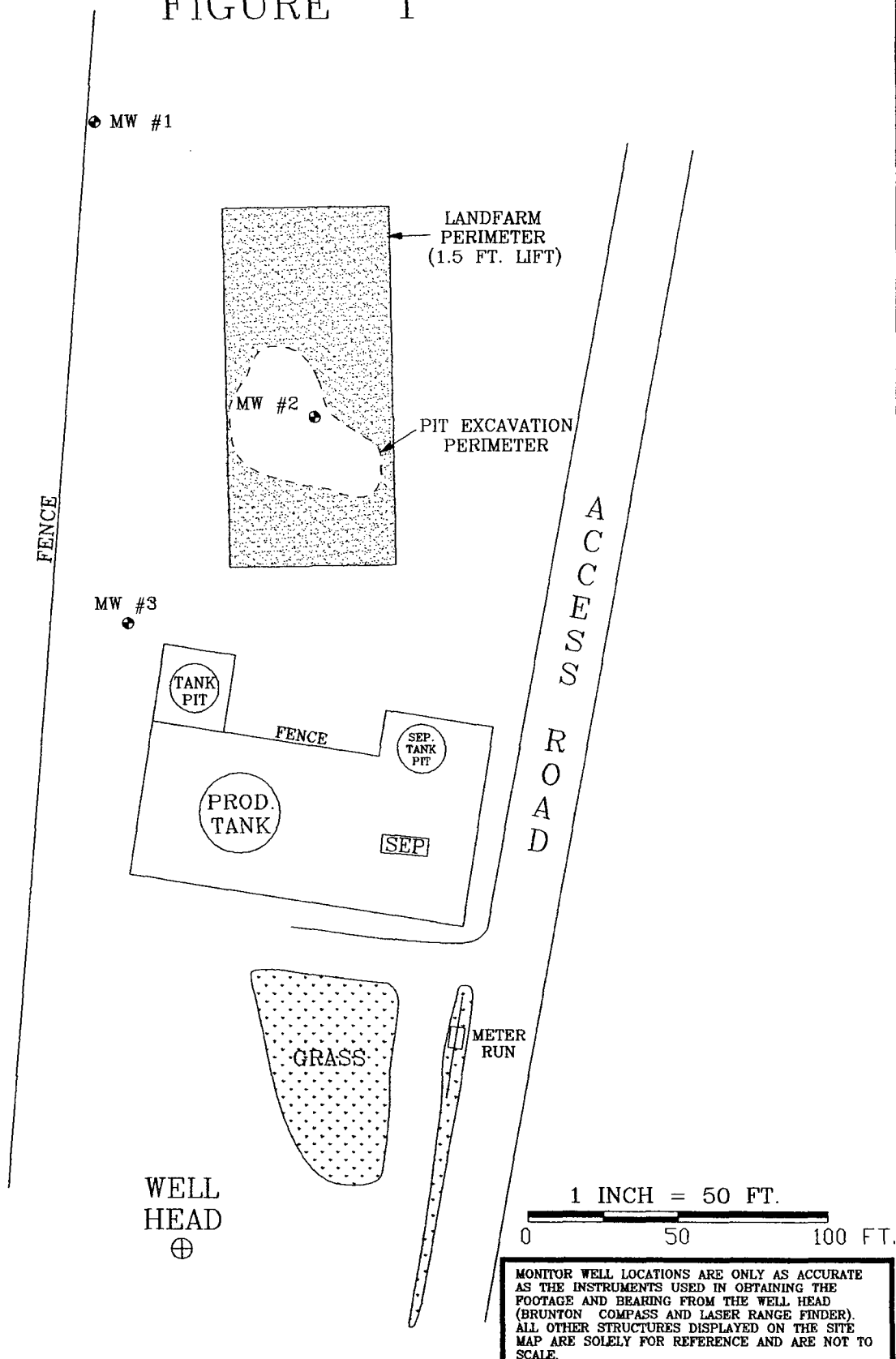
TABLE 2
GENERAL WATER QUALITY
XTO ENERGY INC.
MASDEN GC # 1E
SAMPLE DATE : November 4 , 1999

PARAMETERS	MW # 1	MW # 2	MW # 3	Units
LAB pH	7.47	7.50	7.23	s. u.
LAB CONDUCTIVITY @ 25 C	20,230	15,100	17,620	umhos / cm
TOTAL DISSOLVED SOLIDS @ 180 C	10,150	7,540	8,800	mg / L
TOTAL DISSOLVED SOLIDS (Calc)	10,097	7,481	8,739	mg / L
SODIUM ABSORPTION RATIO	38.9	31.9	37.6	ratio
TOTAL ALKALINITY AS CaCO3	516	518	580	mg / L
TOTAL HARDNESS AS CaCO3	1,020	821	827	mg / L
BICARBONATE as HCO3	516	518	580	mg / L
CARBONATE AS CO3	< 1	< 1	< 1	mg / L
HYDROXIDE AS OH	< 1	< 1	< 1	mg / L
NITRATE NITROGEN	0.6	< 0.1	< 0.1	mg / L
NITRITE NITROGEN	0.007	0.003	0.003	mg / L
CHLORIDE	1.3	1.3	1.7	mg / L
FLUORIDE	9.10	2.13	1.95	mg / L
PHOSPHATE	0.3	0.1	0.3	mg / L
SULFATE	6,580	4,800	5,600	mg / L
IRON	< 0.001	< 0.001	0.212	mg / L
CALCIUM	96.8	79.8	80.4	mg / L
MAGNESIUM	189	151	152	mg / L
POTASSIUM	52.1	34.2	68.7	mg / L
SODIUM	2,855	2,098	2,482	mg / L
CATION / ANION DIFFERENCE	0.05	0.03	0.01	%

FIGURE 1



OPEN
FIELD



XTO ENERGY INC.

MASDEN GC # 1E

NW/4 NW/4 SEC. 28, T29N, R11W

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: MW INSTALL.

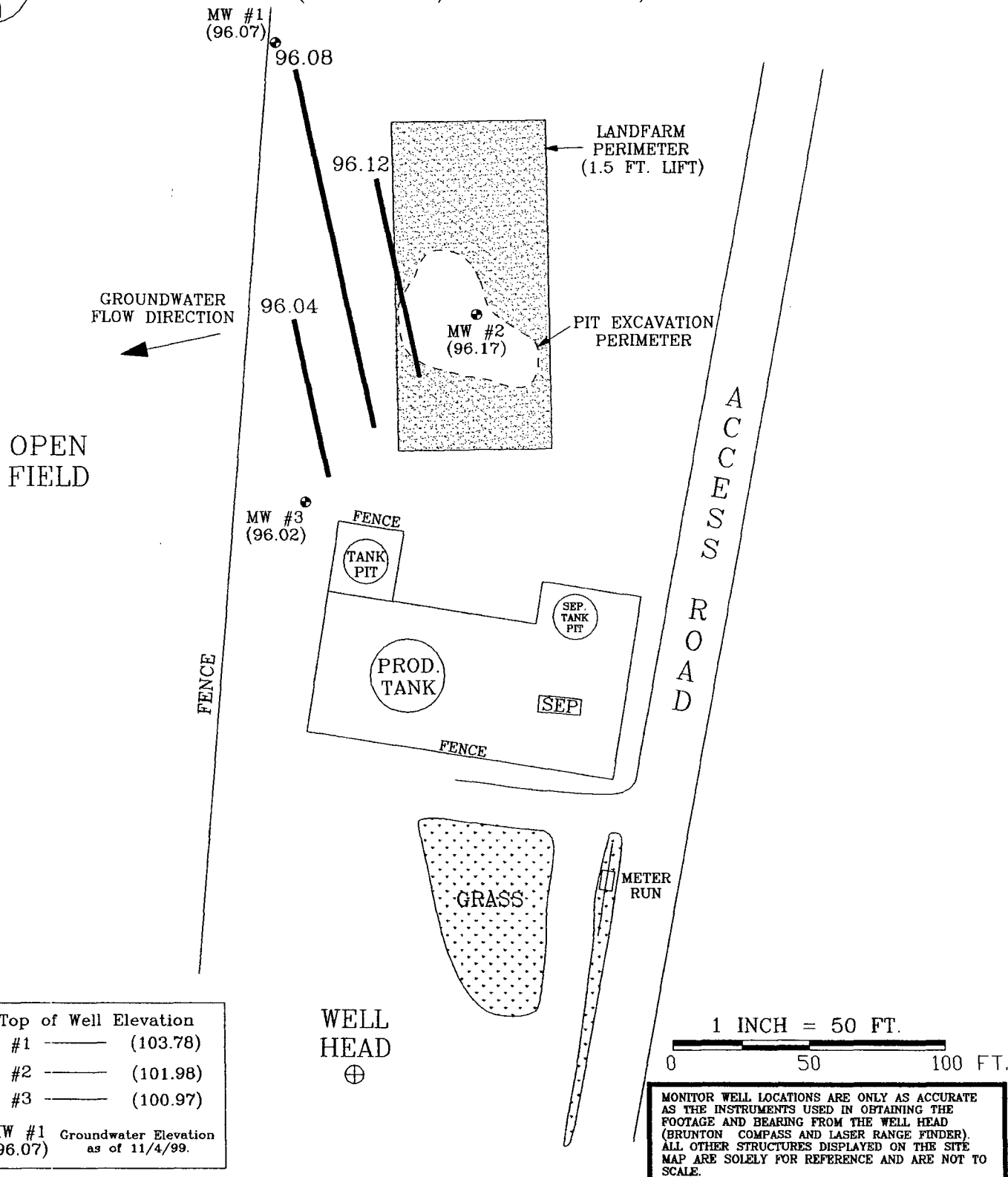
DRAWN BY: NJV

FILENAME: MA-1E-SM.SKD

SITE
MAP

10/99

FIGURE 2
(4th 1/4, 1999)



XTO ENERGY INC.

MASDEN GC # 1E

NW/4 NW/4 SEC. 28, T29N, R11W

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: MW SAMPLING

DRAWN BY: NJV

FILENAME: MA-1E-GW.SKD

GROUNDWATER
GRADIENT
MAP

10/99

FIGURE 3 BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

CLIENT: XTO ENERGY INC.
LOCATION NAME: MASDEN GC #1E
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION: 378 FT., N4W FEET FROM WELL HEAD.

BORING #..... BH - 1
MW #..... 1
PAGE #..... 1
DATE STARTED 9/24/99
DATE FINISHED 9/24/99
OPERATOR..... REP
PREPARED BY NJV

DEPTH FEET	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC	FIELD CLASSIFICATION AND REMARKS
				GROUND SURFACE
1		SAND	TOS 0.00	TOP OF CASING APPROX. 4.25 FT. ABOVE GROUND SURFACE.
2				DARK YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 5.00 FT. INTERVAL).
3				▼ GW DEPTH ON 11/4/99 = 3.46 FT. (APPROX.) FROM GROUND SURFACE.
4				
5				
6		SAND AND GRAVEL	TD 5.75	SAME AS ABOVE EXCEPT WITH GRAVEL, SATURATED, (5.00 - 6.00 FT. INTERVAL).
7		SAND		SAME AS ABOVE EXCEPT WITHOUT GRAVEL, (6.00 - 10.00 FT. INTERVAL).
8				
9				
10				
11				
12		SAND AND GRAVEL		SAME AS ABOVE EXCEPT WITH GRAVEL, SATURATED, (10.00 - 11.00 FT. INTERVAL).
13		SAND		SAME AS ABOVE EXCEPT WITHOUT GRAVEL, (11.00 - 15.00 FT. INTERVAL).
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				

NOTE: - SAND.

- SAND AND GRAVEL.

TOS - TOP OF SCREEN FROM GROUND SURFACE.

TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.

GW - GROUND WATER.

BORING ANNULAR COLLAPSED BELOW 5.75 FT. BELOW GRADE.

FIGURE 4
BLAGG ENGINEERING, Inc.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

CLIENT: XTO ENERGY INC.
LOCATION NAME: MASDEN GC #1E
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (ENVIROTECH CME 61)
BORING LOCATION: 282 FT., N9.5E FEET FROM WELL HEAD.

BORING #..... BH - 2
MW #..... 2
PAGE #..... 2
DATE STARTED 10/14/99
DATE FINISHED 10/14/99
OPERATOR..... DE
PREPARED BY NJV

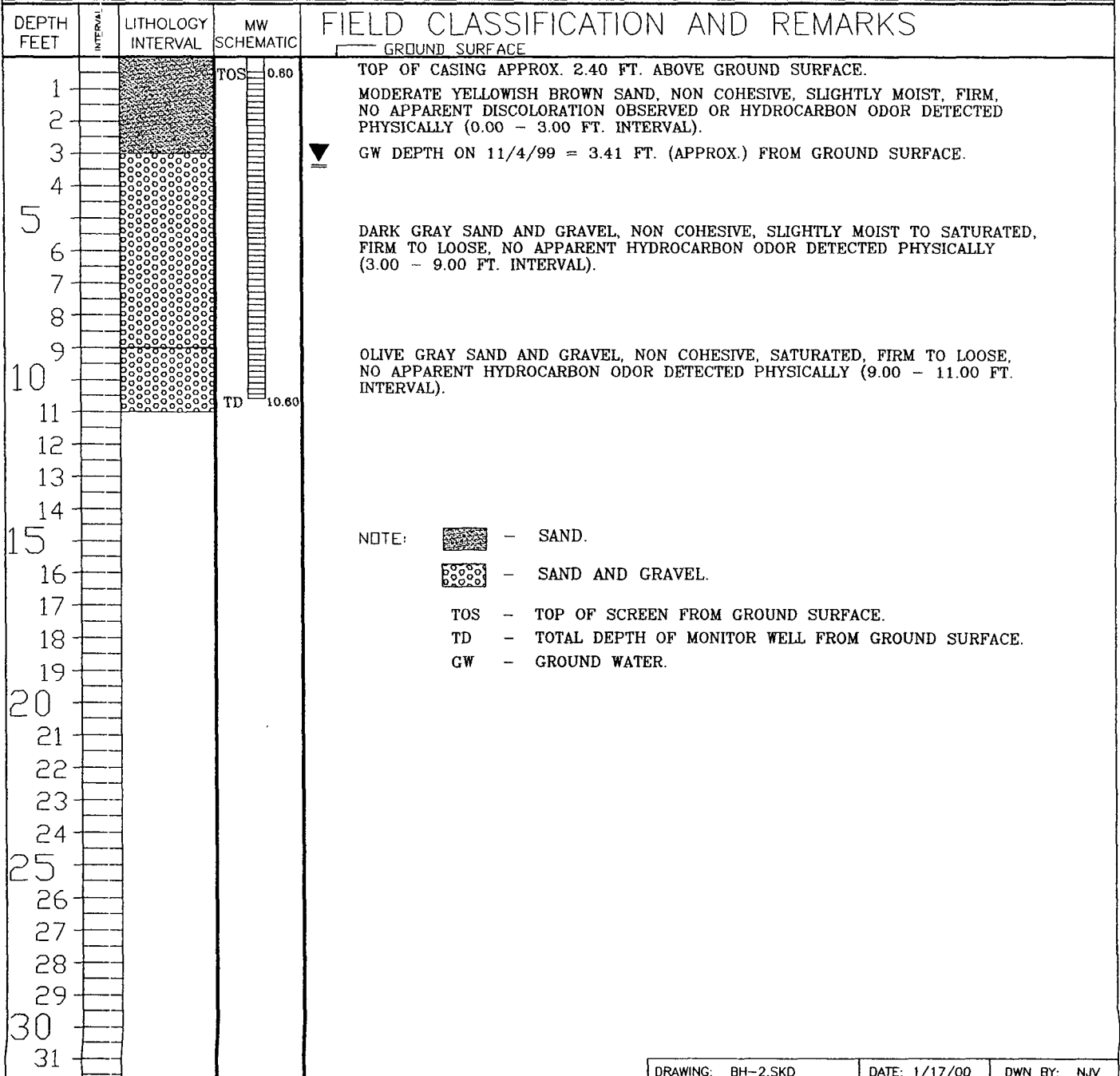


FIGURE 5
BLAGG ENGINEERING, Inc.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

CLIENT: XTO ENERGY INC.
LOCATION NAME: MASDEN GC #1E
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION: 210 FT., N4.5W FEET FROM WELL HEAD.

BORING #..... BH - 3
MW #..... 3
PAGE #..... 3
DATE STARTED 9/24/99
DATE FINISHED 9/24/99
OPERATOR..... REP
PREPARED BY NJV

DEPTH FEET	LITHOLOGY INTERVAL	MW SCHEMATIC	FIELD CLASSIFICATION AND REMARKS
			GROUND SURFACE
1		TOS 0.70	TOP OF CASING APPROX. 1.30 FT. ABOVE GROUND SURFACE.
2			DARK YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 5.00 FT. INTERVAL).
3			▼ GW DEPTH ON 11/4/99 = 3.65 FT. (APPROX.) FROM GROUND SURFACE.
4			
5			SAME AS ABOVE EXCEPT WITH GRAVEL, SATURATED, (5.00 - 6.00 FT. INTERVAL).
6			SAME AS ABOVE EXCEPT WITHOUT GRAVEL, (6.00 - 8.00 FT. INTERVAL).
7			
8			SAME AS ABOVE EXCEPT WITH GRAVEL, SATURATED, (8.00 - 9.00 FT. INTERVAL).
9			SAME AS ABOVE EXCEPT WITHOUT GRAVEL, (9.00 - 10.00 FT. INTERVAL).
10			SAME AS ABOVE EXCEPT WITH GRAVEL, SATURATED, (10.00 - 11.00 FT. INTERVAL).
11		TD 10.70	
12			
13			SAME AS ABOVE EXCEPT WITHOUT GRAVEL, (11.00 - 15.00 FT. INTERVAL).
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			

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

BLAGG ENGINEERING, INC.
MONITOR WELL SAMPLING DATA

CLIENT : CROSS TIMBERS OIL CO.

CHAIN-OF-CUSTODY # : 7310

LOCATION : MASDEN GC # 1E

LABORATORY (S) USED : ENVIROTECH, INC.

Date : November 4, 1999

SAMPLER : REP

Filename : 11-04-99.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)	VOLUME PURGED (gal.)	FREE PRODUCT (ft)
1	103.78	96.07	7.71	10.00	1100	7.6	9,200	1.25	-
2	101.98	96.17	5.81	13.00	1120	7.5	8,200	3.50	-
3	100.97	96.02	4.95	12.00	1140	7.3	7,900	3.50	-

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:

1.25 " well diameter = 0.19 gallons per foot of water (or 24 oz.).

2 bails per foot - small teflon bailer.

3 bails per foot - 3 / 4 " teflon bailer.

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

4.00 " well diameter = 1.95 gallons per foot of water.

Comments or note well diameter if not standard 2".

Collected anion / cation and BTEX samples for all MW 's listed above.

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / Cross Timbers	Project #:	403410
Sample ID:	MW #1	Date Reported:	11-07-99
Chain of Custody:	7310	Date Sampled:	11-04-99
Laboratory Number:	G376	Date Received:	11-04-99
Sample Matrix:	Water	Date Analyzed:	11-05-99
Preservative:	HgCl ₂ & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	ND	1	0.2
Toluene	ND	1	0.2
Ethylbenzene	ND	1	0.2
p,m-Xylene	ND	1	0.2
o-Xylene	ND	1	0.1
Total Xylene	ND		
Total BTEX	ND		

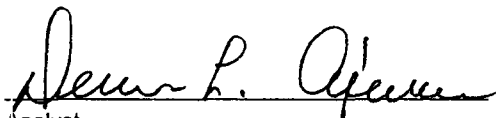
ND - Parameter not detected at the stated detection limit.

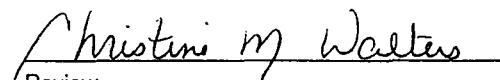
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	100 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: Masden GC # 1E.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / Cross Timbers	Project #:	403410
Sample ID:	MW #2	Date Reported:	11-07-99
Chain of Custody:	7310	Date Sampled:	11-04-99
Laboratory Number:	G377	Date Received:	11-04-99
Sample Matrix:	Water	Date Analyzed:	11-05-99
Preservative:	HgCl ₂ & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	ND	1	0.2
Toluene	ND	1	0.2
Ethylbenzene	ND	1	0.2
p,m-Xylene	ND	1	0.2
o-Xylene	ND	1	0.1
Total Xylene	ND		
Total BTEX	ND		

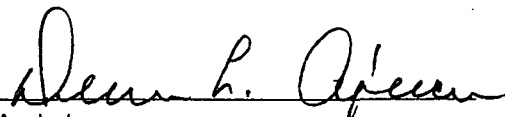
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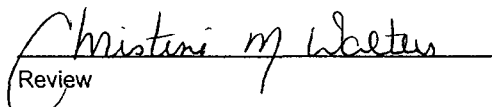
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	97 %
	Bromofluorobenzene	97 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: Masden GC # 1E.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / Cross Timbers	Project #:	403410
Sample ID:	MW #3	Date Reported:	11-07-99
Chain of Custody:	7310	Date Sampled:	11-04-99
Laboratory Number:	G378	Date Received:	11-04-99
Sample Matrix:	Water	Date Analyzed:	11-05-99
Preservative:	HgCl ₂ & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	ND	1	0.2
Toluene	ND	1	0.2
Ethylbenzene	ND	1	0.2
p,m-Xylene	ND	1	0.2
o-Xylene	ND	1	0.1
Total Xylene	ND		
Total BTEX	ND		

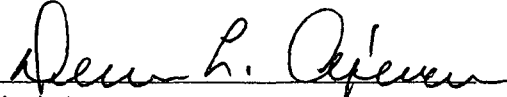
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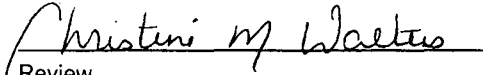
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	99 %
	Bromofluorobenzene	99 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: Masden GC # 1E.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

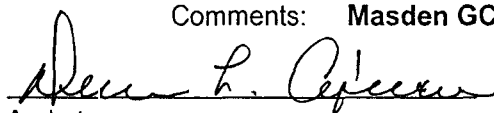
CATION / ANION ANALYSIS

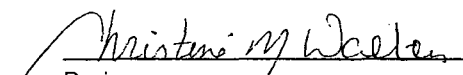
Client:	Blagg / Cross Timbers	Project #:	403410
Sample ID:	MW #1	Date Reported:	11-08-99
Laboratory Number:	G376	Date Sampled:	11-04-99
Chain of Custody:	7310	Date Received:	11-04-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-05-99
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	7.47	s.u.		
Conductivity @ 25° C	20,230	umhos/cm		
Total Dissolved Solids @ 180C	10,150	mg/L		
Total Dissolved Solids (Calc)	10,097	mg/L		
SAR	38.9	ratio		
Total Alkalinity as CaCO3	516	mg/L		
Total Hardness as CaCO3	1,020	mg/L		
Bicarbonate as HCO3	516	mg/L	8.46	meq/L
Carbonate as CO3	<1	mg/L	0.00	meq/L
Hydroxide as OH	<1	mg/L	0.00	meq/L
Nitrate Nitrogen	0.6	mg/L	0.01	meq/L
Nitrite Nitrogen	0.007	mg/L	0.00	meq/L
Chloride	1.3	mg/L	0.04	meq/L
Fluoride	9.10	mg/L	0.48	meq/L
Phosphate	0.3	mg/L	0.01	meq/L
Sulfate	6,580	mg/L	137.00	meq/L
Iron	<0.001	mg/L		
Calcium	96.8	mg/L	4.83	meq/L
Magnesium	189	mg/L	15.55	meq/L
Potassium	52.1	mg/L	1.33	meq/L
Sodium	2,855	mg/L	124.19	meq/L
Cations			145.91	meq/L
Anions			145.99	meq/L
Cation/Anion Difference			0.05%	

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: Masden GC # 1E.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

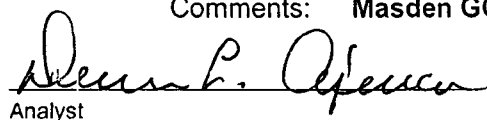
CATION / ANION ANALYSIS

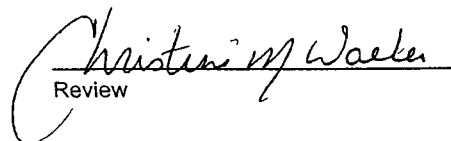
Client:	Blagg / Cross Timbers	Project #:	403410
Sample ID:	MW #2	Date Reported:	11-08-99
Laboratory Number:	G377	Date Sampled:	11-04-99
Chain of Custody:	7310	Date Received:	11-04-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-05-99
Condition:	Cool & Intact		

Parameter	Analytical Result	Units	Units
pH	7.50	s.u.	
Conductivity @ 25° C	15,100	umhos/cm	
Total Dissolved Solids @ 180C	7,540	mg/L	
Total Dissolved Solids (Calc)	7,481	mg/L	
SAR	31.9	ratio	
Total Alkalinity as CaCO3	518	mg/L	
Total Hardness as CaCO3	821	mg/L	
Bicarbonate as HCO3	518	mg/L	8.49 meq/L
Carbonate as CO3	<1	mg/L	0.00 meq/L
Hydroxide as OH	<1	mg/L	0.00 meq/L
Nitrate Nitrogen	<0.1	mg/L	0.00 meq/L
Nitrite Nitrogen	0.003	mg/L	0.00 meq/L
Chloride	1.3	mg/L	0.04 meq/L
Fluoride	2.13	mg/L	0.11 meq/L
Phosphate	0.1	mg/L	0.00 meq/L
Sulfate	4,800	mg/L	99.94 meq/L
Iron	<0.001	mg/L	
Calcium	79.8	mg/L	3.98 meq/L
Magnesium	151	mg/L	12.43 meq/L
Potassium	34.2	mg/L	0.87 meq/L
Sodium	2,098	mg/L	91.26 meq/L
Cations			108.55 meq/L
Anions			108.58 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: Masden GC # 1E.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

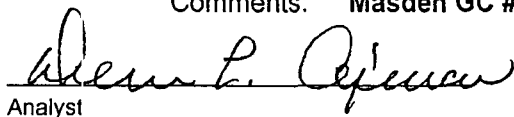
CATION / ANION ANALYSIS

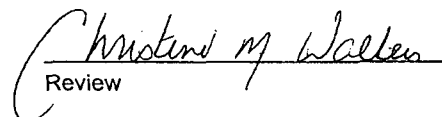
Client:	Blagg / Cross Timbers	Project #:	403410
Sample ID:	MW #3	Date Reported:	11-08-99
Laboratory Number:	G378	Date Sampled:	11-04-99
Chain of Custody:	7310	Date Received:	11-04-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-05-99
Condition:	Cool & Intact		

Parameter	Analytical Result	Units	Units
pH	7.23	s.u.	
Conductivity @ 25° C	17,620	umhos/cm	
Total Dissolved Solids @ 180C	8,800	mg/L	
Total Dissolved Solids (Calc)	8,739	mg/L	
SAR	37.6	ratio	
Total Alkalinity as CaCO3	580	mg/L	
Total Hardness as CaCO3	827	mg/L	
Bicarbonate as HCO3	580	mg/L	9.51 meq/L
Carbonate as CO3	<1	mg/L	0.00 meq/L
Hydroxide as OH	<1	mg/L	0.00 meq/L
Nitrate Nitrogen	<0.1	mg/L	0.00 meq/L
Nitrite Nitrogen	0.003	mg/L	0.00 meq/L
Chloride	1.7	mg/L	0.05 meq/L
Fluoride	1.95	mg/L	0.10 meq/L
Phosphate	0.3	mg/L	0.01 meq/L
Sulfate	5,600	mg/L	116.59 meq/L
Iron	0.212	mg/L	
Calcium	80.4	mg/L	4.01 meq/L
Magnesium	152	mg/L	12.51 meq/L
Potassium	68.7	mg/L	1.76 meq/L
Sodium	2,482	mg/L	107.97 meq/L
Cations			126.24 meq/L
Anions			126.26 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.
Water And Waste Water", 18th ed., 1992.

Comments: Masden GC # 1E.


Analyst


Review

73. J

ENVIROTECH INC.

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

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS QUALITY ASSURANCE REPORT

Client:	N/A	Project #:	N/A
Sample ID:	11-05-BTEX QA/QC	Date Reported:	11-07-99
Laboratory Number:	G373	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	11-05-99
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF	C-Cal RF	%Diff	Blank Conc	Detect Limit
		Accept Range 0 - 15%			
Benzene	1.5053E-001	1.5102E-001	0.32%	ND	0.2
Toluene	3.0995E-001	3.1001E-001	0.02%	ND	0.2
Ethylbenzene	8.9920E-002	9.0028E-002	0.12%	ND	0.2
p,m-Xylene	2.7841E-001	2.7847E-001	0.02%	ND	0.2
o-Xylene	2.6467E-002	2.6546E-002	0.30%	ND	0.1

Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff	Accept Limit
Benzene	ND	ND	0.0%	0 - 30%
Toluene	ND	ND	0.0%	0 - 30%
Ethylbenzene	ND	ND	0.0%	0 - 30%
p,m-Xylene	ND	ND	0.0%	0 - 30%
o-Xylene	ND	ND	0.0%	0 - 30%

Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Benzene	ND	50.0	50.0	100%	39 - 150
Toluene	ND	50.0	50.0	100%	46 - 148
Ethylbenzene	ND	50.0	50.0	100%	32 - 160
p,m-Xylene	ND	100.0	100	100%	46 - 148
o-Xylene	ND	50.0	50.0	100%	46 - 148

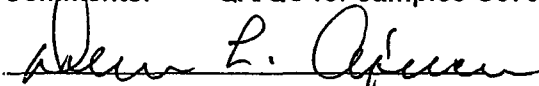
ND - Parameter not detected at the stated detection limit.

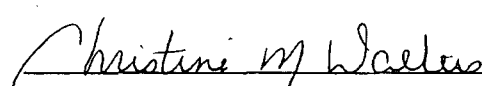
" - Administrative level set at 80 - 120.

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for samples G373 - G378.


Analyst


Review

J

5796 US HWY. 84, FARMINGTON, NM 87401
(505) 632-0615

94127

122

JOB No: 92140
PAGE No: 1 of 1

EQUIPMENT USED: Backhoe w/ 24"

DATE STARTED: 5/11/92
DATE FINISHED: 5/11/92
ENVIRO. SPCLT: 128
OPERATOR: DB
ASSISTANT: LT

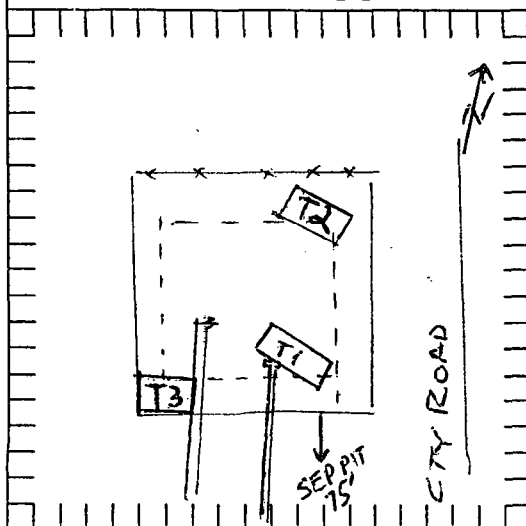
LOCATION: LSE: Madden Gas WELL: 1E QD: NW 1/4 NW 1/4
SEC: 28 TWP: T29N RNG: R11W PM: KMPMCNTY ST: NM PIT: BLOW PIT

LAND USE: Rangeland w/ excess alkalinity soils

SURFACE CONDITIONS: Unlined earthen pit (60' x 60') with water imp.

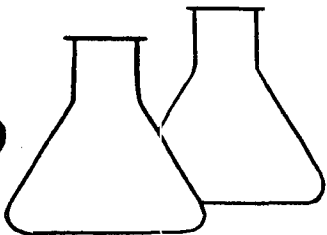
[illegible][illegible]

SITE DIAGRAM



TH#:	SOIL TYPE:	SMPL TYPE:	OVM/TPH
1	SW		
2	INTERIOR PIT AREA		
3	GW	537	850
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SOIL TYPE: C - Clay, M - SIL, S - Sand, G - Gravel Plasticity: L - None, H - Plastic Grading: P - Poorly, W - Well



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EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
HEADSPACE EXTRACTION

Client:	AMOCO	Project #:	92140
Sample ID:	T1 @ 5'	Date Reported:	08-31-92
Laboratory Number:	0604	Date Sampled:	05-11-92
Sample Matrix:	Soil	Date Received:	05-11-92
Preservative:	NA	Date Analyzed:	07-09-92
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	77	1.6
Toluene	870	1.6
Ethylbenzene	ND	1.6
p,m-Xylene	940	12.0
o-Xylene	225	1.6

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

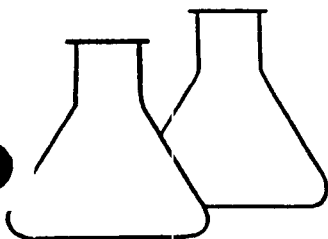
Method 8020, Aromatic Volatile Organics, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

Comments: Masden Gas Com 1E---Blow Pit---94127

Al Chaharley
Analyst

Marion D Young
Review



ENVIROTECH LABS

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PHONE: (505) 632-0615 • FAX: (505) 632-1865

TOTAL RECOVERABLE PETROLEUM HYDROCARBON

Client: Amoco
Sample ID: T1 @GW
Laboratory Number: 0607
Analysis Requested: 418.1
Sample Matrix: Water
Condition: Received on Ice

Report Date: 5-14-92
Date Sampled: 5-11-92
Date Received: 5-11-92
Date Extracted: 5-12-92
Date Analyzed: 5-12-92
Preservative: HCl

Parameter	Concentration (mg/l)	Det. Limit (mg/l)
Total Recoverable Petroleum Hydrocarbons	206.0	10.0

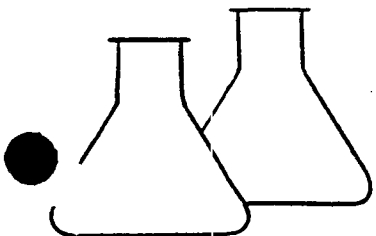
Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978

ND - Parameter not detected at the stated detection limit.

Comments: Masden Gas 1E - Blow Pit

Michael J. Em
Analyst

Maris D. Young
Review



ENVIROTECH LABS

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PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:
Sample ID: T-2 @ 5'
Laboratory Number: 0606
Sample Matrix: Soil
Preservative: Cool
Condition: Cool & Intact

Project #: 92140
Date Reported: 06-13-92
Date Sampled: 05-11-92
Date Received: NA
Date Analyzed: 06-05-92
Analysis Needed: TPH

Parameter -----	Concentration (mg/kg) -----	Det. Limit (mg/kg) -----
Total Petroleum Hydrocarbons	0.0	5.0

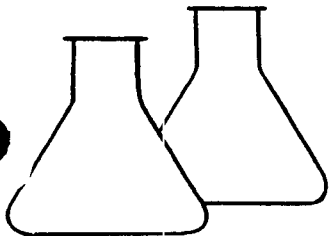
Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

ND - Parameter not detected at the stated detection limit.

Comments: Masden Gas 1-E Blow Pit 94127

Tony Tristano
Analyst

Val Sansonetti
Review



ENVIROTECH LABS

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EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	T2 @ GW	Date Reported:	08-21-92
Laboratory Number:	0605	Date Sampled:	05-11-92
Sample Matrix:	Water	Date Received:	05-11-92
Preservative:	HgCl & Cool	Date Analyzed:	06-25-92
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	ND	20.0
Toluene	ND	130.0
Ethylbenzene	ND	30.0
p,m-Xylene	ND	70.0
o-Xylene	ND	40.0

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	99.8 %
	Bromfluorobenzene	86.7 %

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: Masden Gas 1E---Blow Pit---94127

Robert M. Young
Analyst

Marian D. Young
Review

CHAIN OF CUSTODY RECORD

94127

Client/Project Name		Project Location		ANALYSIS/PARAMETERS											
AMOCO 102140		BLOW PIT													
Sampler: (Signature)		Marden Gas LE													
Jay Bernally		Chain of Custody Tape No. 102140													
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BEST	HEAD	8020	TPH/400						Remarks
TLC 5'	5/11/92	1550	0604	SOIL	1	✓									
TLC GW	5/11/92	1625	0605	WATER	2			✓							
TLC 5'	5/11/92	1625	0606	SOIL	1				✓						
TLC GW	5/11/92	1555	0607	WATER	1				✓						
TRAVEL PUC	5/10/92		0608	WATER	1			✓							
TRAVEL BUC	5/10/92		0609	SOIL	1			✓							
EQUIPMENT BUC	5/11/92	1640	0610	WATER	1				✓						
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time					
Jay Bernally		5/11/92		1730		Michael J. E.		5-11-92		1730					
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

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

C4127
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: MASDEN GC #1E
Well Name

Location: Unit or Qtr/Qtr Sec D Sec 28 T29N R11W County SAN JUAN

Pit Type: Separator Dehydrator Other BLOW

Land Type: BLM, State, Fee, other FEE

Pit Location: Pit dimensions: length 45, width 50, depth 7'
(attach diagram)

Reference: wellhead X, other

Footage from reference: 280'

Direction from reference: 8 Degrees X East North X
of
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) 0

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): 30

Date Remediation Started: _____ Date Completed: 12/6/93Remediation Method: Excavation ☒ Approx. cubic yards 350

(Check all appropriate sections)

Landfarmed ☒

Insitu Bioremediation _____

Other _____

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

General Description Of Remedial Action: _____

Excavation . GROUNDWATER IMPACT .

Ground Water Encountered:

No _____

Yes ☒Depth 5'

Final Pit:

Sample location see Attached Documents

Closure Sampling:

(if multiple samples,
attach sample results
and diagram of sample
locations and depths)MULTIPLE SAMPLES

Sample depth _____

Sample date _____

Sample time _____

Sample Results

Benzene(ppm) _____

Total BTEX(ppm) _____

Field headspace(ppm) _____

TPH _____

Ground Water Sample: Yes ☒ No _____ (If yes, attach sample results)I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST
OF MY KNOWLEDGE AND BELIEFDATE 2/14/00 ^{nu}

SIGNATURE

B. ShawPRINTED NAME
AND TITLEBuddy D. Shaw
Environmental Coordinator

12/7/93 LAB RESULTS TO PAUL U. - WATER CLEAN AS OF 12/3 SAMPLE,

ENVIROTECH Inc.

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

PIT NO: C4127

C.G.C. NO: 3191
3240

FIELD REPORT CLOSURE VERIFICATION

JOB No: 92140
PAGE No: 1 of 1

LOCATION: LEASE: MASDEN GAS COM WELL #1E QD: NW/4, NW/4,
SEC: 28 TWP: 29N RNG: 11W BM: NM CNTY: SJ ST: NM PIT: BLW
CONTRACTOR: PAUL VELASQUEZ
EQUIPMENT USED: EXCAVATOR

DATE STARTED: 11-15-93
DATE FINISHED: 12-3-93

ENVIRONMENTAL
SPECIALIST: REO

SOIL REMEDIATION: QUANTITY: 350 cu yd
DISPOSAL FACILITY: STACKED ON SITE 91V LANDFILL
LAND USE: FARMING
SURFACE CONDITIONS: EXCAVATED PRIOR TO ARRIVAL

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 280 FEET NORTH FROM WELLHEAD.
PIT EXCAVATED - GROUNDWATER AT 5 FEET. WATER SAMPLE COLLECTED

12-3-93: COLLECT WATER SAMPLE AGAIN. - POND COVERED WITH ICE.

FIELD 418.1 CALCULATIONS

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

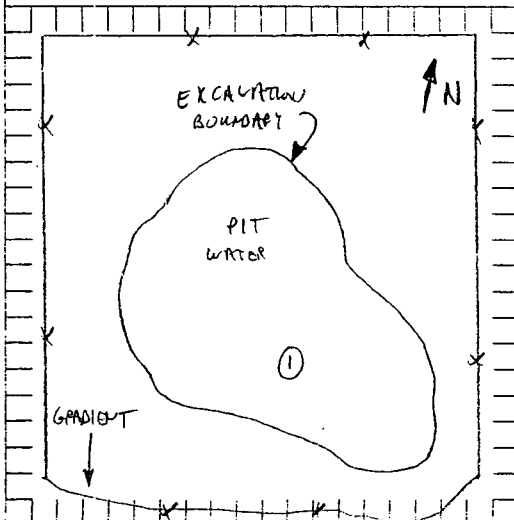
DEPTH TO GROUNDWATER: S > 100'
NEAREST WATER SOURCE: HOME 100' EAST 91V
NEAREST SURFACE WATER: < 1000'
NMHD RANKING SCORE: 220
NMHD TPA CLOSURE STD: 100 ppm TPH

SCALE



0 10 20 FEET

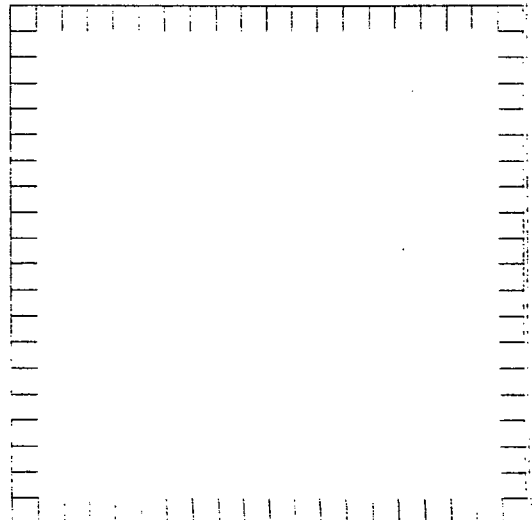
PIT PERIMETER



OVM
RESULTS

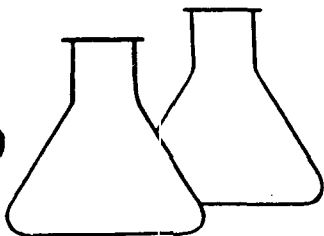
SAMPLE ID	FIELD HEADSPACE PID (ppm)
<u>11-15-93</u>	
<u>PIT @ 15'</u>	<u>BTEX</u>
	<u>WATER</u>
<u>12-3-93</u>	<u>LAB</u>
<u>PIT @ 5'</u>	<u>BTEX</u>
	<u>WATER</u>
<u>TEMP</u>	<u>6°C.</u>
<u>pH</u>	<u>7.8</u>
<u>COND.</u>	<u>9600</u>

PIT PROFILE



TRAVEL NOTES: CALLOUT: 11-15-93 P.V. ONSITE 11-15-93 1215 HRS

12-2-93 BY P.V. - ON SITE 12-3-93 0830



ENVIROTECH LABS

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PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	Pit @ 5'	Date Reported:	11-17-93
Laboratory Number:	6504	Date Sampled:	11-15-93
Sample Matrix:	Water	Date Received:	11-15-93
Preservative:	HgCl and Cool	Date Analyzed:	11-16-93
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	147	0.2
Toluene	760	0.3
Ethylbenzene	22.9	0.2
p,m-Xylene	421	0.2
o-Xylene	125	0.2

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	95 %
	Bromofluorobenzene	100 %

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

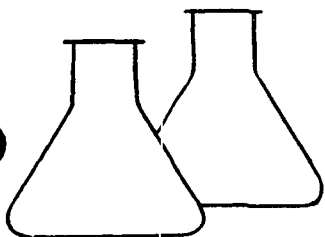
Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

Comments: Masden Gas Com #1E C4127

Dawn L. Gorman
Analyst

Morris D. Young
Review



ENVIROTECH LABS

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PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	Pit @ 5'	Date Reported:	12-06-93
Laboratory Number:	6611	Date Sampled:	12-03-93
Sample Matrix:	Water	Date Received:	12-03-93
Preservative:	HgCl & Cool	Date Analyzed:	12-06-93
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	1.4	0.2
Toluene	25.3	0.6
Ethylbenzene	0.9	0.3
p,m-Xylene	10.6	0.5
o-Xylene	3.6	0.3

SURROGATE RECOVERIES:	Parameter	Percent Recovery
	Trifluorotoluene	99 %
	Bromofluorobenzene	97 %

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

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

ND - Parameter not detected at the stated detection limit.

Comments: Masden Gas Com #1E C4127

Dennis L. Givner
Analyst

Tony Testano
Review

CLIENT: CROSS TIMBERSBLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199LOCATION NO: C4127C.D.C. NO: 7686

FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: MASDEN GC WELL #: 1E PITS: BLOW
QUAD/UNIT: D SEC: 28 TWP: 29N RNG: 11W PM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: NW1/4 NW1/4 CONTRACTOR: P+SDATE STARTED: 2/16/00

DATE FINISHED: _____

ENVIRONMENTAL
SPECIALIST: NV/REP

SOIL REMEDIATION:

REMEDICATION SYSTEM: LANDFARMAPPROX. CUBIC YARDAGE: 350LAND USE: RANGELIFT DEPTH (ft): 1.5

FIELD NOTES & REMARKS:

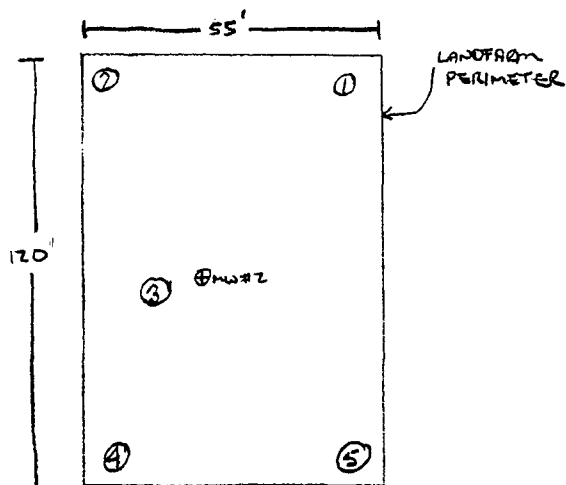
DEPTH TO GROUNDWATER: <50' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: <1000'NMOC D RANKING SCORE: 30 NMOC D TPH CLOSURE STD: 100 PPM

SAND AND GRAVEL. NO APPARENT STAINING OBSERVED, NO HC ODOR
DETECTED. SAMPLING DEPTHS RANGE FROM 6" - 16". COLLECTED A
5PT. COMPOSITE SAMPLE FOR LAB ANALYSIS.

CLOSED

FIELD 418.1 CALCULATIONS

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

SKETCH/SAMPLE LOCATIONS 

OVM RESULTS

LAB SAMPLES

SAMPLE ID	FIELD HEADSPACE PID (ppm)	SAMPLE ID	ANALYSIS	TIME	RESULTS
LF-1	0.0	LF-1	TPH (8015)	1110	ND

SCALE


0 FT

TRAVEL NOTES:

CALLOUT: NAONSITE: 2/16/00

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

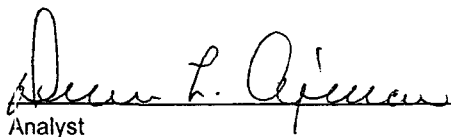
Client:	Blagg / Cross Timbers	Project #:	403410
Sample ID:	LF - 1	Date Reported:	02-18-00
Laboratory Number:	G840	Date Sampled:	02-16-00
Chain of Custody No:	7686	Date Received:	02-16-00
Sample Matrix:	Soil	Date Extracted:	02-17-00
Preservative:	Cool	Date Analyzed:	02-17-00
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

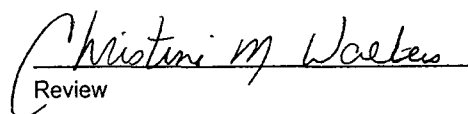
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.1

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Masden GC 1E 5 Pt. Composite.


Analyst


Review

7606

ENVIROTECH INC.

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	02-17-TPH QA/QC	Date Reported:	02-18-00
Laboratory Number:	G840	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	02-17-00
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept. Range
Gasoline Range C5 - C10	12-06-99	2.9455E-002	2.9425E-002	0.10%	0 - 15%
Diesel Range C10 - C28	12-06-99	2.9706E-002	2.9646E-002	0.20%	0 - 15%

Blank Conc. (mg/L - mg/Kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

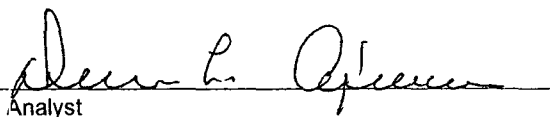
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

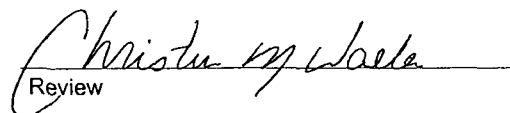
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: QA/QC for samples G840 and G855.


Analyst


Review