

3R - 124

REPORTS

DATE:
1999

CROSS TIMBERS OIL COMPANY

GROUNDWATER REMEDIATION REPORT

1999

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

RECEIVED

FEB 25 2000

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

***PREPARED FOR:
MR. WILLIAM C. OLSON
NEW MEXICO OIL CONSERVATION DIVISION***

FEBRUARY 2000

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

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

**Cross Timbers Oil Company (CTOC)
Masden GC # 1E - Blow Pit
Nw/4 Nw/4 Sec. 28, T29N, R11W**

<u>Site Assessment Date:</u>	May 11, 1992 (Documentation Included)
<u>Pit closure Date:</u>	Nov.-Dec., 1993 (Documentation Included)
<u>Monitor Well Installation Date:</u>	Sept. 24 & Oct. 14, 1999
<u>Monitor Well Sampling Date:</u>	November 4, 1999

Groundwater Monitor Well Sampling Procedures:

Groundwater samples were collected from site monitor wells (MW's) following USEPA: SW-846 protocol. The samples were collected using new disposable bailers and placed in new laboratory supplied 40 ml glass vials with teflon septa caps. Samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) per USEPA Method 8021. Additional groundwater was collected and placed in laboratory supplied 500 ml plastic containers and analyzed for general water quality per USEPA Method 600/4-79-020. The samples were preserved cool (BTEX samples also preserved with mercuric chloride) and hand delivered to a qualified laboratory for testing. Waste generated during monitor well sampling and development was disposed of utilizing the separator tank pit located on the well site.

Water Quality Information:

The BTEX results for all three (3) MW's during the November 4, 1999 sampling event were non detectable at practical quantitation limits. The general water quality results did meet New Mexico Water Quality Control Commission's allowable concentration for groundwater or was less than/statistically equal to the apparent background levels derived from MW #1.

Summary and/or Recommendations:

Based on the enclosed documentation, the groundwater within the blow pit area appears to meet all the criteria for permanent closure. All aspects of the NMOCD previously approved groundwater management plan has been adhered to. Therefore, CTOC is requesting permanent closure status for this pit.

CROSS TIMBERS OIL CO. 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

**GENERAL WATER QUALITY
CROSS TIMBERS OIL COMPANY**

MASDEN GC # 1E

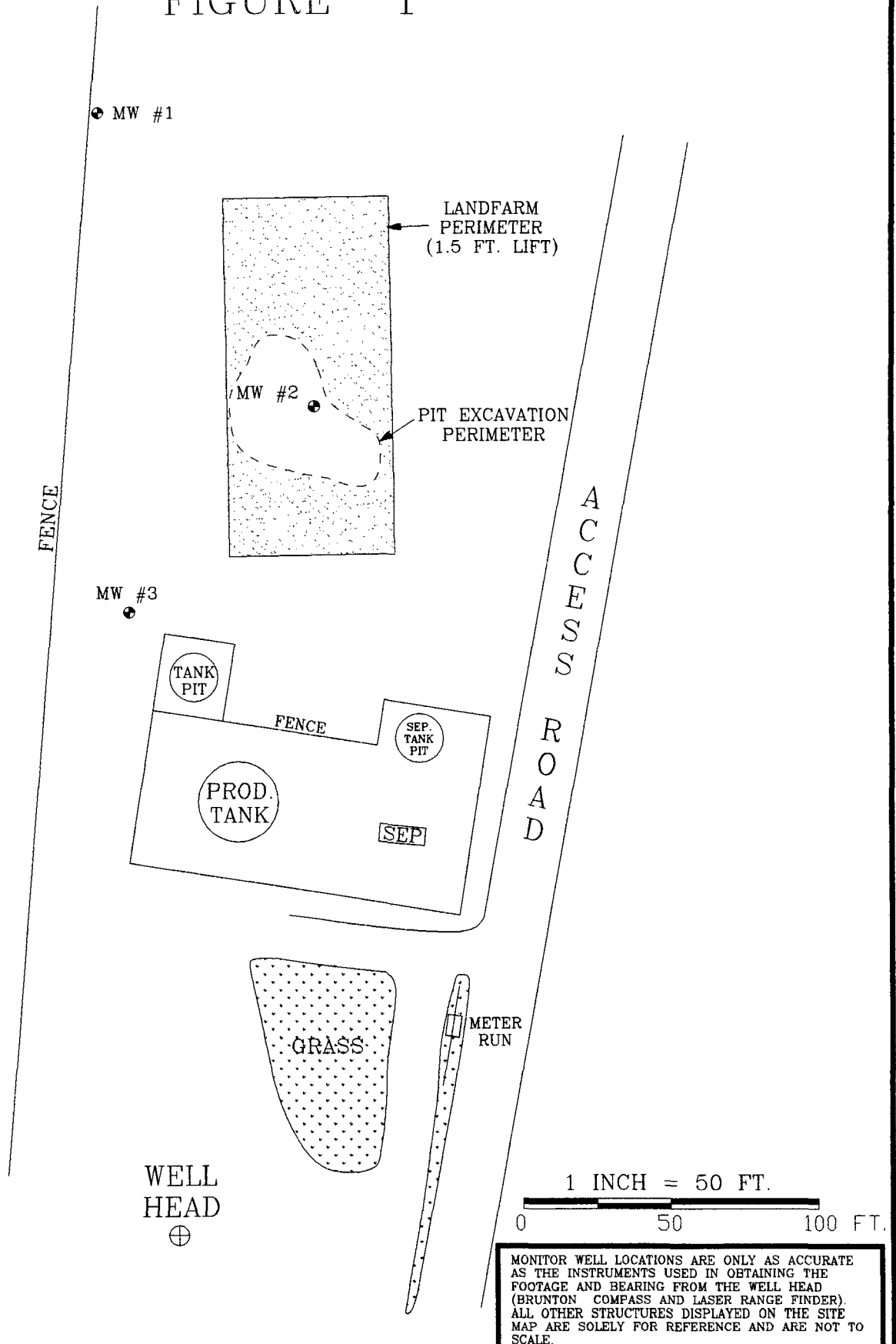
SAMPLE DATE : November 4 , 1999

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



CROSS TIMBERS OIL COMPANY

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.

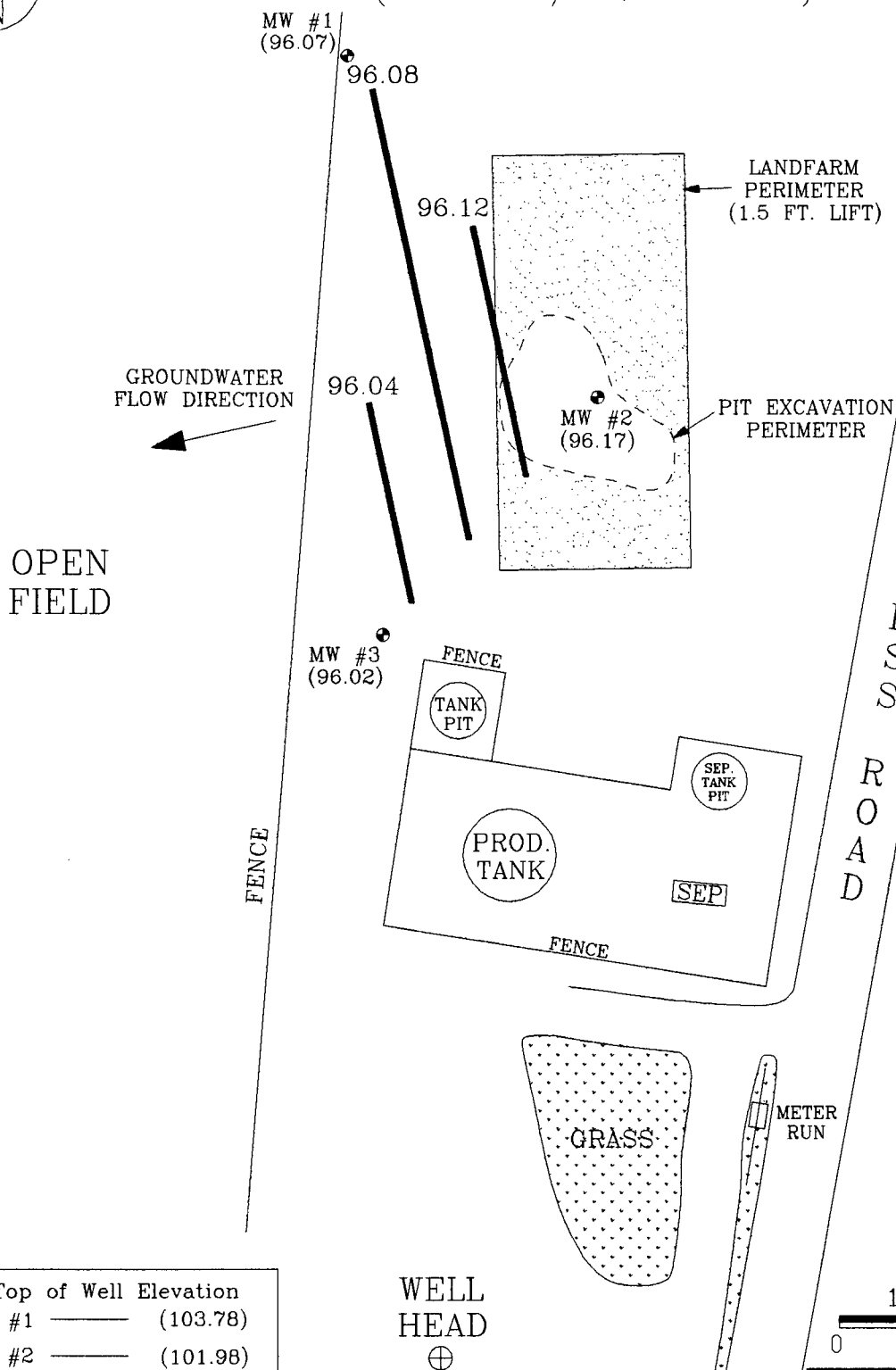
DRAWN BY: NJV

FILENAME: MA-1E-SM.SKD

SITE
MAP

10/99

FIGURE 2 (4th 1/4, 1999)



Top of Well Elevation	
MW #1	(103.78)
MW #2	(101.98)
MW #3	(100.97)

● MW #1 Groundwater Elevation
(96.07) as of 11/4/99.

1 INCH = 50 FT.
0 50 100 FT.

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

CROSS TIMBERS OIL COMPANY
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

BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

CLIENT: CROSS TIMBERS OIL COMPANY
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			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			TD 5.75	SAME AS ABOVE EXCEPT WITH GRAVEL, SATURATED, (5.00 - 6.00 FT. INTERVAL).
7				
8				SAME AS ABOVE EXCEPT WITHOUT GRAVEL, (6.00 - 10.00 FT. INTERVAL).
9				
10				
11				SAME AS ABOVE EXCEPT WITH GRAVEL, SATURATED, (10.00 - 11.00 FT. INTERVAL).
12				
13				SAME AS ABOVE EXCEPT WITHOUT GRAVEL, (11.00 - 15.00 FT. INTERVAL).
14				
15				
16				
17				
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19				
20				
21				
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23				
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25				
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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.

BLAGG ENGINEERING, Inc.

P.O. BOX 87
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(505) 632-1199

BORE / TEST HOLE REPORT

CLIENT: CROSS TIMBERS OIL COMPANY
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

DEPTH FEET	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC	FIELD CLASSIFICATION AND REMARKS
				GROUND SURFACE
1			TOS 0.60	TOP OF CASING APPROX. 2.40 FT. ABOVE GROUND SURFACE.
2				MODERATE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 3.00 FT. INTERVAL).
3				▼ GW DEPTH ON 11/4/99 = 3.41 FT. (APPROX.) FROM GROUND SURFACE.
4				
5				
6				DARK GRAY SAND AND GRAVEL, NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM TO LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY (3.00 - 9.00 FT. INTERVAL).
7				
8				
9				
10				OLIVE GRAY SAND AND GRAVEL, NON COHESIVE, SATURATED, FIRM TO LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY (9.00 - 11.00 FT. INTERVAL).
11			TD 10.60	
12				
13				
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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.

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

BORE / TEST HOLE REPORT

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

CLIENT: CROSS TIMBERS OIL COMPANY
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.

DEPTH FEET	INTERVAL	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				SAME AS ABOVE EXCEPT WITHOUT GRAVEL, (11.00 - 15.00 FT. INTERVAL).
13				
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31				

NOTE:  - SAND.

 - SAND AND GRAVEL.

TOS - TOP OF SCREEN FROM GROUND SURFACE.

TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.

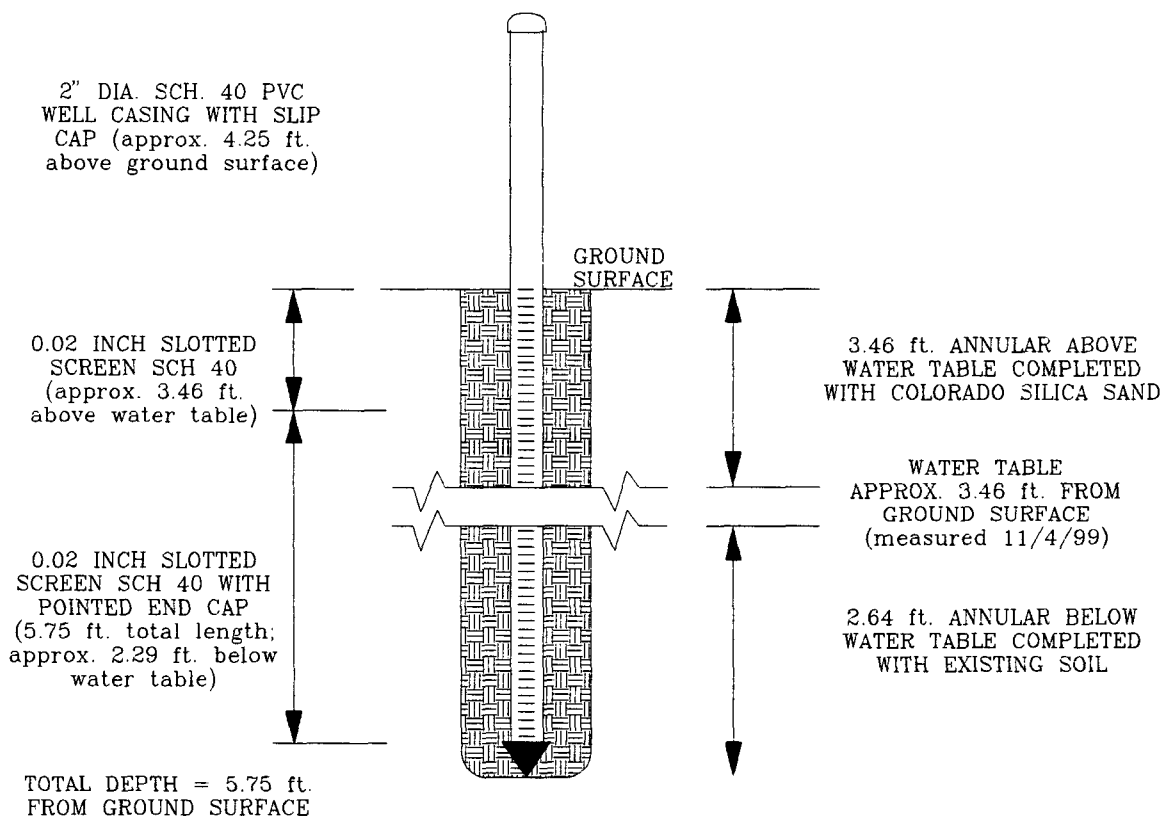
GW - GROUND WATER.

MONITOR WELL #1

CROSS TIMBERS OIL COMPANY
 MASDEN GC # 1E
 MONITOR WELL CONSTRUCTION & COMPLETION
 INSTALLED WITH MOBILE RIG

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

MONITOR WELL SCHEMATIC
 DRAFTED BY: NJV
 DATE: JAN. '00
 FILENAME: MW-1

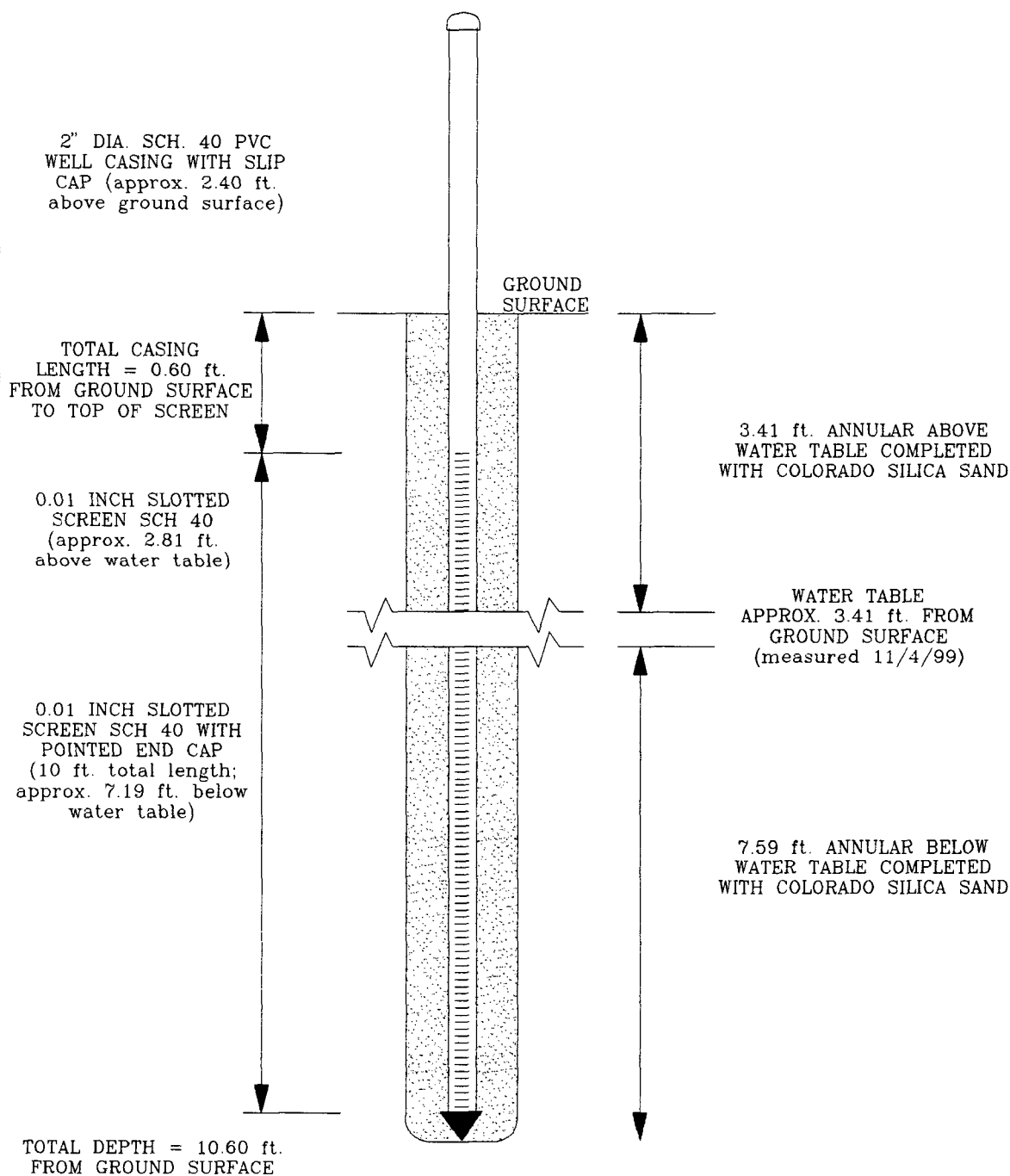


MONITOR WELL #2

CROSS TIMBERS OIL COMPANY
 MASDEN GC # 1E
 MONITOR WELL CONSTRUCTION & COMPLETION
 INSTALLED WITH MOBILE RIG

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

MONITOR WELL SCHEMATIC
 DRAFTED BY: NJV
 DATE: JAN. '00
 FILENAME: MW-2

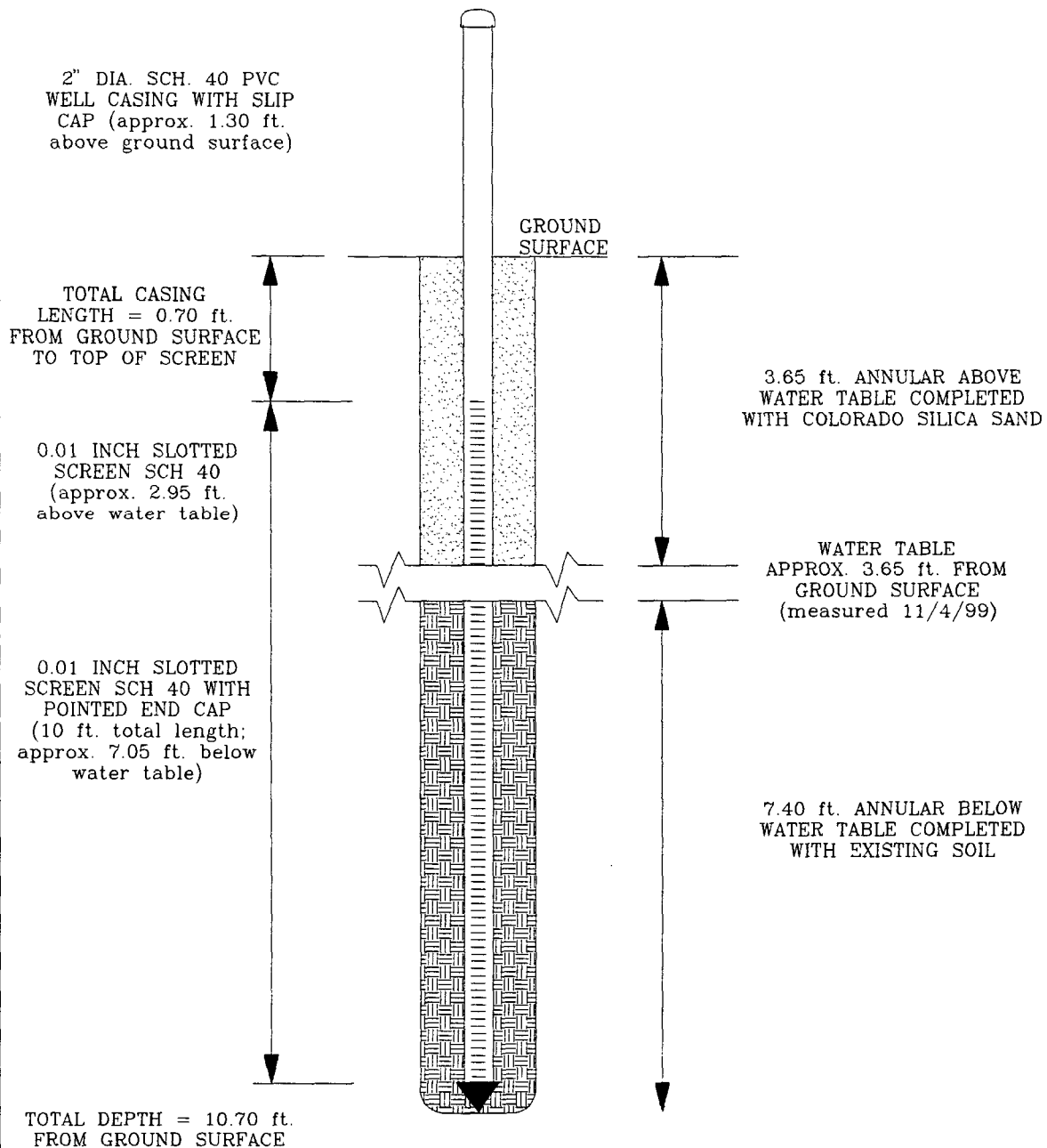


MONITOR WELL #3

CROSS TIMBERS OIL COMPANY
MASDEN GC # 1E
MONITOR WELL CONSTRUCTION & COMPLETION
INSTALLED WITH MOBILE RIG

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

MONITOR WELL SCHEMATIC
DRAFTED BY: NJV
DATE: JAN. '00
FILENAME: MW-3



BLAGG ENGINEERING, INC.**MONITOR WELL SAMPLING DATA**CLIENT : CROSS TIMBERS OIL CO.CHAIN-OF-CUSTODY # : 7310LOCATION : MASDEN GC # 1ELABORATORY (S) USED : ENVIROTECH, INC.Date : November 4, 1999SAMPLER : REPFilename : 11-04-99.WK4PROJECT 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:	HgCl2 & 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		

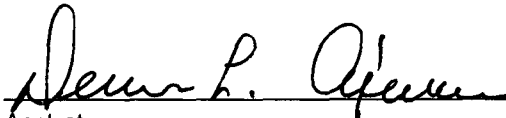
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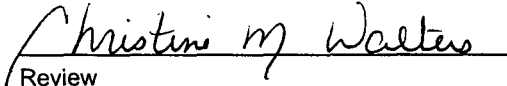
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	100 %

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		

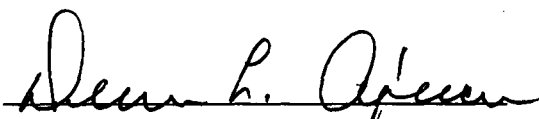
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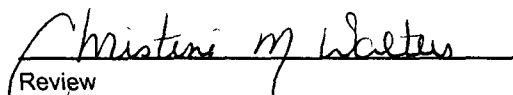
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	97 %
	Bromofluorobenzene	97 %

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		

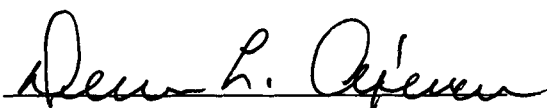
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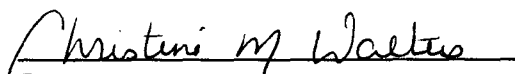
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	99 %
	Bromofluorobenzene	99 %

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

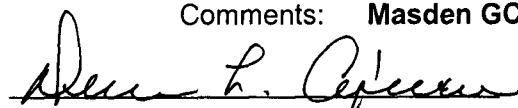
Client: Blagg / Cross Timbers
Sample ID: MW #1
Laboratory Number: G376
Chain of Custody: 7310
Sample Matrix: Water
Preservative: Cool
Condition: Cool & Intact

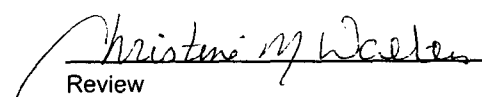
Project #: 403410
Date Reported: 11-08-99
Date Sampled: 11-04-99
Date Received: 11-04-99
Date Extracted: N/A
Date Analyzed: 11-05-99

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

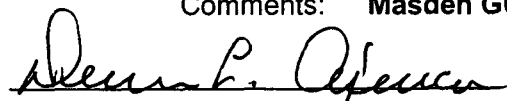
CATION / ANION ANALYSIS

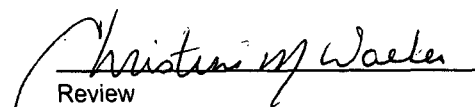
Client:	Blagg / Cross Timbers	Project #:	403410
Sample ID:	MW #2	Date Reported:	11-08-99
Laboratory Number:	G377	Date Sampled:	11-04-99
Chain of Custody:	7310	Date Received:	11-04-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-05-99
Condition:	Cool & Intact		

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

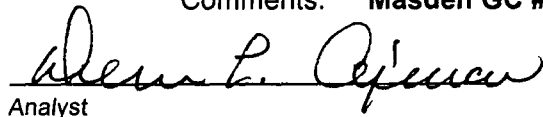
CATION / ANION ANALYSIS

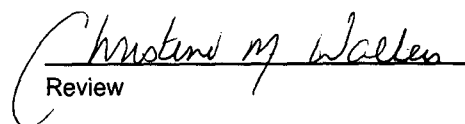
Client:	Blagg / Cross Timbers	Project #:	403410
Sample ID:	MW #3	Date Reported:	11-08-99
Laboratory Number:	G378	Date Sampled:	11-04-99
Chain of Custody:	7310	Date Received:	11-04-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-05-99
Condition:	Cool & Intact		

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

73.0

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

JJ

94127

1221

PAGE No: 1 of 1

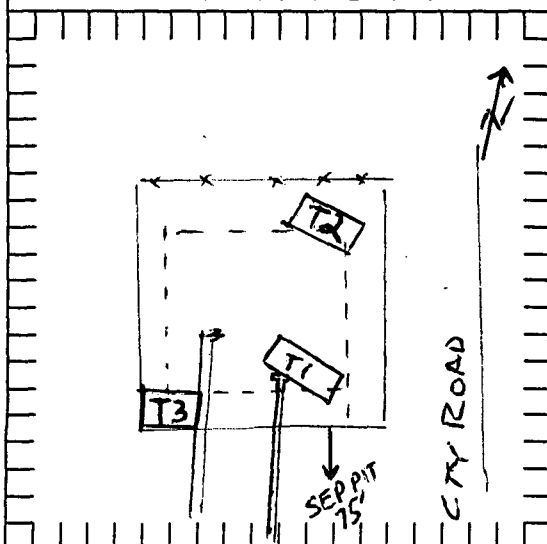
DATE STARTED: 5/11/92
DATE FINISHED: 5/11/92
ENVIRO. SPCLT: 12B
OPERATOR: DB
ASSISTANT: LT

LAND USE: Rangeland w/ excess alkalinity soils
SURFACE CONDITIONS: Unlined earthen pit (60' x 60') with water impit.

FIELD NOTES & REMARKS: T1 dug inside Blow pit area where groundwater was encountered 4'5' @ same depth as standing water in center of blow pit. T2 & T3 shows no contamination. All contamination is limited to immediate pit area.

SAMPLE INVENTORY:		
SMPL	SMPL	LABORATORY

SITE DIAGRAM

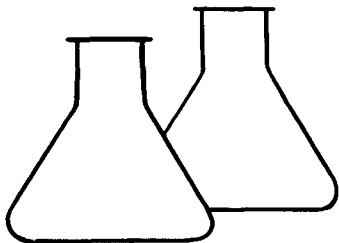


TH#:	SOIL TYPE:	SMPL TYPE:	QVM/TPH
1	SW		
2	INTERP PIT AREA		
3	SW		
4			
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99			
100			

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

Positivity: L - None, H - Positive

Grading: P - Poorly, W - Well



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

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

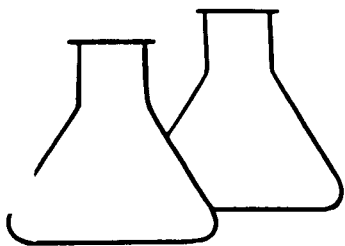
Method 8020, Aromatic Volatile Organics, Test Methods for
Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

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

Al Chabaling
Analyst

Marion D. Young
Review



ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
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

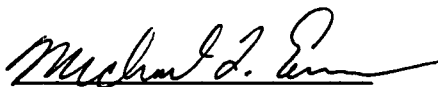
Report Date: 5-14-92
Date Sampled: 5-11-92
Date Received: 5-11-92
Date Extracted: 5-12-92
Date Analyzed: 5-12-92
Preservative: HCl

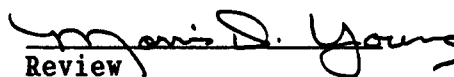
Parameter	Concentration (mg/l)	Det. Limit (mg/l)
Total Recoverable Petroleum Hydrocarbons	206.0	10.0

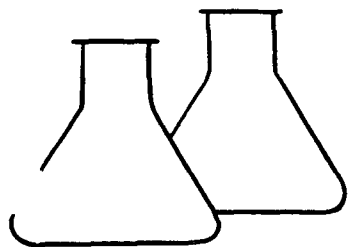
Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978

ND - Parameter not detected at the stated detection limit.

Comments: Masden Gas 1E - Blow Pit


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:	Project #:	92140
Sample ID: T-2 @ 5'	Date Reported:	06-13-92
Laboratory Number: 0606	Date Sampled:	05-11-92
Sample Matrix: Soil	Date Received:	NA
Preservative: Cool	Date Analyzed:	06-05-92
Condition: Cool & Intact	Analysis Needed:	TPH

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

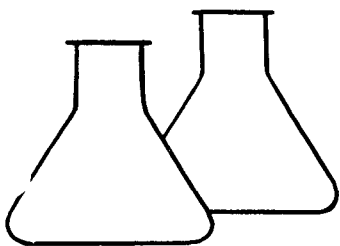
Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

ND - Parameter not detected at the stated detection limit.

Comments: Masden Gas 1-E Blow Pit 94127

Tony Tristano
Analyst

Val Samson
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:	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

M. D. Young
Review

CHAIN OF CUSTODY RECORD 94127

Client/Project Name		Project Location		ANALYSIS/PARAMETERS													
AMOCO / 92140		Blow Pit															
Sampler: (Signature)		Magdon Gas, JE															
Sample No./ Identification		Chain of Custody Tape No.															
Sample Date		Sample Time		Lab Number		Sample Matrix		No. of Containers		BETA HEAD		8020		TPH/421		Remarks	
T1C 5'		5/11/92 1550		0604		SOIL		1		✓							
T2C GW		5/11/92 1625		0605		WATER		2		✓							
T2C 5'		5/11/92 1625		0606		SOIL		1				✓					
T1C GW		5/11/92 1555		0607		WATER		1				✓					
TRAVEL BUC		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							
Ray Bernally		5/11/92		1730		Michael J. E.		5-11-92		1730							
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time							
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time							

ENVIROTECH INC.

5796 U.S. Highway 64-3014

Farmington, New Mexico 87401

(505) 632-0615

C4127

District I

P.O. Box 1980, Hobbs, NM

District II

P.O. 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 87504-2088SUBMIT 1 COPY TO
APPROPRIATE
DISTRICT OFFICE
AND 1 COPY TO
SANTA FE OFFICEPIT REMEDIATION AND CLOSURE REPORTOperator: Amoco Production Company Telephone: (505) - 326-9200Address: 200 Amoco Court, Farmington, New Mexico 87401Facility Or: MASDEN GC #1E

Well Name

Location: Unit or Qtr/Qtr Sec D Sec 28 T 29N R 11W County SAN JUANPit Type: Separator Dehydrator Other BLOWLand Type: BLM , State , Fee , Other FEEPit 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 DocumentsClosure Sampling: MULTIPLE SAMPLES

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

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 BELIEF

DATE 2/14/00

SIGNATURE

B. ShawPRINTED NAME
AND TITLEBuddy D. Shaw
Environmental Coordinator

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

ENVIROTECH Inc.

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

PIT NO: C4127

C.O.C. NO: 3191
3240

FIELD REPORT CLOSURE VERIFICATION

JOB NO: 92140
PAGE NO: 1 of 1

LOCATION: LEASE: MASDEN GAS CO. WELL # 1E QD NW/4, NW/4.
SEC: 28 TWP: 29N RNG: 11W BM: NM CNTY: SJ ST: NM PIT: BLW
CONTRACTOR: PAUL KINSCHER
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 LA-EXTRACTED
LAND USE: FARMING
SURFACE CONDITIONS: EXCAVATED PRIOR TO AVALANCH

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

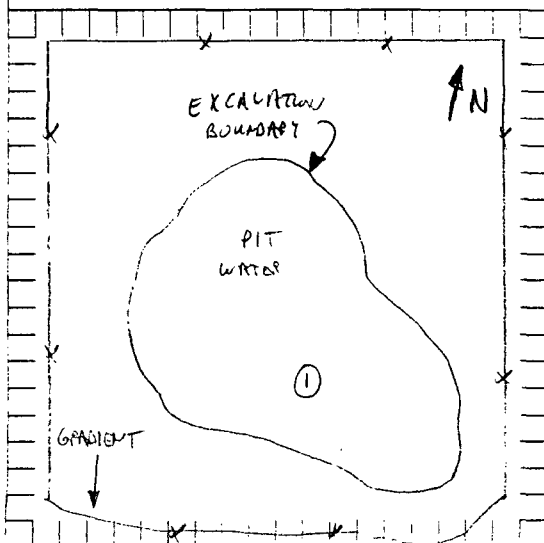
DEPTH TO GROUNDWATER: 5'
NEAREST WATER SOURCE HOME 100' 91V
NEAREST SURFACE WATER: <1000'
WIND RAINING SCORE >70
WIND TYP. CLOSURE STD: 100 ppm NH

SCALE



0 10 20 FEET

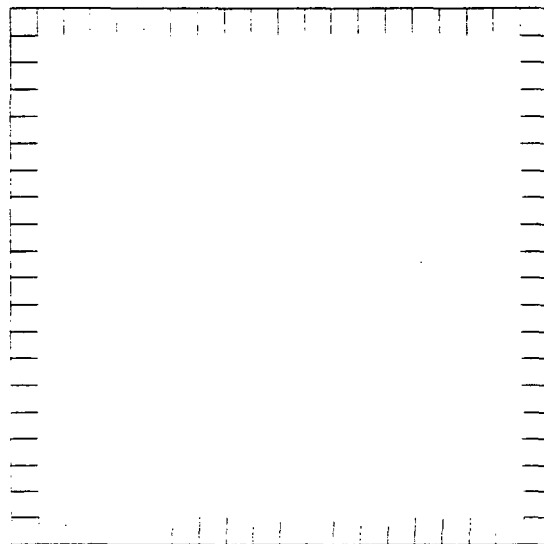
PIT PERIMETER



OVM
RESULTS

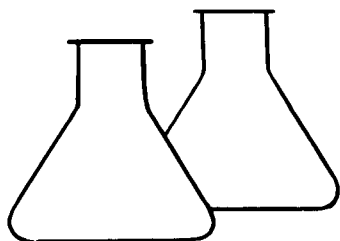
SAMPLE ID	FIELD HEADSPACE PID (ppm)
<u>11-15-93</u>	
<u>PIT @ 5'</u>	<u>BTEX</u>
	<u>WATER</u>
<u>12-3-93</u>	<u>LAB</u>
<u>PIT @ 5'</u>	<u>BTEX</u>
	<u>WATER</u>
<u>TEMP</u>	<u>6°C.</u>
<u>pH</u>	<u>7.8</u>
<u>COND.</u>	<u>9600</u>

PIT PROFILE



TRAVEL NOTES: CALLED: 11-15-93 P.V. ONSITE: 11-15-93 1215 PPS

12-2-93 BY P.V. - ONSITE 12-3-93 0830



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:	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

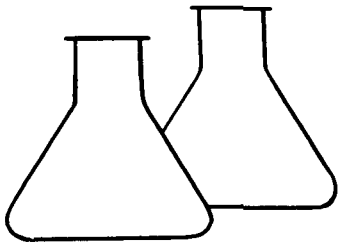
Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

Comments: Masden Gas Com #1E C4127

Devin L. Lawrence
Analyst

Morris D. Young
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:	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. Gerner
Analyst

Tony T. Tanton
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: BLOWDATE STARTED: 2/16/00QUAD/UNIT: D SEC: 28 TWP: 29N RNG: 11W PM: NM CNTY: SJ ST: NM

DATE FINISHED: _____

QTR/FOOTAGE: NW1/4 NW1/4CONTRACTOR: P+S

ENVIRONMENTAL

SPECIALIST: NV/REP

SOIL REMEDIATION:

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

FIELD NOTES & REMARKS:

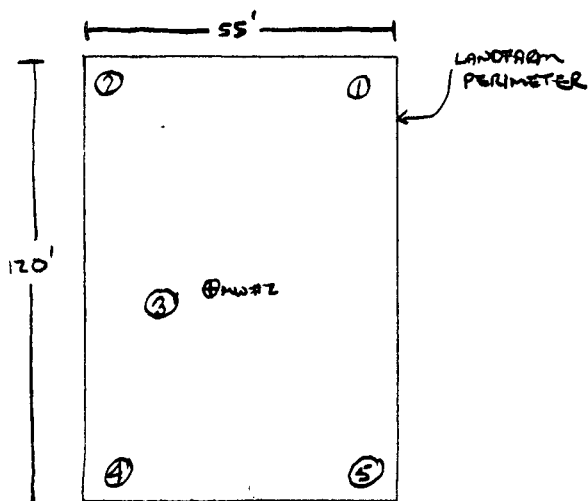
DEPTH TO GROUNDWATER: <50' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: <1000'NMDCD RANKING SCORE: 30 NMDCD TPH CLOSURE STD: 100 PPM

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

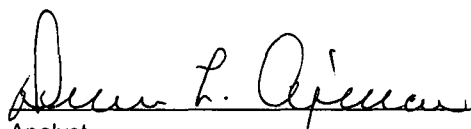
Client:	Blagg / Cross Timbers	Project #:	403410
Sample ID:	LF - 1	Date Reported:	02-18-00
Laboratory Number:	G840	Date Sampled:	02-16-00
Chain of Custody No:	7686	Date Received:	02-16-00
Sample Matrix:	Soil	Date Extracted:	02-17-00
Preservative:	Cool	Date Analyzed:	02-17-00
Condition:	Cool and Intact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

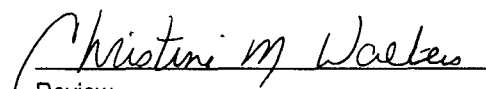
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.1

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

7686

[illegible]

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

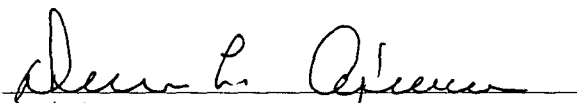
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

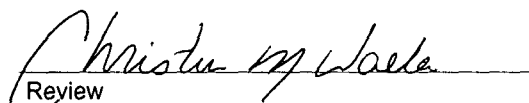
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100%	75 - 125%

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