3R - 121

REPORTS

DATE:
1999

CROSS TIMBERS OIL COMPANY

GROUNDWATER REMEDIATION REPORT

1999

McDANIEL GC B #1E
(F) SECTION 26, T29N, R10W, 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

PREPARD BY:
BLAGG ENGINEERING, INC.

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

Cross Timbers Oil Company (CTOC)
McDaniel GC B # 1E - Dehydrator Pit
Sw/4 Nw/4 Sec. 26, T29N, R10W

Pit closure Date: December 15, 1994 (Documentation Included)

Monitor Well Installation Date: October 12, 1999

Monitor Well Sampling Date: October 28, 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 place 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 October 28, 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 dehydrator 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.

McDANIEL GC B #1E - DEHY. PIT

UNIT F, SEC. 26, T29N, R10W

DRAFTED : DECEMBER 4, 1999

FILENAME: (MD-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
28-Oct-99	MW #1	4.04	14.00	2,060	4,180	7.2		ND	ND	ND	ND
28-Oct-99	MW #2	3.49	13.00	2,100	4,390	7.2		ND	ND	ND	ND
28-Oct-99	MW #3	1.82	12.12	1,620	3,270	7.3		ND	ND	ND	ND

GENERAL WATER QUALITY

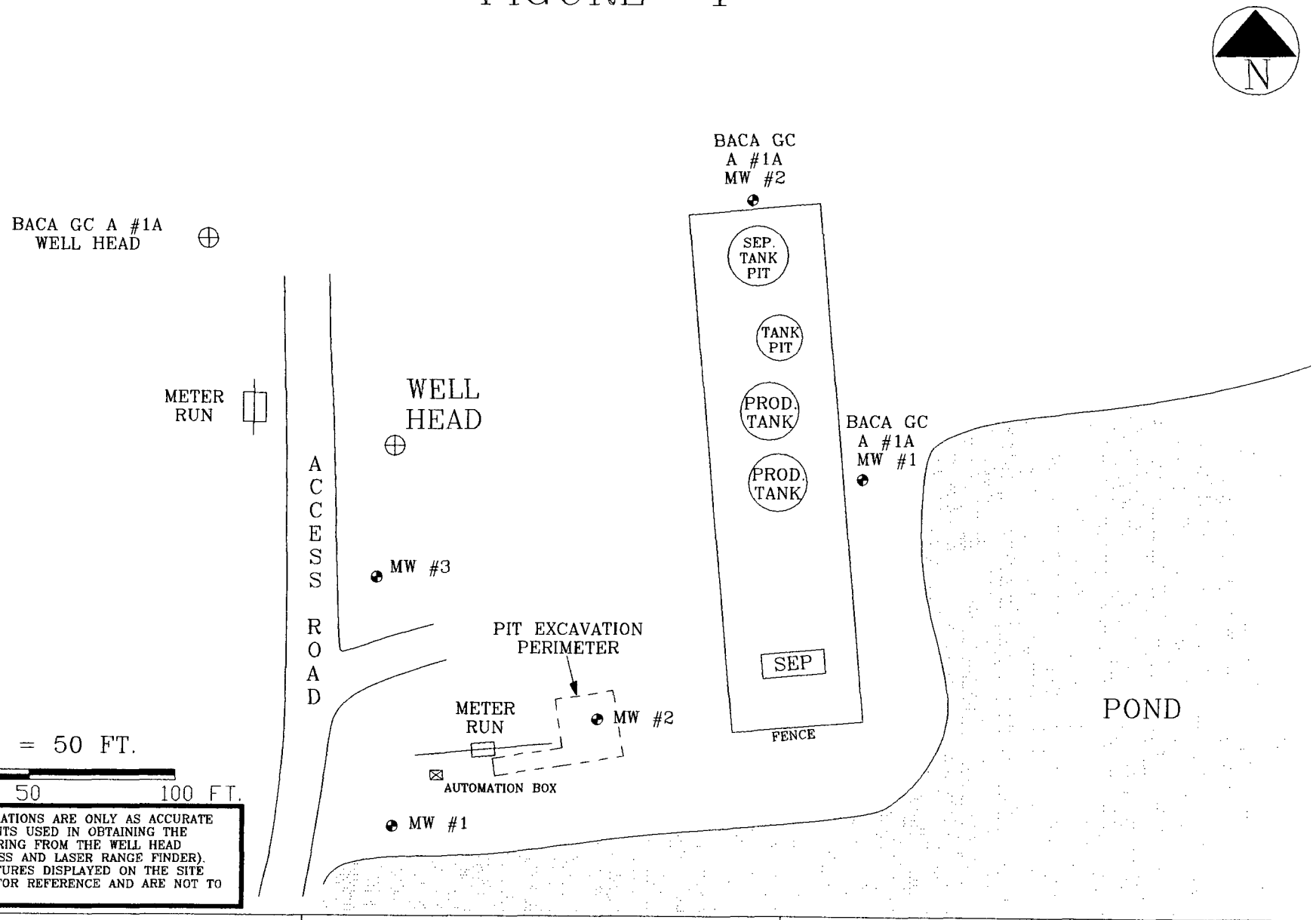
CROSS TIMBERS OIL COMPANY

McDANIEL GC B #1E

SAMPLE DATE : October 28 , 1999

PARAMETERS	MW # 1	MW # 2	MW # 3	Units
LAB pH	7.21	7.20	7.26	s. u.
LAB CONDUCTIVITY @ 25 C	4,180	4,390	3,270	umhos / cm
TOTAL DISSOLVED SOLIDS @ 180 C	2,060	2,100	1,620	mg / L
TOTAL DISSOLVED SOLIDS (Calc)	1,920	1,923	1,574	mg / L
SODIUM ABSORPTION RATIO	0.3	0.1	4.4	ratio
TOTAL ALKALINITY AS CaCO3	300	290	454	mg / L
TOTAL HARDNESS AS CaCO3	1,408	1,450	641	mg / L
BICARBONATE as HCO3	300	290	454	mg / L
CARBONATE AS CO3	< 1	< 1	< 1	mg / L
HYDROXIDE AS OH	< 1	< 1	< 1	mg / L
NITRATE NITROGEN	< 0.1	0.1	< 0.1	mg / L
NITRITE NITROGEN	< 0.001	0.015	< 0.001	mg / L
CHLORIDE	0.6	2.8	1.0	mg / L
FLUORIDE	1.82	1.95	1.96	mg / L
PHOSPHATE	0.4	0.4	0.9	mg / L
SULFATE	1,170	1,180	790	mg / L
IRON	0.001	< 0.001	< 0.001	mg / L
CALCIUM	486	493	213	mg / L
MAGNESIUM	46.9	52.7	26.4	mg / L
POTASSIUM	7.0	5.5	9.5	mg / L
SODIUM	25.0	10.3	255.0	mg / L
CATION / ANION DIFFERENCE	0.02	0.00	0.41	%

FIGURE 1



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

McDANIEL GC B #1E

SE/4 NW/4 SEC. 26, T29N, R10W

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.

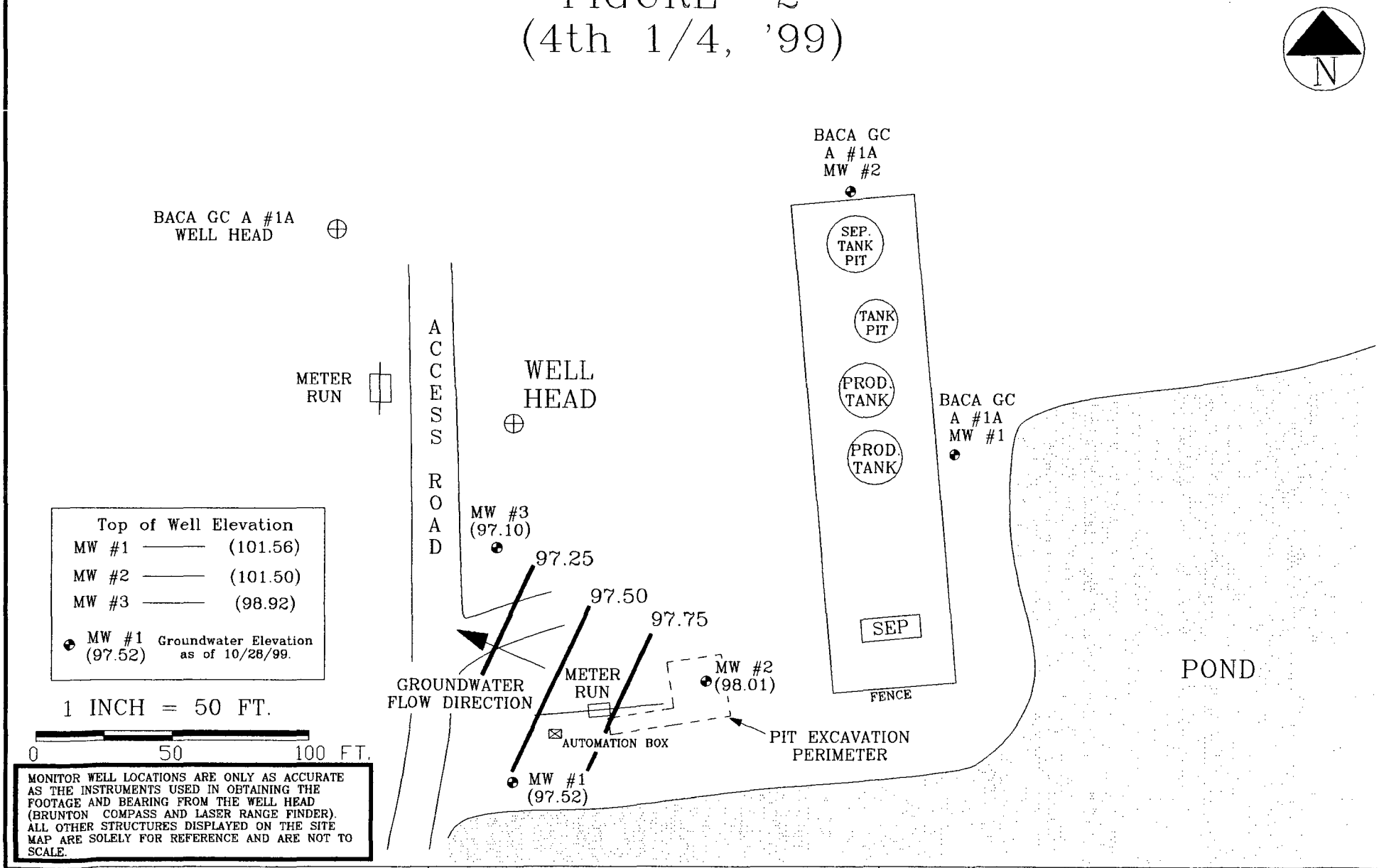
DRAWN BY: NJV

FILENAME: McDAN-SM.SKD

SITE MAP

10/99

FIGURE 2
(4th 1/4, '99)



CROSS TIMBERS OIL COMPANY

McDANIEL GC B #1E

SE/4 NW/4 SEC. 26, T29N, R10W

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: McDAN-GW.SKD

GROUNDWATER CONTOUR MAP

10/99

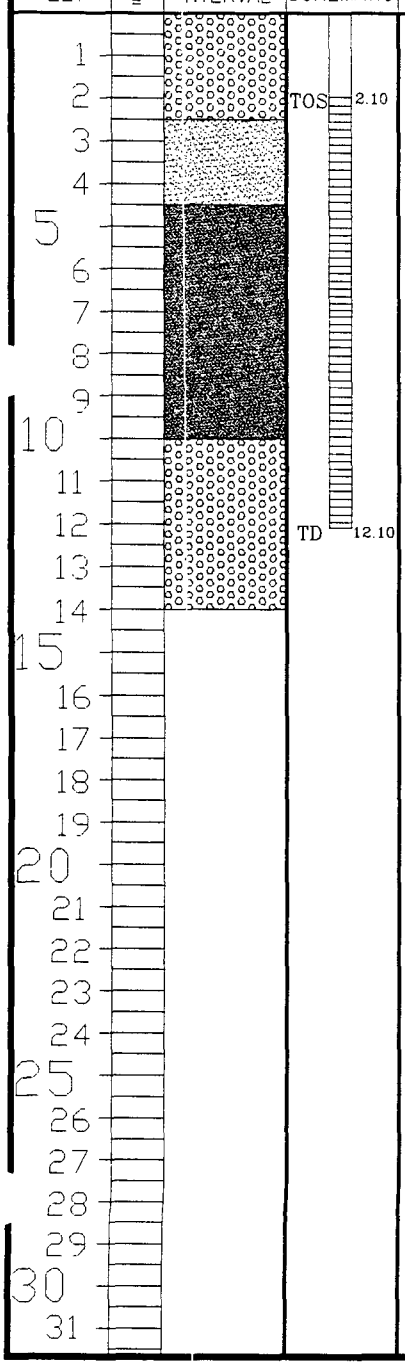
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

BORING #..... BH - 1
MW #..... 1
PAGE #..... 1
DATE STARTED 10/12/99
DATE FINISHED 10/12/99
OPERATOR..... DE
PREPARED BY NJV

CLIENT: CROSS TIMBERS OIL COMPANY
LOCATION NAME: McDANIEL GC B #1E
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (ENVIROTECH CME 61)
BORING LOCATION: 132 FT., DUE SOUTH FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 1.90 FT. ABOVE GROUND SURFACE.

▼ GW DEPTH ON 10/28/99 = 2.14 FT. (APPROX.) FROM GROUND SURFACE.

DARK YELLOWISH ORANGE SAND AND GRAVEL, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 2.50 FT. INTERVAL).

OLIVE GRAY SAND, NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM TO LOOSE, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (2.50 - 4.50 FT. INTERVAL).

DARK GRAY TO BLACK SAND, NON COHESIVE, SATURATED, FIRM TO LOOSE, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (4.50 - 10.00 FT. INTERVAL).

LIGHT GRAY SAND AND GRAVEL, NON COHESIVE, SATURATED, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (10.00 - 14.00 FT. INTERVAL).

NOTE:
- SAND.
- SAND (DISCOLORED).
- SAND AND GRAVEL.

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

DRAWING: BH-1.SKD | DATE: 1/19/00 | DWN BY: NJV

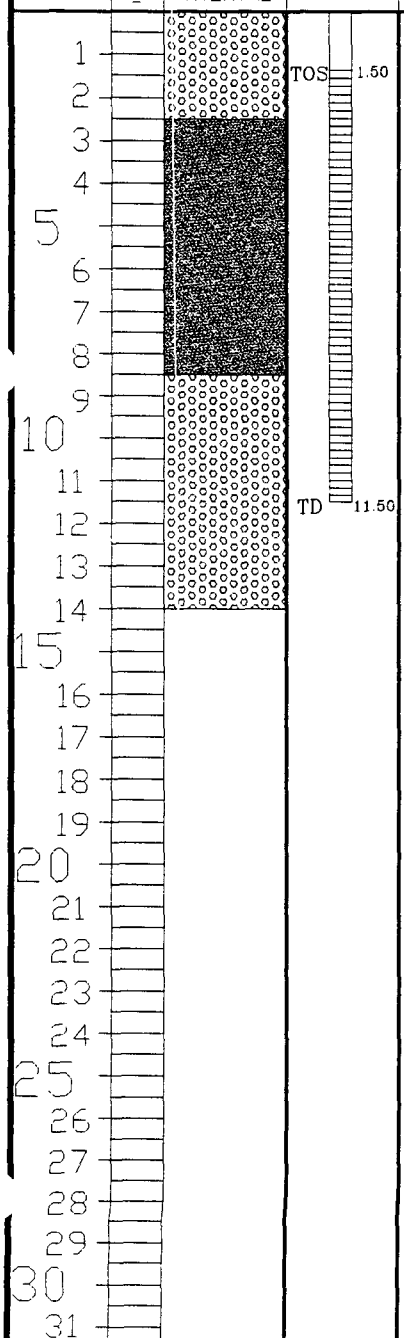
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

BORING #..... BH - 2
MW #..... 2
PAGE #..... 2
DATE STARTED 10/12/99
DATE FINISHED 10/12/99
OPERATOR..... DE
PREPARED BY NJV

CLIENT: CROSS TIMBERS OIL COMPANY
LOCATION NAME: McDANIEL GC B #1E
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (ENVIROTECH CME 61)
BORING LOCATION: 118 FT., S36.5E FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 1.50 FT. ABOVE GROUND SURFACE.

GW DEPTH ON 10/28/99 = 1.99 FT. (APPROX.) FROM GROUND SURFACE.

DARK YELLOWISH ORANGE SAND AND GRAVEL, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 2.50 FT. INTERVAL).

DARK GRAY TO BLACK SAND, NON COHESIVE, SATURATED, FIRM TO LOOSE, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (2.50 - 8.50 FT. INTERVAL).

LIGHT GRAY SAND AND GRAVEL, NON COHESIVE, SATURATED, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (8.50 - 14.00 FT. INTERVAL).

NOTE:
- SAND (DISCOLORED).
- SAND AND GRAVEL.

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

DRAWING: BH-2.SKD	DATE: 1/19/00	DWN BY: NJV

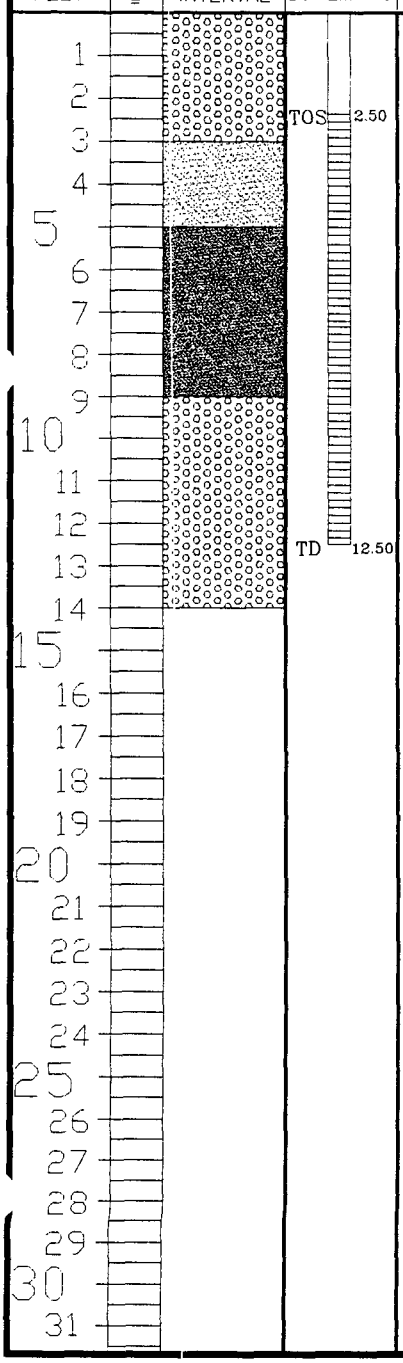
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

BORING #..... BH - 3
MW #..... 3
PAGE #..... 3
DATE STARTED 10/12/99
DATE FINISHED 10/12/99
OPERATOR..... DE
PREPARED BY NJV

CLIENT: CROSS TIMBERS OIL COMPANY
LOCATION NAME: McDANIEL GC B #1E
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (ENVIROTECH CME 61)
BORING LOCATION: 46 FT., S7.5W FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 0.38 FT. BELOW GROUND SURFACE.

GW DEPTH ON 10/28/99 = 2.20 FT. (APPROX.) FROM GROUND SURFACE.

DARK YELLOWISH ORANGE SAND AND GRAVEL, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 3.00 FT. INTERVAL).

OLIVE GRAY SAND, NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM TO LOOSE, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (3.00 - 5.00 FT. INTERVAL).

DARK GRAY TO BLACK SAND, NON COHESIVE, SATURATED, FIRM TO LOOSE, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (5.00 - 9.00 FT. INTERVAL).

LIGHT GRAY SAND AND GRAVEL, NON COHESIVE, SATURATED, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (9.00 - 14.00 FT. INTERVAL).

NOTE:
- SAND.
- SAND (DISCOLORED).
- SAND AND GRAVEL.

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

DRAWING: BH-3.SKD | DATE: 1/19/00 | DWN BY: NJV

MONITOR WELL #1

CROSS TIMBERS OIL COMPANY

McDANIEL GC B # 1E

MONITOR WELL CONSTRUCTION & COMPLETION

INSTALLED WITH MOBILE RIG

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

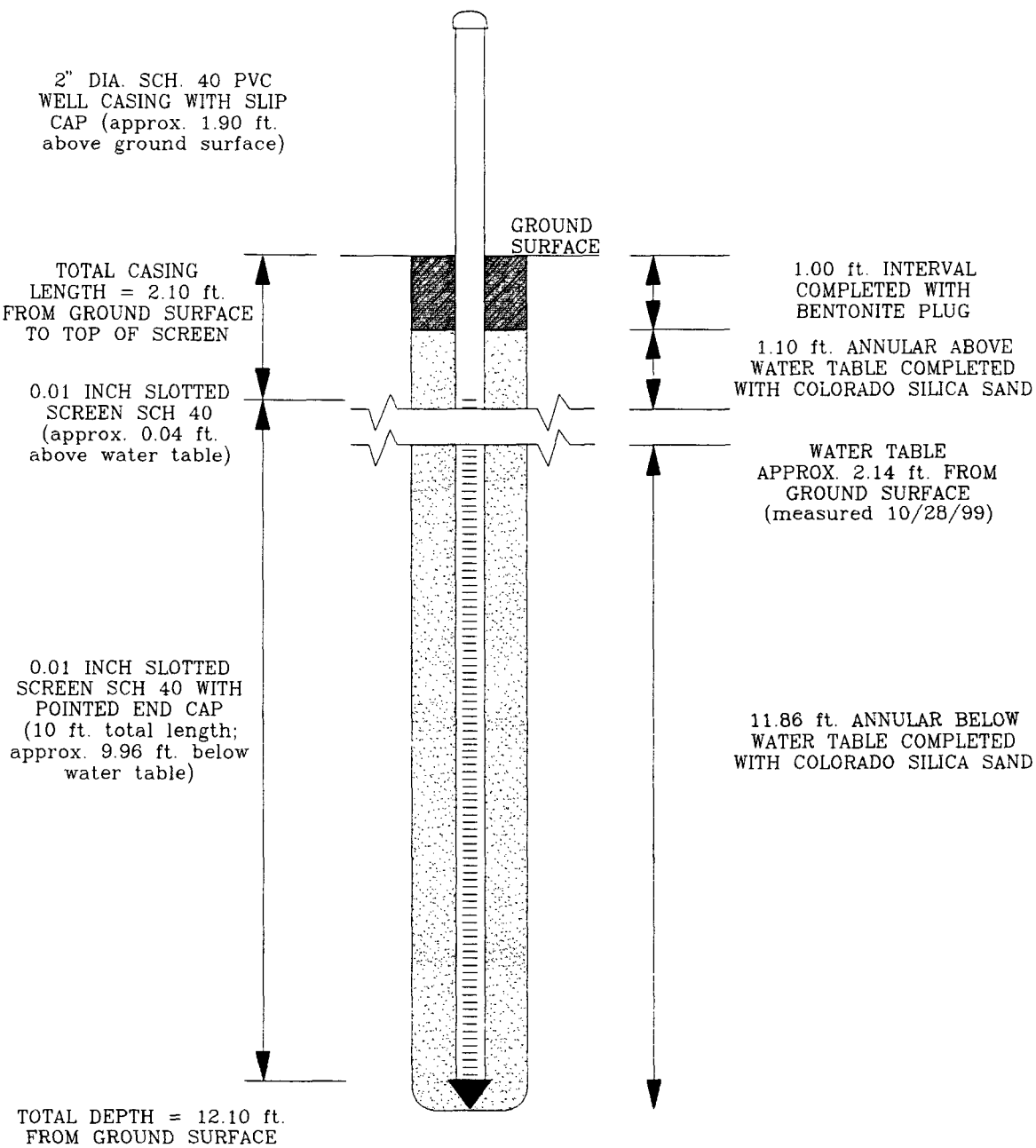
PHONE: (505) 632-1199

MONITOR WELL SCHEMATIC

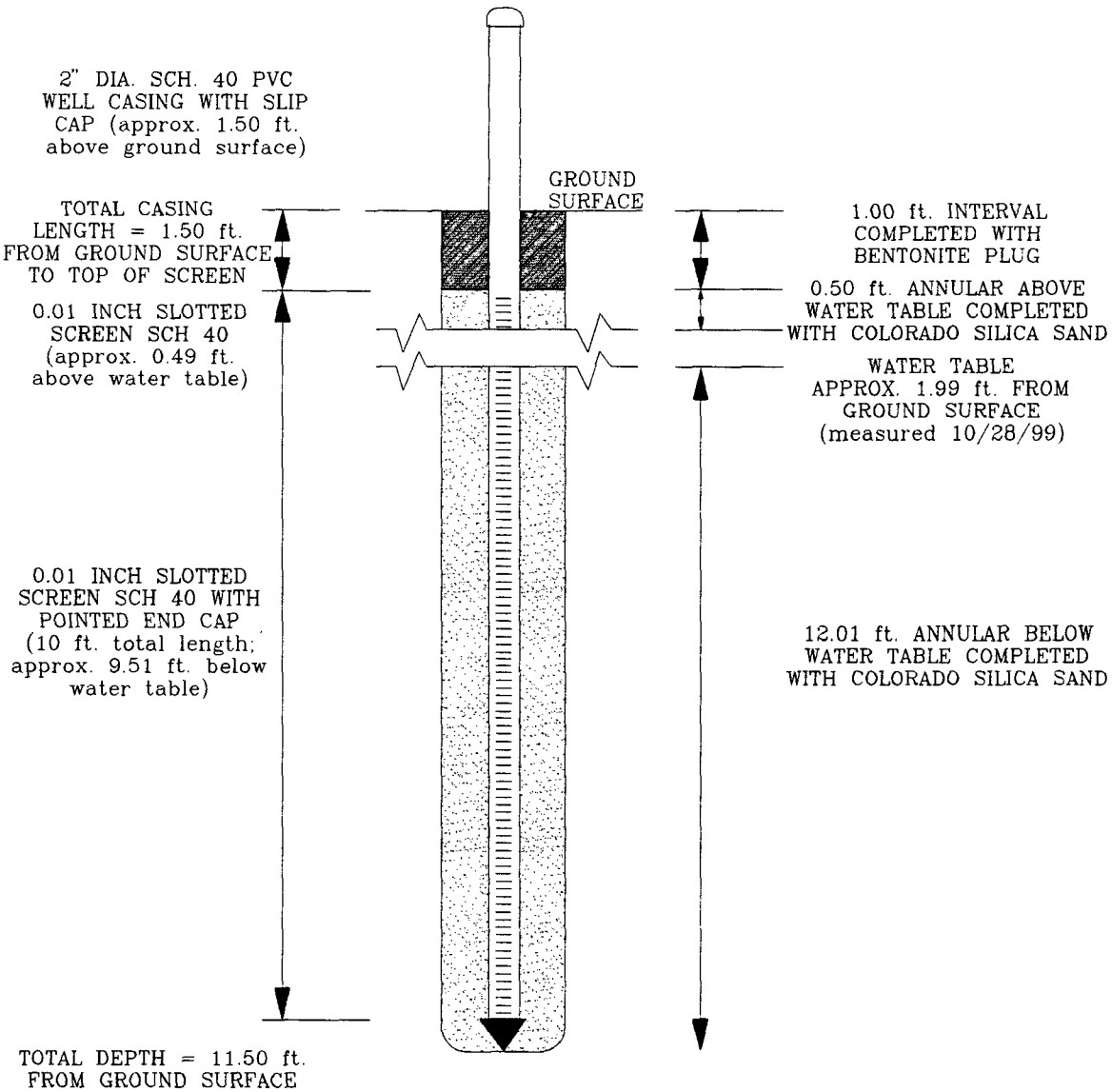
DRAFTED BY: NJV

DATE: JAN. '00

FILENAME: MW-1



MONITOR WELL #2



CROSS TIMBERS OIL COMPANY

McDANIEL GC B # 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

McDANIEL GC B # 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 # :** 7306

LOCATION : McDANIEL GC B # 1E **LABORATORY (S) USED :** ENVIROTECH, INC.

Date : October 28, 1999 **SAMPLER :** R E P

Filename : 10-28-99.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	101.56	97.52	4.04	14.00	1220	7.4	3700	5.00	-
2	101.50	98.01	3.49	13.00	1245	7.4	3400	4.75	-
3	98.92	97.10	1.82	12.12	1300	7.3	3700	5.00	-

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).

(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 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 ".

Fair to poor recovery in all MW 's. Collected BTEX and anion / cation 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:	10-29-99
Chain of Custody:	7306	Date Sampled:	10-28-99
Laboratory Number:	G270	Date Received:	10-28-99
Sample Matrix:	Water	Date Analyzed:	10-29-99
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**		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**96 %**
	Bromofluorobenzene	**96 %**

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: **McDaniel GC B # 1E.**

Analyst

Review

5796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

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:	10-29-99
Chain of Custody:	7306	Date Sampled:	10-28-99
Laboratory Number:	G271	Date Received:	10-28-99
Sample Matrix:	Water	Date Analyzed:	10-29-99
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**		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**98 %**
	Bromofluorobenzene	**98 %**

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: **McDaniel GC B # 1E.**

Analyst

Review

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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:	10-29-99
Chain of Custody:	7306	Date Sampled:	10-28-99
Laboratory Number:	G272	Date Received:	10-28-99
Sample Matrix:	Water	Date Analyzed:	10-29-99
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**		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**101 %**
	Bromofluorobenzene	**101 %**

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: **McDaniel GC B # 1E.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

DISTILLED WATER SUBMITTED FOR LAB QA/QC (LAB PERSONNEL NOT PREVIOUSLY INFORMED). PJS 2/15/00

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Cross Timbers	Project #:	403410
Sample ID:	MW #4	Date Reported:	10-29-99
Chain of Custody:	7306	Date Sampled:	10-28-99
Laboratory Number:	G273	Date Received:	10-28-99
Sample Matrix:	Water	Date Analyzed:	10-29-99
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**		

ND - Parameter not detected at the stated detection limit.

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: **McDaniel GC B # 1E.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / Cross Timbers	Project #:	403410
Sample ID:	MW #1	Date Reported:	10-30-99
Laboratory Number:	G270	Date Sampled:	10-28-99
Chain of Custody:	7306	Date Received:	10-28-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	10-29-99
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**7.21**	s.u.		
Conductivity @ 25° C	**4,180**	umhos/cm		
Total Dissolved Solids @ 180C	**2,060**	mg/L		
Total Dissolved Solids (Calc)	**1,920**	mg/L		
SAR	**0.3**	ratio		
Total Alkalinity as CaCO3	**300**	mg/L		
Total Hardness as CaCO3	**1,408**	mg/L		
Bicarbonate as HCO3	**300**	mg/L	4.92	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	**<0.001**	mg/L	0.00	meq/L
Chloride	**0.6**	mg/L	0.02	meq/L
Fluoride	**1.82**	mg/L	0.10	meq/L
Phosphate	**0.4**	mg/L	0.01	meq/L
Sulfate	**1,170**	mg/L	24.36	meq/L
Iron	**0.001**	mg/L		
Calcium	**486**	mg/L	24.27	meq/L
Magnesium	**46.9**	mg/L	3.86	meq/L
Potassium	**7.0**	mg/L	0.18	meq/L
Sodium	**25.0**	mg/L	1.09	meq/L
Cations			29.40	meq/L
Anions			29.40	meq/L
Cation/Anion Difference			**0.02%**	

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: **McDaniel GC B # 1E.**

Analyst

Review

796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / Cross Timbers	Project #:	403410
Sample ID:	MW #2	Date Reported:	10-30-99
Laboratory Number:	G271	Date Sampled:	10-28-99
Chain of Custody:	7306	Date Received:	10-28-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	10-29-99
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**7.20**	s.u.		
Conductivity @ 25° C	**4,390**	umhos/cm		
Total Dissolved Solids @ 180C	**2,100**	mg/L		
Total Dissolved Solids (Calc)	**1,923**	mg/L		
SAR	**0.1**	ratio		
Total Alkalinity as CaCO3	**290**	mg/L		
Total Hardness as CaCO3	**1,450**	mg/L		
Bicarbonate as HCO3	**290**	mg/L	4.75	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	**0.015**	mg/L	0.00	meq/L
Chloride	**2.8**	mg/L	0.08	meq/L
Fluoride	**1.95**	mg/L	0.10	meq/L
Phosphate	**0.4**	mg/L	0.01	meq/L
Sulfate	**1,180**	mg/L	24.57	meq/L
Iron	**<0.001**	mg/L		
Calcium	**493**	mg/L	24.59	meq/L
Magnesium	**52.7**	mg/L	4.34	meq/L
Potassium	**5.5**	mg/L	0.14	meq/L
Sodium	**10.3**	mg/L	0.45	meq/L
Cations			29.52	meq/L
Anions			29.52	meq/L
Cation/Anion Difference			**0.00%**	

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: **McDaniel GC B # 1E.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / Cross Timbers	Project #:	403410
Sample ID:	MW #3	Date Reported:	10-30-99
Laboratory Number:	G272	Date Sampled:	10-28-99
Chain of Custody:	7306	Date Received:	10-28-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	10-29-99
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**7.26**	s.u.		
Conductivity @ 25° C	**3,270**	umhos/cm		
Total Dissolved Solids @ 180C	**1,620**	mg/L		
Total Dissolved Solids (Calc)	**1,574**	mg/L		
SAR	**4.4**	ratio		
Total Alkalinity as CaCO3	**454**	mg/L		
Total Hardness as CaCO3	**641**	mg/L		
Bicarbonate as HCO3	**454**	mg/L	7.44	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	**<0.001**	mg/L	0.00	meq/L
Chloride	**1.0**	mg/L	0.03	meq/L
Fluoride	**1.96**	mg/L	0.10	meq/L
Phosphate	**0.9**	mg/L	0.03	meq/L
Sulfate	**790**	mg/L	16.45	meq/L
Iron	**<0.001**	mg/L		
Calcium	**213**	mg/L	10.64	meq/L
Magnesium	**26.4**	mg/L	2.17	meq/L
Potassium	**9.5**	mg/L	0.24	meq/L
Sodium	**255.0**	mg/L	11.09	meq/L
Cations			24.15	meq/L
Anions			24.05	meq/L
Cation/Anion Difference			**0.41%**	

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: **McDaniel GC B # 1E.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / Cross Timbers	Project #:	403410
Sample ID:	MW #4	Date Reported:	10-30-99
Laboratory Number:	G273	Date Sampled:	10-28-99
Chain of Custody:	7306	Date Received:	10-28-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	10-29-99
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**6.78**	s.u.		
Conductivity @ 25° C	**9.8**	umhos/cm		
Total Dissolved Solids @ 180C	**5.0**	mg/L		
Total Dissolved Solids (Calc)	**2.8**	mg/L		
SAR	**0.0**	ratio		
Total Alkalinity as CaCO3	**0.1**	mg/L		
Total Hardness as CaCO3	**<0.1**	mg/L		
Bicarbonate as HCO3	**0.1**	mg/L	0.00	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	**<0.001**	mg/L	0.00	meq/L
Chloride	**1.2**	mg/L	0.03	meq/L
Fluoride	**0.14**	mg/L	0.01	meq/L
Phosphate	**0.2**	mg/L	0.01	meq/L
Sulfate	**<0.1**	mg/L	0.00	meq/L
Iron	**0.001**	mg/L		
Calcium	**<0.1**	mg/L	0.00	meq/L
Magnesium	**<0.01**	mg/L	0.00	meq/L
Potassium	**0.2**	mg/L	0.01	meq/L
Sodium	**1.0**	mg/L	0.04	meq/L
Cations			0.05	meq/L
Anions			0.05	meq/L
Cation/Anion Difference			**1.14%**	

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: **McDaniel GC B # 1E.**

Kristine M Walters
Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

DISTILLED WATER SAMPLE TO VERIFY MW #4 (DISTILLED WATER ALSO) ANALYST RESULTS

CATION / ANION ANALYSIS

Client:	Blagg	Project #:	403410
Sample ID:	Water Check Sample	Date Reported:	10-28-99
Laboratory Number:	N/A	Date Sampled:	10-27-99
Chain of Custody:	N/A	Date Received:	10-27-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	10-28-99
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**6.80**	s.u.		
Conductivity @ 25° C	**9.7**	umhos/cm		
Total Dissolved Solids @ 180C	**4.9**	mg/L		
Total Dissolved Solids (Calc)	**2.4**	mg/L		
SAR	**0.0**	ratio		
Total Alkalinity as CaCO3	**0.1**	mg/L		
Total Hardness as CaCO3	**<0.1**	mg/L		
Bicarbonate as HCO3	**0.1**	mg/L	0.00	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	**<0.001**	mg/L	0.00	meq/L
Chloride	**1.1**	mg/L	0.03	meq/L
Fluoride	**0.12**	mg/L	0.01	meq/L
Phosphate	**0.1**	mg/L	0.00	meq/L
Sulfate	**<0.1**	mg/L	0.00	meq/L
Iron	**<0.001**	mg/L		
Calcium	**<0.1**	mg/L	0.00	meq/L
Magnesium	**<0.01**	mg/L	0.00	meq/L
Potassium	**0.1**	mg/L	0.00	meq/L
Sodium	**0.9**	mg/L	0.04	meq/L
Cations			0.04	meq/L
Anions			0.04	meq/L
Cation/Anion Difference			**1.04%**	

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: **McDaniel GC B # 1E.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

7306

Client / Project Name	Project Location
BLAGG/CROSS TIMBERS	McDANIEL GC #1E
Sampler: REP	Client No. 403410

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8021)	ALKALINITY CATIONS					Remarks
MW#1	10.28.99	1220	G270	WATER	3	✓	✓					
MW#2	10.28.99	1245	G271	WATER	3	✓	✓					
MW#3	10.28.99	1300	G272	WATER	3	✓	✓					GW 2/15/00
MW#4	10.28.99	1310	G273	WATER	3	✓	✓					DISTILLED WATER SUBMITTED FOR QA/QC
												BTEX SAMPLES
												PRESERVE- HCl 2/COOL
												A/C SAMPLES PRESERVE: COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	102899	1350		10.28.99	1550
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

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

Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

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:	10-29-BTEX QA/QC	Date Reported:	10-29-99
Laboratory Number:	G267	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-29-99
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff. Accept. Range 0 - 15%	Blank Conc	Detect. Limit
Benzene	2.5709E-001	2.5792E-001	0.32%	ND	0.2
Toluene	3.6552E-001	3.6559E-001	0.02%	ND	0.2
Ethylbenzene	6.5884E-002	6.5963E-002	0.12%	ND	0.2
p,m-Xylene	5.8222E-002	5.8233E-002	0.02%	ND	0.2
o-Xylene	5.4741E-002	5.4906E-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 G267 - G273.**

Analyst

Review

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BO 191

Form 3160-5
(June 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

SUBMIT IN TRIPLICATE

5. Lease Designation and Serial No.

6. If Indian, Allottee or Tribe Name

7. If Unit or (CA) Agreement Designation
SW 27

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

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

2. Name of Operator
Amoco Production Company

9. API Well No.
3004523855

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)
SE/4 NW/4, SEC. 26, T 29 N, R 10 W, NMPM

11. County or Parish, State
SAN JUAN, NM

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.

DEHYDRATOR PIT - ABANDONED, GROUNDWATER IMPACTED.
RT 2/14/00

14. I hereby certify that the foregoing is true and correct
Signed [signature] Title ENVIRO. COORDINATOR Date 12/30/94

(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

BO 141

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 87504-2088

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: McDANIEL GC B 1E
Well Name

Location: Unit or Qtr/Qtr Sec F Sec 26 T 29N R 10W County SAN JUAN

Pit Type: Separator ___ Dehydrator X Other ___

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

Pit Location: (Attach diagram)
Pit dimensions: length 20', width 23', depth 4'
Reference: wellhead X, other ___
Footage from reference: 110'
Direction from reference: 32 Degrees X East North ___ of ___ West South X

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)	20
	RANKING SCORE (TOTAL POINTS):	40

BO191

Date Remediation Started: _____ **Date Completed:** 12/30/94

Remediation Method: (Check all appropriate sections) Excavation X Approx. cubic yards 50

Landfarmed X Insitu Bioremediation ___

Other _____

Remediation Location: (ie. landfarmed onsite, name and location of offsite facility) Onsite ~~X~~ Offsite X BACA GC A #1A (F-26-29-10)

General Description Of Remedial Action: Excavation GROUNDWATER PUMPED & HAULED. LANDFARM SOIL MIXED WITH BACA GC A #1A - REFER TO BACA GC A #1A FOR LANDFARM CLOSURE INFORMATION.

Ground Water Encountered: No ___ Yes X Depth 3'

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 _____

Sample date _____ 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 12/30/94

SIGNATURE B J Shaw

PRINTED NAME AND TITLE Buddy D. Shaw Environmental Coordinator

K20

CLIENT: AMOCO

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

LOCATION NO: 80191 / 2329
C.O.C. NO: 2563

FIELD REPORT: CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: McDANIEL GC WELL #: 8 1E PIT: DEH4
QUAD/UNIT: F SEC: 26 TWP: 29N RNG: 10W PM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: SE/4 NW/4 CONTRACTOR: P. VELASQUEZ

DATE STARTED: 12/15/94
DATE FINISHED:
ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX. 20 FT. x 23 FT. x 4 FT. DEEP. CUBIC YARDAGE: 50
DISPOSAL FACILITY: ~~ON-SITE~~ BACA GC A #1A (F-26-29-10) REMEDIATION METHOD: LANDFARMED
LAND USE: RANGE LEASE: - FORMATION: DK

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 110 FT. 53°E FROM WELLHEAD.
DEPTH TO GROUNDWATER: <50' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: <200'
NMOCD RANKING SCORE: 40 NMOCD TPH CLOSURE STD: 100 PPM

CHECK ONE:
✓ PIT ABANDONED
___ STEEL TANK INSTALLED

SOIL AND EXCAVATION DESCRIPTION:

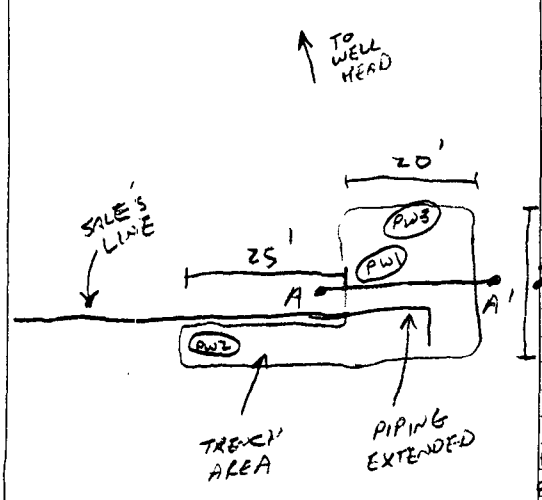
COLLECTED WATER SAMPLE ONLY. NO APPARENT HC ODOR IN SAMPLE CONTAINER OR VISIBLE INDICATION. SLIGHT SHEEN IN GROUNDWATER OBSERVED IN TRENCH AREA. UNABLE TO COLLECT SOIL SAMPLE(S) FROM ANY SIDEWALLS. GROUNDWATER PUMPED BY TRIPLE S & HAULED.

FIELD 418.1 CALCULATIONS

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

SCALE
0 FT

PIT PERIMETER



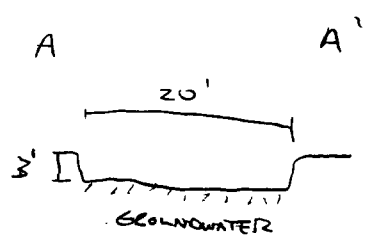
OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1	
2	
3	
4	
5	

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME	
PW1 @ GW (3')	BTEX	1420	12/15 FAILED
PW2 @ GW (3')	BTEX	0925	12/21 FAILED
PW3 @ GW (3')	BTEX	1400	12/28 PASSED

PIT PROFILE



TRAVEL NOTES: CALLOUT: 12/14/94 ONSITE: 12/15/94

OFF: (505) 325-8786

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn:	*Nelson Velez*	Date:	12/16/94
Company:	*Blagg Engineering*	*Lab ID:*	*2329*
Address:	*P.O. Box 87*	*Sample ID:*	*4403*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***McDaniel GC B 1 E***				
Project Location:	***PW 1 @ GW (3') - Dehy Pit***				
Sampled by:	NV	Date:	12/15/94	Time:	14:20
Analyzed by:	DLA	Date:	12/16/94		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	130.9	*0.2*
Toluene	84.4	*0.2*
Ethylbenzene	30.7	*0.2*
m,p-Xylene	284.6	*0.2*
o-Xylene	53.7	*0.2*
	TOTAL *584.4 ug/L*	

ND - Not Detectable

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by: DLA
Date: 12/19/94

OFF: (505) 325-8786

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn:	*Nelson Velez*	Date:	12/22/94
Company:	*Blagg Engineering*	*Lab ID:*	*2563*
Address:	*P.O. Box 87*	*Sample ID:*	*4480*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***McDaniel GC B 1 E***				
Project Location:	***PW 2 @ GW (3') - Dehy Pit***				
Sampled by:	NV	Date:	12/21/94	Time:	9:25
Analyzed by:	DLA	Date:	12/22/94		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	*Measured Concentration ug/L*	*Detection Limit Concentration ug/L*
Benzene	112.6	*0.2*
Toluene	36.1	*0.2*
Ethylbenzene	24.0	*0.2*
m,p-Xylene	308.8	*0.2*
o-Xylene	57.4	*0.2*
	TOTAL 539.0 *ug/L*	

ND - Not Detectable

Method *- SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by: JaL

Date: 12/22/94

OFF: (505) 325-8786

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn:	*Nelson Velez*	Date:	12/30/94
Company:	*Blagg Engineering*	*Lab ID:*	*2515*
Address:	*P.O. Box 87*	*Sample ID:*	*4550*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***McDaniel GC B 1 E***				
Project Location:	***PW 3 @ GW (3') - Dehy Pit***				
Sampled by:	NV	Date:	12/28/94	Time:	14:00
Analyzed by:	DLA	Date:	12/30/94		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	0.8	*0.2*
Toluene	0.5	*0.2*
Ethylbenzene	0.3	*0.2*
m,p-Xylene	4.2	*0.2*
o-Xylene	0.8	*0.2*
	TOTAL 6.7 *ug/L*	

ND - Not Detectable

Method *- SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by:
Date: 12/30/94

2329

ON SITE TECHNOLOGIES, LTD.
657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

CHAIN OF CUSTODY RECORD

Date: 12/15/94

80191

Purchase Order No.:	Reference No.:		
SEND INVOICE TO	Name		
	Company: [illegible]	Dept.	
	Address: P.O. Box [illegible]		
	City, State, Zip: Bloomfield NM [illegible]		
REPORT RESULTS TO	Name: Nelson [illegible]	Title: PG	
	Company: Same		
	Mailing Address: Same		
	City, State, Zip: Same		
	Telephone No.: [illegible]-1199	Telefax No.	

Special Instructions: [illegible]

Sampler: [illegible]

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE/ GRAB	PRESERVATIVES	Number of Containers	BTEX (8020)									Remarks (matrix)
[illegible] (3')-[illegible]	12/15/94 1420	GRAB	HgCl	2	1			[illegible]						WATER

Relinquished by: [signature]	Date/Time 12/16/94 0749	Received by: [signature]	Date/Time [illegible]
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time
Method of Shipment:		Rush	5 Working Days
		10 Working Days	Sampling Location:

Authorized by: ______________ Date ______
(Client Signature Must Accompany Request)

Distribution: White – On Site Yellow – LAB Pink – Sampler Goldenrod – Client

CHAIN OF CUSTODY RECORD

2563

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Date: 12/21/94

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80191

Purchase Order No.:	Job No.		
SEND INVOICE TO Name		**REPORT RESULTS TO** Name	Title
Company	Dept.	Company	
Address		Mailing Address	
City, State, Zip		City, State, Zip	
		Telephone No.	Telefax No.

Sampling Location:

Sampler:

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	BTEX (8020)	LAB ID

Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: _____ Date _____
(Client Signature Must Accompany Request)

Rush	24-48 Hours	10 Working Days	Special Instructions:

Distribution: White – On Site Yellow – LAB Pink – Sampler Goldenrod – Client

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TECHNOLOGIES, LTD.
657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

CHAIN OF CUS . ODY RECORD

2515

Date: 12/29/94

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B0191

Purchase Order No.:	Job No.
SEND INVOICE TO Name	
Company: [illegible] Engineering	Dept.
Address: P.O. Box 87	
City, State, Zip: Bloomfield NM [illegible]	

REPORT RESULTS TO Name: [illegible]	Title: PE
Company: [illegible]	
Mailing Address: [illegible]	
City, State, Zip: [illegible]	
Telephone No.: [illegible]-1199	Telefax No.

Sampling Location: [illegible]

Sampler: [illegible]

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	ANALYSIS REQUESTED: BTEX (8020)								LAB ID
PW3 @ GW(3') - DEHY PIT	12/29/94	1400	water	HgCl	2	✓								4550-2515

Relinquished by: [illegible]	Date/Time 12/29/94 1438	Received by: [illegible]	Date/Time 12/29/94 14:3[illegible]
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Rush | 24-48 Hours | 10 Working Days | Special Instructions:

Authorized by: ______ Date ______
(Client Signature Must Accompany Request)

Distribution: White – On Site Yellow – LAB Pink – Sampler Goldenrod – Client