3R - 130

REPORTS

DATE:
1999

BLAGG ENGINEERING, INC.
P.O. Box 87, Bloomfield, New Mexico 87413
Phone: (505)632-1199 Fax: (505)632-3903

February 21, 2000

Mr. William C. Olson - Hydrologist
State of New Mexico Oil Conservation Division
2040 South Pacheco
State Land Office Building
Santa Fe, NM 87505

RE: 1999 ANNUAL GROUNDWATER REPORTS
SAN JUAN COUNTY, NEW MEXICO
PERMANENT CLOSURE REQUESTED

Dear Mr. Olson:

Blagg Engineering, Inc., on behalf of Cross Timbers Oil Company, respectfully submits the attached 1999 annual groundwater reports in which permanent closure is requested. This reporting adheres to the NMOCD's previously approved groundwater management plan.

A total of ten (10) well sites, listed on the following page, are associated with this correspodence. All work performed on the these well sites have been incorporated into individual packets.

The summary, conclusions, and/or recommendations made within these reports are based on information made available from the enclosed material. Any site specific inquiries should be examined within the individual packets.

If you have questions, please call and contact either myself or Jeffrey C. Blagg. Thank you for your cooperation and assistance.

Sincerely,
BLAGG ENGINEERING, INC.

Nelson Velez
Staff Geologist

Reviewed by:

Jeffrey C. Blagg, P.E.
President

Attachments: Individual Well site packets

cc: Denny Foust, Deputy Oil & Gas Inspector, New Mexico Oil Conservation Division, Aztec, NM
Bill Liese, Regional Environmental Officer, Bureau of Land Management, Farmington, NM (2 copies)
Nina Hutton, Environmental & Safety Manager, Cross Timbers Oil Company, Ft. Worth, TX

NV/nv

PERM-99.CVL

Groundwater Sites Requesting Permanent Closure

1.	Baca GC A #1A	Unit G, Sec. 26, T29N, R10W
2.	Haney GC B #1E	Unit M, Sec. 20, T29N, R10W
3.	Hare GC C #1	Unit M, Sec. 25, T29N, R10W
4.	Masden GC # 1E	Unit D, Sec. 28, T29N, R11W
5.	McDaniel GC B # 1E	Unit F, Sec. 26, T29N, R10W
6.	Pearce GC # 1E	Unit J, Sec. 23, T29N, R11W
7.	Sanchez GC # 1	Unit G, Sec. 28, T29N, R10W
8.	Snyder GC # 1A	Unit F, Sec. 19, T29N, R9W
9.	Sullivan Frame A # 1E	Unit A, Sec. 30, T29N, R10W
10.	Texas National GC # 1	Unit K, Sec. 19, T29N, R9W

CROSS TIMBERS OIL COMPANY

GROUNDWATER REMEDIATION REPORT

1999

SULLIVAN FRAME A #1E
(A) SECTION 30, T29N, R10W, NMPM
SAN JUAN COUNTY, NEW MEXICO

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)
Sullivan Frame A # 1E - Dehydrator Pit
Ne/4 Ne/4 Sec. 30, T29N, R10W

Pit closure Date: **June 7, 1994**
(Documentation Included)

Monitor Well Installation Date: **October 14, 1999**

Monitor Well Sampling Date: **November 3, 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 November 3, 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.

SULLIVAN FRAME A # 1E - DEHY. PIT
UNIT A, SEC. 30, T29N, R10W

DRAFTED : DECEMBER 4, 1999

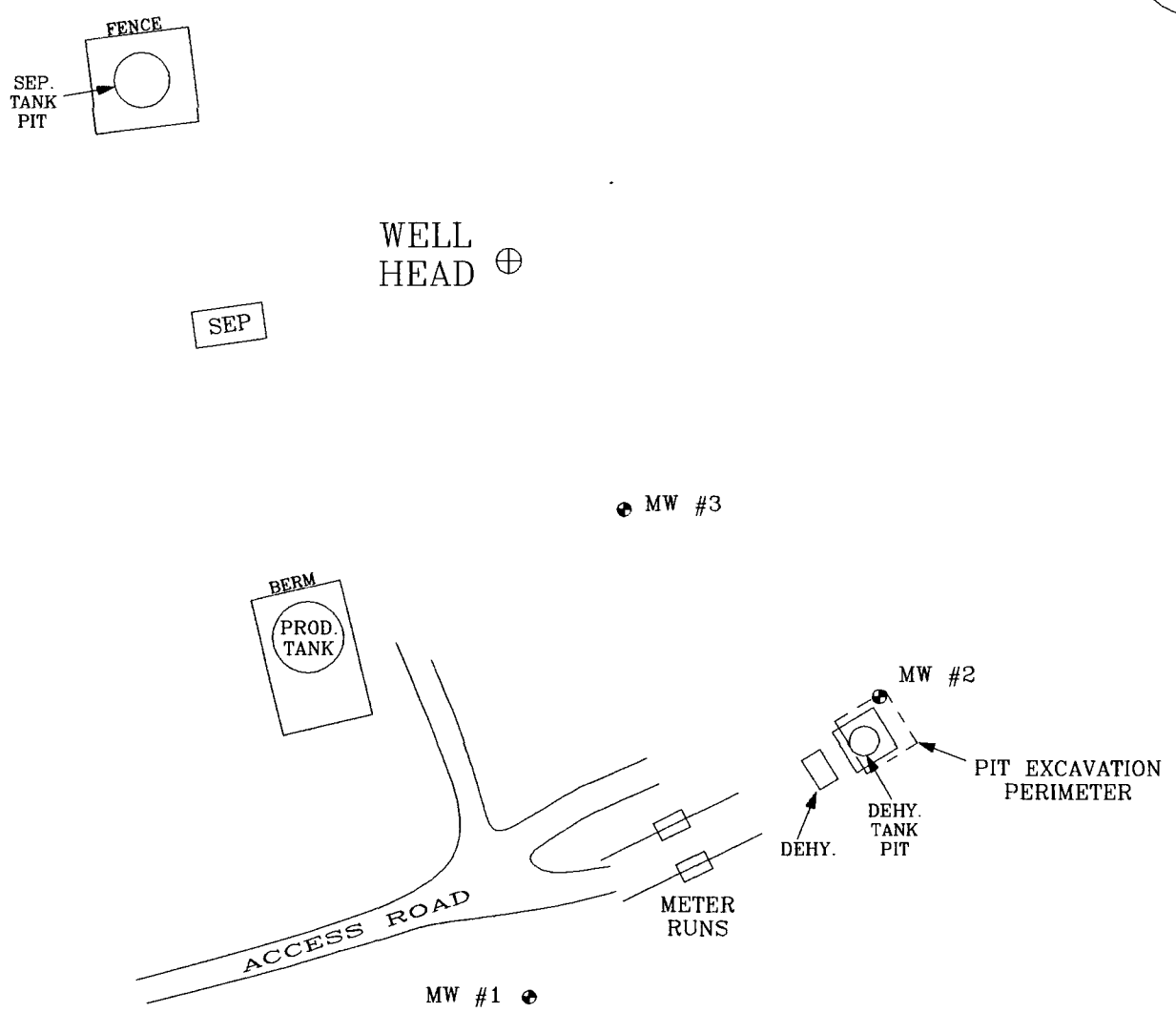
FILENAME: (1E-4Q-99.WK4) NJV

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
03-Nov-99	MW #1	17.10	30.00	1,910	3,840	7.1		ND	ND	ND	ND
03-Nov-99	MW #2	14.04	25.00	1,220	2,445	7.0		ND	ND	ND	ND
03-Nov-99	MW #3	16.80	30.00	995	1,988	7.7		ND	ND	ND	ND

GENERAL WATER QUALITY
CROSS TIMBERS OIL COMPANY
SULLIVAN FRAME A #1E
SAMPLE DATE : November 3 , 1999

PARAMETERS	MW # 1	MW # 2	MW # 3	Units
LAB pH	7.11	7.04	7.65	s. u.
LAB CONDUCTIVITY @ 25 C	3,840	2,445	1,988	umhos / cm
TOTAL DISSOLVED SOLIDS @ 180 C	1,910	1,220	995	mg / L
TOTAL DISSOLVED SOLIDS (Calc)	1,860	1,209	971	mg / L
SODIUM ABSORPTION RATIO	16.0	7.9	7.2	ratio
TOTAL ALKALINITY AS CaCO3	192	304	422	mg / L
TOTAL HARDNESS AS CaCO3	202	265	217	mg / L
BICARBONATE as HCO3	192	304	422	mg / L
CARBONATE AS CO3	< 1	< 1	< 1	mg / L
HYDROXIDE AS OH	< 1	< 1	< 1	mg / L
NITRATE NITROGEN	4.2	0.2	0.1	mg / L
NITRITE NITROGEN	0.050	0.005	0.010	mg / L
CHLORIDE	1.4	4.2	6.7	mg / L
FLUORIDE	1.91	1.03	1.70	mg / L
PHOSPHATE	0.3	0.3	1.6	mg / L
SULFATE	1,133	625	373	mg / L
IRON	< 0.001	< 0.001	< 0.001	mg / L
CALCIUM	66.6	83.2	81.4	mg / L
MAGNESIUM	8.78	14.0	3.24	mg / L
POTASSIUM	3.72	1.66	5.61	mg / L
SODIUM	524	295	242	mg / L
CATION / ANION DIFFERENCE	0.03	0.01	0.03	%

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

SULLIVAN FRAME A #1E

NE/4 NE/4 SEC. 30, 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.

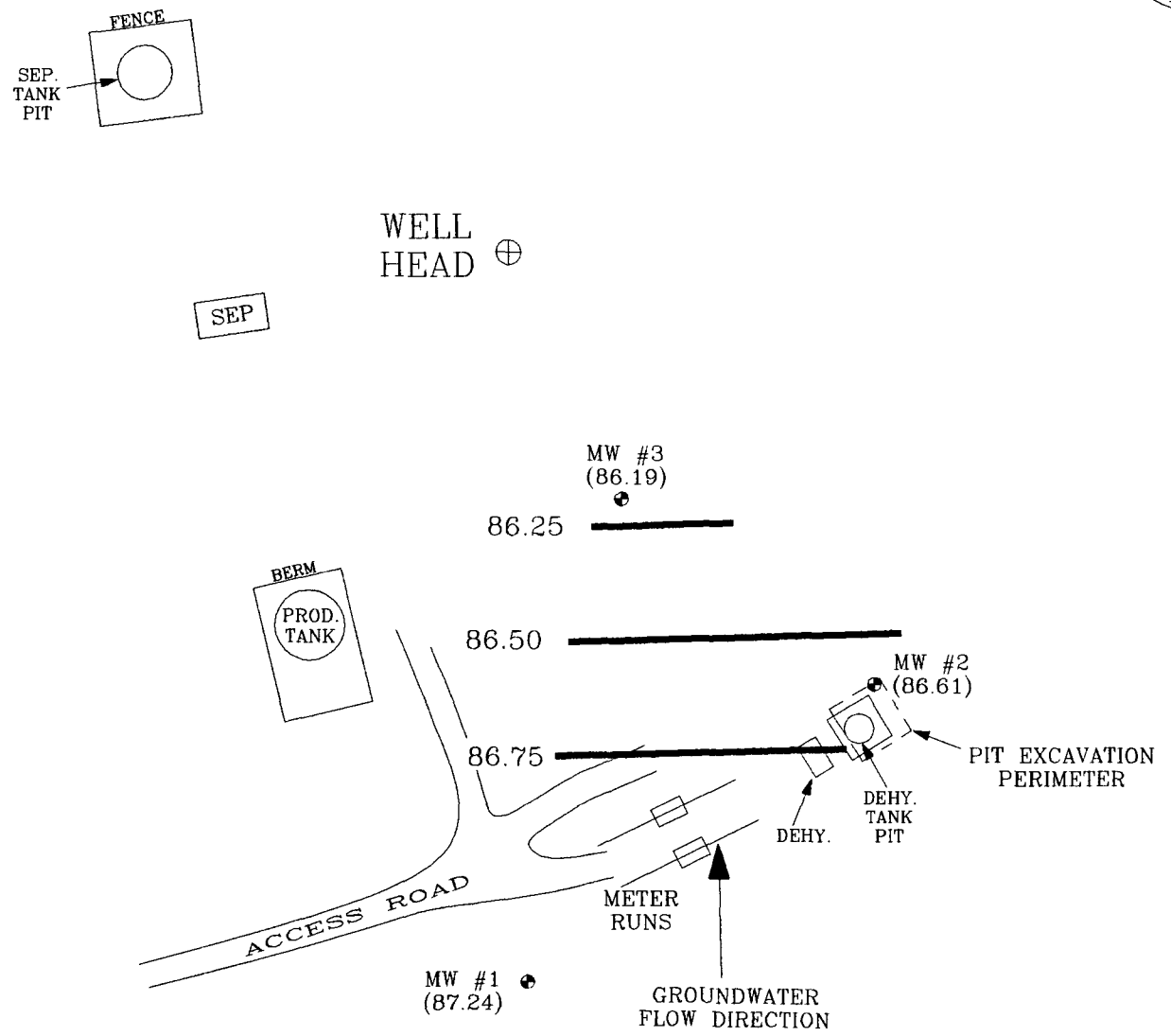
DRAWN BY: NJV

FILENAME: SFA1E-SM.SKD

SITE MAP

10/99

FIGURE 2
(4th 1/4, 1999)



CROSS TIMBERS OIL COMPANY

SULLIVAN FRAME A #1E

NE/4 NE/4 SEC. 30, 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: SFA1E-GW.SKD

GROUNDWATER GRADIENT MAP

11/99

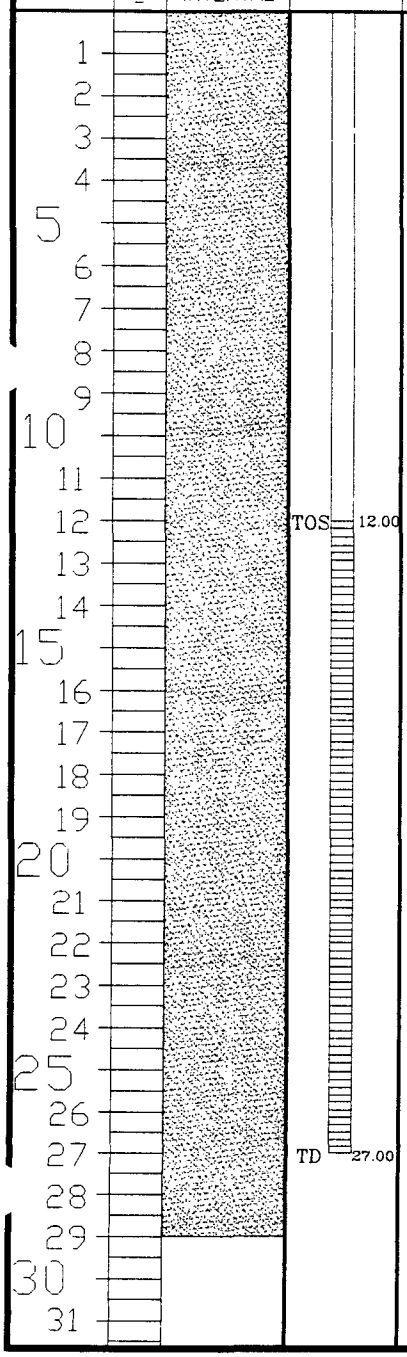
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

BORING #..... BH - 1
MW #..... 1
PAGE #..... 1
DATE STARTED 10/14/99
DATE FINISHED 10/14/99
OPERATOR..... DE
PREPARED BY NJV

CLIENT: CROSS TIMBERS OIL COMPANY
LOCATION NAME: SULLIVAN FRAME A #1E
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (ENVIROTECH CME61)
BORING LOCATION: 202 FT., S1.5E FEET FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 3.00 FT. ABOVE GROUND SURFACE.

MODERATE YELLOWISH BROWN SAND CONTINUOUS THROUGHOUT ENTIRE BORING, NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 29.00 FT. INTERVAL).

▼ GW DEPTH ON 11/3/99 = 13.80 FT. (APPROX.) FROM GROUND SURFACE.

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

DRAWING: BH-1.SKD | DATE: 1/28/00 | DWN BY: NJV

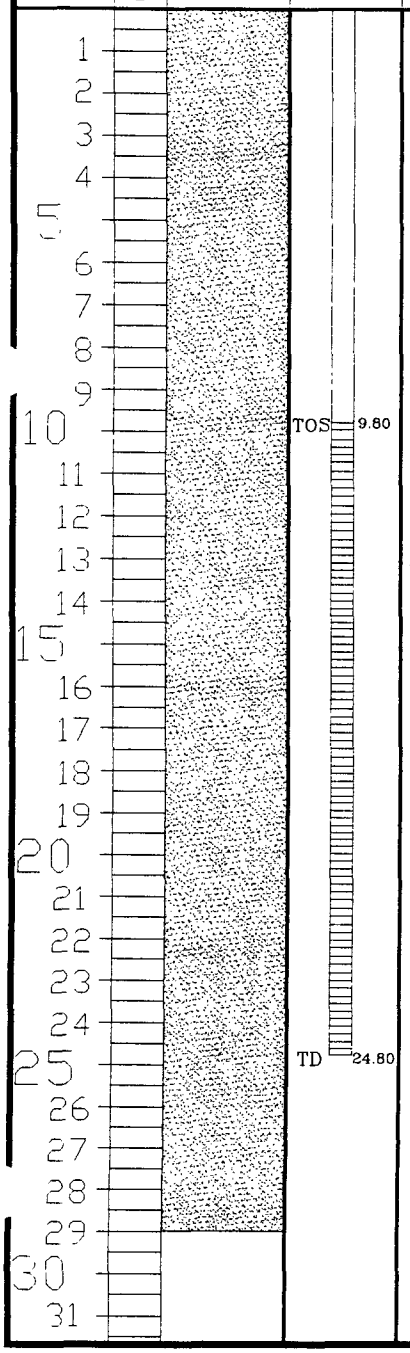
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

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

CLIENT: CROSS TIMBERS OIL COMPANY
LOCATION NAME: SULLIVAN FRAME A #1E
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (ENVIROTECH CME61)
BORING LOCATION: 156 FT., S40E FEET FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 0.20 FT. ABOVE GROUND SURFACE.

MODERATE YELLOWISH BROWN SAND CONTINUOUS THROUGHOUT ENTIRE BORING, NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 29.00 FT. INTERVAL).

▼ GW DEPTH ON 11/3/99 = 13.84 FT. (APPROX.) FROM GROUND SURFACE.

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

DRAWING. BH-2.SKD | DATE: 1/28/00 | DWN BY: NJV

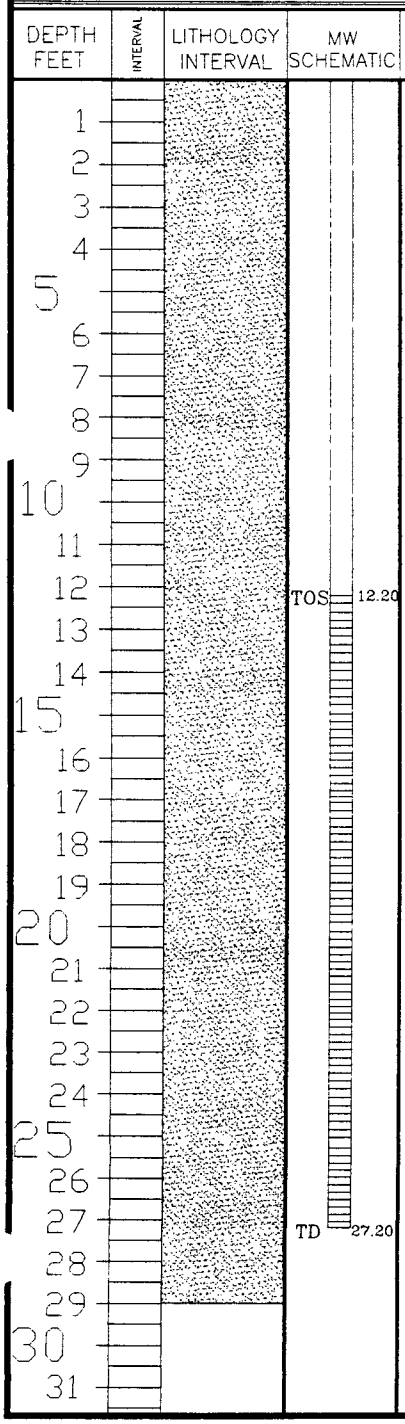
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

BORING # BH - 3
MW # 3
PAGE # 3
DATE STARTED 10/14/99
DATE FINISHED 10/14/99
OPERATOR DE
PREPARED BY NJV

CLIENT: CROSS TIMBERS OIL COMPANY
LOCATION NAME: SULLIVAN FRAME A #1E
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (ENVIROTECH CME61)
BORING LOCATION: 75 FT., S24.5E FEET FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.80 FT. ABOVE GROUND SURFACE.

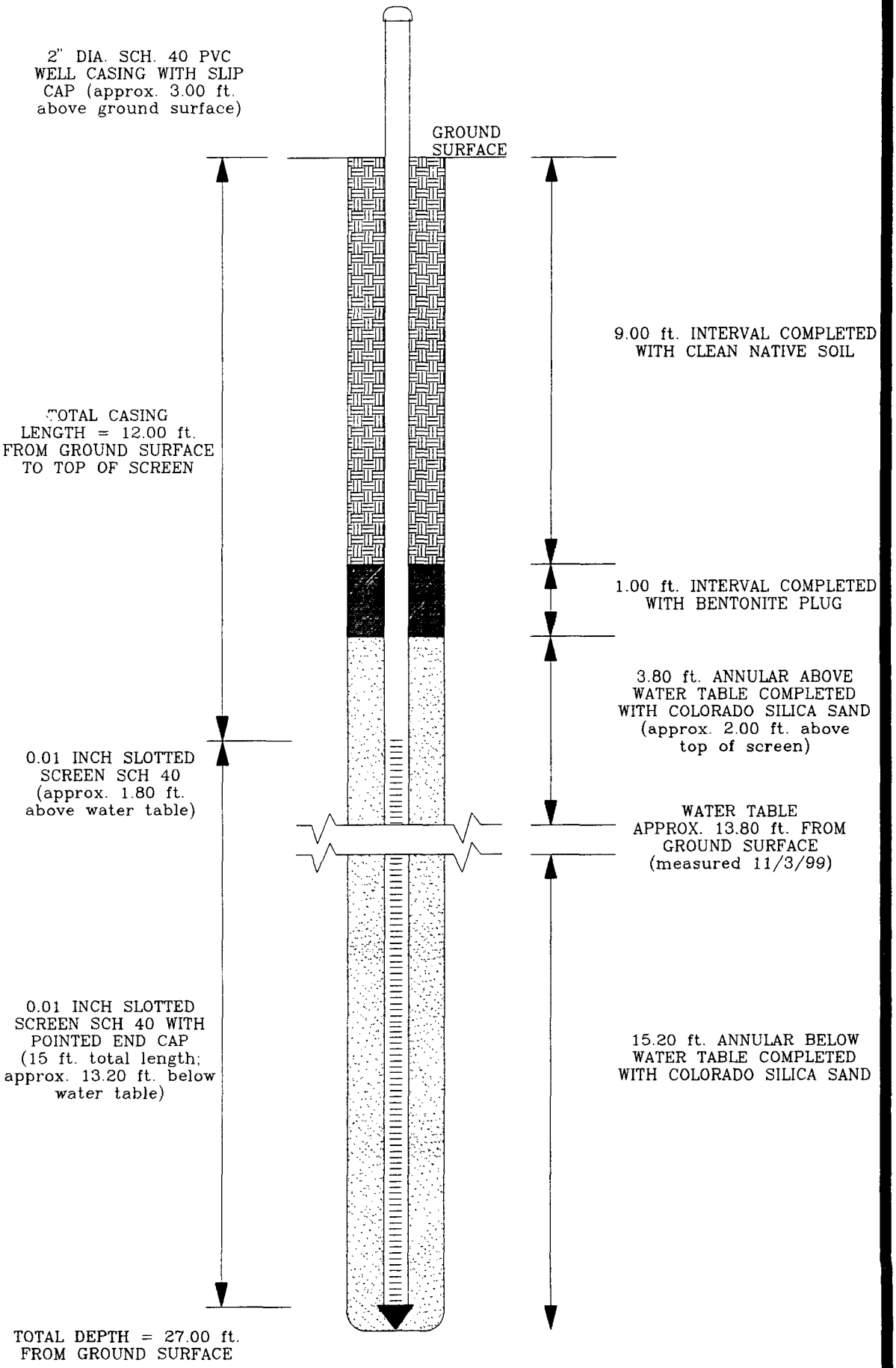
MODERATE YELLOWISH BROWN SAND CONTINUOUS THROUGHOUT ENTIRE BORING, NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 29.00 FT. INTERVAL).

▼ GW DEPTH ON 11/3/99 = 14.30 FT. (APPROX.) FROM GROUND SURFACE.

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

DRAWING: BH-3.SKD | DATE 1/28/00 | DWN BY: NJV

MONITOR WELL #1



CROSS TIMBERS OIL COMPANY

SULLIVAN FRAME A # 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

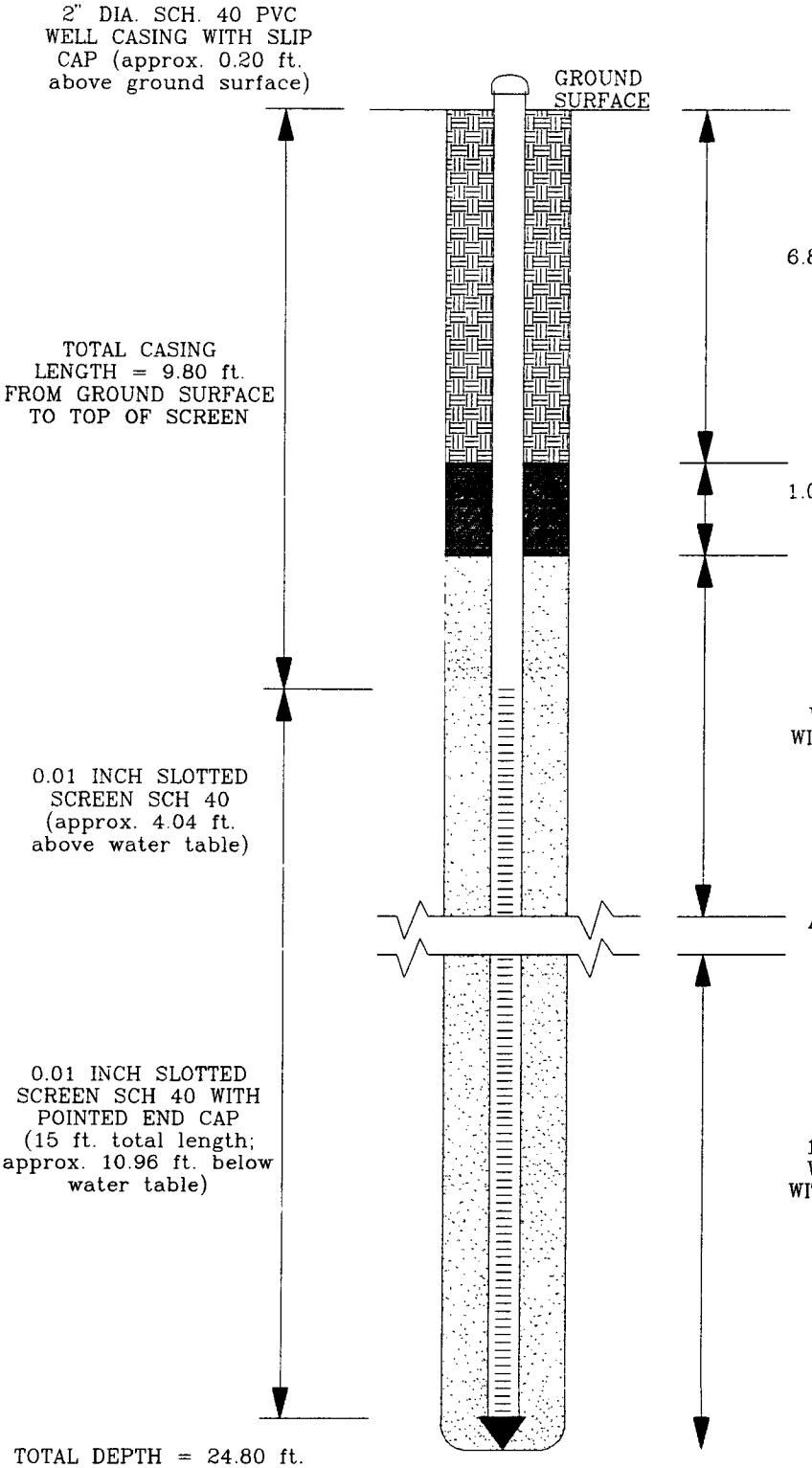
MONITOR WELL SCHEMATIC

DRAFTED BY: NJV

DATE: JAN. '00

FILENAME: MW-1

MONITOR WELL #2



CROSS TIMBERS OIL COMPANY

SULLIVAN FRAME A # 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

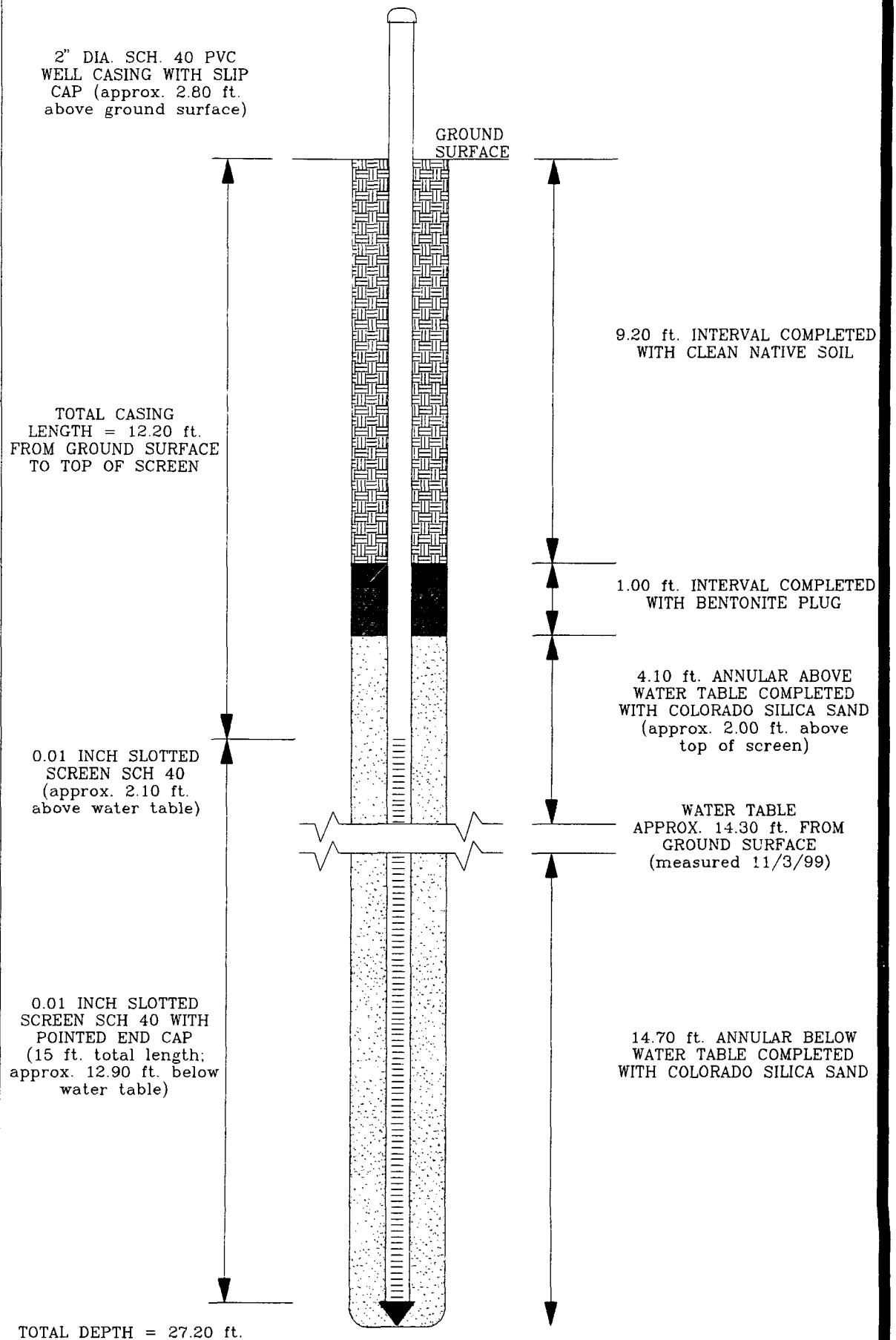
MONITOR WELL SCHEMATIC

DRAFTED BY: NJV

DATE: JAN. '00

FILENAME: MW-2

MONITOR WELL #3



CROSS TIMBERS OIL COMPANY

SULLIVAN FRAME A # 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 # :** 7307

LOCATION : SULLIVAN FRAME A # 1E **LABORATORY (S) USED :** ENVIROTECH, INC.

Date : November 3, 1999 **SAMPLER :** REP

Filename : 11-03-99.WK4 **PROJECT MANAGER :** NJV

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	104.34	87.24	17.10	30.00	0935	7.4	1,800	6.50	-
2	100.65	86.61	14.04	25.00	0955	7.4	1,300	5.50	-
3	102.99	86.19	16.80	30.00	1020	7.7	1,300	6.50	-

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 listed above . 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:	11-07-99
Chain of Custody:	7307	Date Sampled:	11-03-99
Laboratory Number:	G362	Date Received:	11-03-99
Sample Matrix:	Water	Date Analyzed:	11-04-99
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	**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: **Sullivan Frame A #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:	11-07-99
Chain of Custody:	7307	Date Sampled:	11-03-99
Laboratory Number:	G363	Date Received:	11-03-99
Sample Matrix:	Water	Date Analyzed:	11-04-99
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: **Sullivan Frame A #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 #3	Date Reported:	11-07-99
Chain of Custody:	7307	Date Sampled:	11-03-99
Laboratory Number:	G364	Date Received:	11-03-99
Sample Matrix:	Water	Date Analyzed:	11-04-99
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: **Sullivan Frame A #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

CATION / ANION ANALYSIS

Client:	Blagg / Cross Timbers	Project #:	403410
Sample ID:	MW #1	Date Reported:	11-08-99
Laboratory Number:	G362	Date Sampled:	11-03-99
Chain of Custody:	7307	Date Received:	11-03-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-05-99
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**7.11**	s.u.		
Conductivity @ 25° C	**3,840**	umhos/cm		
Total Dissolved Solids @ 180C	**1,910**	mg/L		
Total Dissolved Solids (Calc)	**1,860**	mg/L		
SAR	**16.0**	ratio		
Total Alkalinity as CaCO3	**192**	mg/L		
Total Hardness as CaCO3	**202**	mg/L		
Bicarbonate as HCO3	**192**	mg/L	3.15	meq/L
Carbonate as CO3	**<1**	mg/L	0.00	meq/L
Hydroxide as OH	**<1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**4.2**	mg/L	0.07	meq/L
Nitrite Nitrogen	**0.050**	mg/L	0.00	meq/L
Chloride	**1.4**	mg/L	0.04	meq/L
Fluoride	**1.91**	mg/L	0.10	meq/L
Phosphate	**0.3**	mg/L	0.01	meq/L
Sulfate	**1,133**	mg/L	23.58	meq/L
Iron	**<0.001**	mg/L		
Calcium	**66.6**	mg/L	3.32	meq/L
Magnesium	**8.78**	mg/L	0.72	meq/L
Potassium	**3.72**	mg/L	0.10	meq/L
Sodium	**524**	mg/L	22.79	meq/L
Cations			26.94	meq/L
Anions			26.94	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: **Sullivan Frame A #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

CATION / ANION ANALYSIS

Client:	Blagg / Cross Timbers	Project #:	403410
Sample ID:	MW #2	Date Reported:	11-08-99
Laboratory Number:	G363	Date Sampled:	11-03-99
Chain of Custody:	7307	Date Received:	11-03-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-05-99
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**7.04**	s.u.		
Conductivity @ 25° C	**2,445**	umhos/cm		
Total Dissolved Solids @ 180C	**1,220**	mg/L		
Total Dissolved Solids (Calc)	**1,209**	mg/L		
SAR	**7.9**	ratio		
Total Alkalinity as CaCO3	**304**	mg/L		
Total Hardness as CaCO3	**265**	mg/L		
Bicarbonate as HCO3	**304**	mg/L	4.98	meq/L
Carbonate as CO3	**<1**	mg/L	0.00	meq/L
Hydroxide as OH	**<1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.2**	mg/L	0.00	meq/L
Nitrite Nitrogen	**0.005**	mg/L	0.00	meq/L
Chloride	**4.2**	mg/L	0.12	meq/L
Fluoride	**1.03**	mg/L	0.05	meq/L
Phosphate	**0.3**	mg/L	0.01	meq/L
Sulfate	**625**	mg/L	13.01	meq/L
Iron	**<0.001**	mg/L		
Calcium	**83.2**	mg/L	4.15	meq/L
Magnesium	**14.0**	mg/L	1.15	meq/L
Potassium	**1.66**	mg/L	0.04	meq/L
Sodium	**295**	mg/L	12.83	meq/L
Cations			18.18	meq/L
Anions			18.18	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: **Sullivan Frame A #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:	11-08-99
Laboratory Number:	G364	Date Sampled:	11-03-99
Chain of Custody:	7307	Date Received:	11-03-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-05-99
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**7.65**	s.u.		
Conductivity @ 25° C	**1,988**	umhos/cm		
Total Dissolved Solids @ 180C	**995**	mg/L		
Total Dissolved Solids (Calc)	**971**	mg/L		
SAR	**7.2**	ratio		
Total Alkalinity as CaCO3	**422**	mg/L		
Total Hardness as CaCO3	**217**	mg/L		
Bicarbonate as HCO3	**422**	mg/L	6.92	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	**0.010**	mg/L	0.00	meq/L
Chloride	**6.7**	mg/L	0.19	meq/L
Fluoride	**1.70**	mg/L	0.09	meq/L
Phosphate	**1.6**	mg/L	0.05	meq/L
Sulfate	**373**	mg/L	7.76	meq/L
Iron	**<0.001**	mg/L		
Calcium	**81.4**	mg/L	4.06	meq/L
Magnesium	**3.24**	mg/L	0.27	meq/L
Potassium	**5.61**	mg/L	0.14	meq/L
Sodium	**242**	mg/L	10.53	meq/L
Cations			15.00	meq/L
Anions			15.00	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: **Sullivan Frame A #1E.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

7301

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG / CROSS TIMBERS	SULLIVAN FRAME #1E	

Sampler:	Client No.
REP	403410

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8021)	ANION/ CATION					Remarks
MW#1	11.3.99	0935	G3162	WATER	3	✓	✓					
MW#2	11.3.99	0955	G3163	WATER	3	✓	✓					
MW#3	11.3.99	1020	G3164	WATER	3	✓	✓					
												BTEX SAMPLES
												PRESERVE. $HgCl_2$/ COOL
												A/C SAMPLES
												PRESERVE - COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	11-3-99	1300		11-3-99	1300
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:	11-04-BTEX QA/QC	Date Reported:	11-07-99
Laboratory Number:	G362	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	11-04-99
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	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 G362 - G367.**

Analyst

Review

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B0007

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:** 326-9200

Address: 200 AMOCO COURT, FARMINGTON, NM 87401

Facility Or: SULLIVAN FRAME GU A1E
Well Name

Location: Unit or Qtr/Qtr Sec A Sec 30 T 29N R 10W County SAN JUAN

Pit Type: Separator ___ Dehydrator ✓ Other ___

Land Type: BLM ___, State ___, Fee ✓, Other ___

Pit Location: (Attach diagram)
Pit dimensions: length 16', width 17', depth 16'
Reference: wellhead ✓, other ___
Footage from reference: 160'
Direction from reference: 42 Degrees ✓ East ___ North 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

B0007 DEHY. PIT

Date Remediation Started: _____ **Date Completed:** 6/22/94 MV

Remediation Method: (Check all appropriate sections) Excavation ✓ Approx. cubic yards 160

Landfarmed ✓ Insitu Bioremediation ___

Other _____

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

General Description Of Remedial Action: EXCAVATION, GROUNDWATER IMPACT. GW PUMPED & DISPOSED BY TRIPLE 5 PRIOR TO LAST SAMPLING EVENT (DISPOSAL NOTED TO AN UNKNOWN INJECTION WELL). MV

Ground Water Encountered: No ___ Yes ✓ Depth 14'

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

Sample location SEE "CLOSURE VERIFICATION" SHEET

MULTIPLE SAMPLING EVENTS

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 ~~6/13/94~~ MV 2/15/00

SIGNATURE B J Shaw

PRINTED NAME AND TITLE Buddy D Shaw Environmental Coordinator

RESULTS GIVEN TO BOB McCOY 6/9/94 & 6/13/94

CLIENT: AMOCO	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: B0007 C.O.C. NO: 1564

FIELD REPORT: CLOSURE VERIFICATION

~~JOB No:~~ PAGE No: 1 of 1

LOCATION: NAME: SULLIVAN FRAME GU WELL #: A 1E PIT: DEHY

QUAD/UNIT: A SEC: 30 TWP: 29N RNG: 10W BM: NM CNTY: SJ ST: NM

QTR/FOOTAGE: NE/4 NE 1/4 990 FNL 990 FEL CONTRACTOR:

DATE STARTED: 6/8/94
DATE FINISHED: 6/10/94

ENVIRONMENTAL SPECIALIST: NV

SOIL REMEDIATION: EXCAVATION APPROX. 16 FT. x 17 FT. x 16' FT. DEEP.

DISPOSAL FACILITY: LANDFARMED ON-SITE CUBIC YARDAGE: 160

LAND USE: RANGE LEASE: FEE

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 160 FEET S42E FROM WELLHEAD.

DEPTH TO GROUNDWATER: <50 NEAREST WATER SOURCE: >1000 NEAREST SURFACE WATER: <1000

NMOCD RANKING SCORE: 30 NMOCD TPH CLOSURE STD: 100 PPM Fm. - OTR. Fm - CH-MV DUAL COMPLETION

SOIL AND EXCAVATION DESCRIPTION: DK. YELL. ORANGE TO BROWN SAND, 5@7' - LT. OLIVE GRAY, NON-COHESIVE, SLIGHTLY MOIST, LOOSE TO FIRM, BOTTOM SAMPLE HAD STRONG HC ODOR.

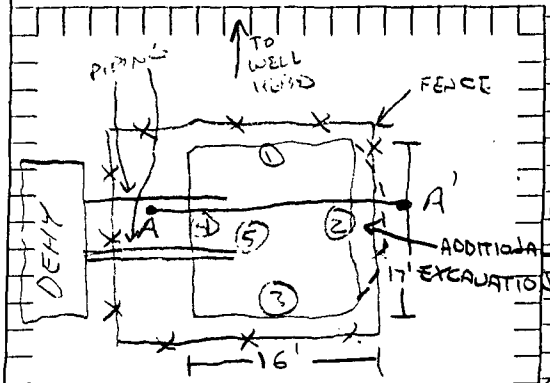
6/10/94 - NORTH SIDEWALL REVEALED APPROX. 5-6' OF DISCOLORED SOIL BELOW 7-8' OF POSSIBLY CLEAN OVERBURDENED. DISCOLORATION APPEARS TO BE TAPERING OFF TOWARDS EAST-NORTHEAST DIRECTION AS WELL AS THE EAST-SOUTHEAST DIRECTION.

FIELD 418.1 CALCULATIONS

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

SCALE 0 FT

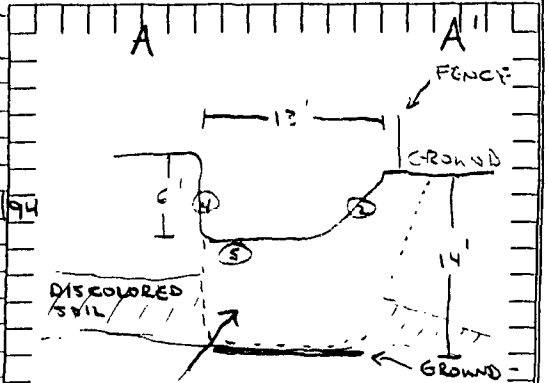
PIT PERIMETER



OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)	
1 @ 4'	0.2	
2 @ 3'	0.9	
3 @ 5'	0.7	
4 @ 4'	0.1	
5 @ 7'	498	
6 @ GW (14')	512	6/10/94
	LAB SAMPLES	
5 @ 7'	TPH (418.1)	
	BTEX (8020)	
6 @ GW (14')	BTEX (8020)	6/10/94
7 @ GW (14')	BTEX (8020)	6/22/94

PIT PROFILE



TRAVEL NOTES: CALLOUT: 6/8/94 ONSITE: 6/8/94

ON SITE TECHNOLOGIES, LTD.

TOTAL PETROLEUM HYDROCARBONS

Attn:	*Nelson Velez*	Date:	6/9/94
Company:	*Blagg Engineering*	*Lab ID:*	*1564*
Address:	*P.O. Box 87*	*Sample No.*	*1654*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Amoco Production***				
Project Location:	***Sullivan Frame GU A1E; 5 @ 7ft. - Dehy. Pit***				
Sampled by:	NV	Date:	6/7/94	Time:	1150
Analyzed by:	TT	Date:	6/8/94		
Type of Sample:	*Soil*				

Laboratory Analysis

Laboratory Identification	***Sample Identification***	***Total Petroleum Hydrocarbons***
1654-1564	*Amoco Production* ***Sullivan Frame GU A1E; 5 @ 7ft. - Dehy. Pit***	32500 *mg/kg*

Method - *EPA Method 418.1 Total Petroleum Hydrocarbons*

Approved by:
Date: 6/9/94

FAX: (505) 327-1496 ▪ 24 HR. – (505) 327-7105 ▪ OFF.: (505) 325-8786
3005 NORTHRIDGE DRIVE ▪ SUITE F ▪ P. O. BOX 2606 ▪ FARMINGTON, NEW MEXICO 87499

ON SITE TECHNOLOGIES, LTD.

AROMATIC VOLATILE ORGANICS

Attn:	*Nelson Velez*	Date:	6/10/94
Company:	*Blagg Engineering*	*Lab ID:*	*1568*
Address:	*P.O. Box 87*	*Sample ID:*	*1660*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Sullivan Frame G.U. A1E***				
Project Location:	***6 @ GW (14')***				
Sampled by:	NV	Date:	6/10/94	Time:	8:30
Analyzed by:	DLA	Date:	6/10/94		
Sample Matrix:	*Liquid*				

Aromatic Volatile Organics

Component	****Measured Concentration ug/L***
Benzene	*90*
Toluene	*1,094*
Ethylbenzene	*72*
m,p-Xylene	*1,148*
o-Xylene	*221*
TOTAL	*2,625 ug/L*

ND - Not Detectable
*** - Method Detection Limit, 2 ug/L***

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

Approved by: Bill Olson
Date: 6/10/94

FAX: (505) 327-1496 ▪ 24 HR. – (505) 327-7105 ▪ OFF.: (505) 325-8786
3005 NORTHRIDGE DRIVE ▪ SUITE F ▪ P. O. BOX 2606 ▪ FARMINGTON, NEW MEXICO 87499

B000 1

ON SITE TECHNOLOGIES, LTD.

AROMATIC VOLATILE ORGANICS

Attn:	*Nelson Velez*	Date:	6/23/94
Company:	*Blagg Engineering Inc.*	*Lab ID:*	*1601*
Address:	*P.O. Box 87*	*Sample ID:*	*1727*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Sullivan Frame GU A1E***				
Project Location:	***2 @ GW (14') - Dehy. Pit***				
Sampled by:	NV	Date:	6/22/94	Time:	10:25
Analyzed by:	DLA	Date:	6/23/94		
Sample Matrix:	*Liquid*				

Aromatic Volatile Organics

Component	****Measured Concentration ug/L***
Benzene	*ND*
Toluene	*2.3*
Ethylbenzene	*ND*
m,p-Xylene	*ND*
o-Xylene	*ND*
TOTAL	*2.3 ug/L*

ND - Not Detectable
*** - Method Detection Limit, 2 ug/L*

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

Approved by: DA
Date: 6/23/94

FAX: (505) 327-1496 ▪ 24 HR. – (505) 327-7105 ▪ OFF.: (505) 325-8786
3005 NORTHRIDGE DRIVE ▪ SUITE F ▪ P. O. BOX 2606 ▪ FARMINGTON, NEW MEXICO 87499

No 1564

CHAIN OF CUSTODY RECORD

ON SITE TECHNOLOGIES LIMITED

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

Date: 6/8/94

Page 1 of 1

B0007

Purchase Order No.:	Reference 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.

Special Instructions:

Sampler:

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE/ GRAB	PRESERVATIVES	Number of Containers	ANALYSIS REQUESTED										Remarks (matrix)
1654 - 1564															

Relinquished by:	Date/Time 6/8/94 1451	Received by:	Date/Time 6/8/94 1457
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

ON SITE TECHNOLOGIES LIMITED

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

CHAIN OF CUSTODY RECORD

№ 1568

Date: 6/1-/94 Page 1 of 1

B0007

Purchase Order No.:	Reference No.:
SEND INVOICE TO — Name	
Company	Dept.
Address P.O. Box 87	
City, State, Zip Bloomfield, NM	
Special Instructions:	
Sampler:	

REPORT RESULTS TO		
Name		Title PG
Company SAME		
Mailing Address SAME		
City, State, Zip SAME		
Telephone No. 632-1199		Telefax No.

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE/ GRAB	PRESERVATIVES	Number of Containers	[illegible]										Remarks (matrix)
[illegible] 1660 - 1568	[illegible]	GRAB	HCl	2	✓										

Relinquished by:	Date/Time 1017	Received by:	Date/Time 6/1-/94 1017
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 CUS. ODY RECORD

No. 1601

ON SITE TECHNOLOGIES LIMITED

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

Date: 6/22/94

Page 1 of 1

B007

Purchase Order No.:	Reference No.:		
SEND INVOICE TO: Name		REPORT RESULTS TO: Name	Title
Company: BLAGG ENGINEERING	Dept.	Company: SAME	
Address: P.O. BOX 87		Mailing Address: SAME	
City, State, Zip: BLOOMFIELD, NM 87401		City, State, Zip: SAME	
		Telephone No.: 632-1199	Telefax No.

Special Instructions:
SULLIVAN FARM GW AIE

Sampler: [signature]

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE/ GRAB	PRESERVATIVES	Number of Containers	ANALYSIS REQUESTED: BTEX (8020)			Remarks (matrix)
(2) @ GW (14') - OFF PIT	6/22/94 1127	GRAB	HgCl	2	✓		1727-1601	

Relinquished by: [signature]	Date/Time 6/22/94 1417	Received by: Tony Twitty	Date/Time 6/22/94 1417		
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

CLIENT: AMOCO

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

LOCATION NO: 80007
C.O.C. NO: 5633

FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: SULLIVAN FRAME A WELL #: 1E PITS: DEHY
QUAD/UNIT: A SEC: 30 TWP: 29N RNG: 10W PM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: NE/4 NE/4 CONTRACTOR: P&S

DATE STARTED: 11-26-97
DATE FINISHED:
ENVIRONMENTAL SPECIALIST: NV/EP

SOIL REMEDIATION:

REMEDIATION SYSTEM: LANDFARM APPROX. CUBIC YARDAGE: 160
LAND USE: RANGE LIFT DEPTH (ft): NA

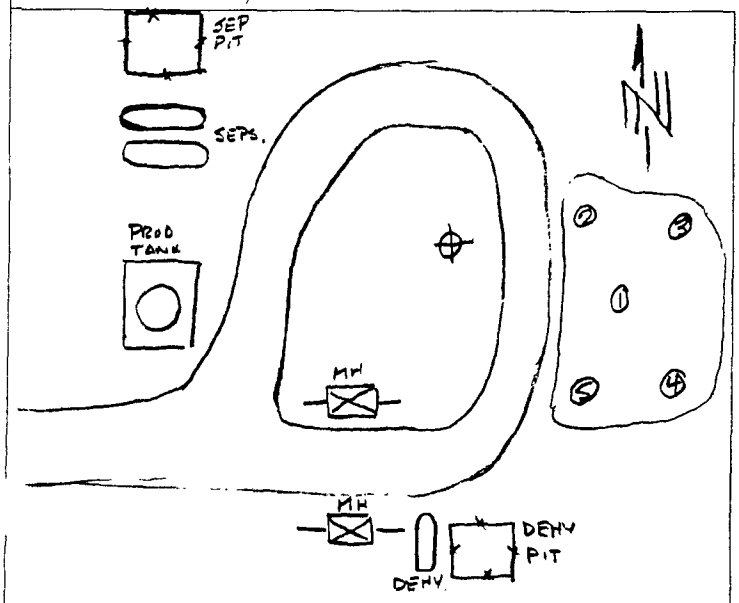
FIELD NOTES & REMARKS:

DEPTH TO GROUNDWATER: <50' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: <1000'
NMOCD RANKING SCORE: 30 NMOCD TPH CLOSURE STD: 100 PPM
SOIL IS A DARK YELLOW W/ LIGHT BROWN SILTY SAND DRY
NO STAIN OR HC ODOR TOOK 5PT COMP FROM LANDFARM AREA
FOR LAB ANALYSIS

FIELD 418.1 CALCULATIONS

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

SKETCH/SAMPLE LOCATIONS



OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
LF-1	0.0

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME	RESULTS
LF-1	B015	1045	ND

SCALE
0 FT

TRAVEL NOTES: CALLOUT: N/A ONSITE: 11-26-97 1045

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	LF - 1	Date Reported:	12-05-97
Laboratory Number:	C620	Date Sampled:	11-26-97
Chain of Custody No:	5633	Date Received:	12-03-97
Sample Matrix:	Soil	Date Extracted:	12-03-97
Preservative:	Cool	Date Analyzed:	12-04-97
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**	**0.2**

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: **Sullivan Frame C # 1E Landfarm. 5 Pt. Composite.**

Analyst

Review

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5633

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
BLAGG / AMOCO	LANDFARM SULLIVAN FRAME A #1E	

Sampler: (Signature): Ed. Potter 9/1/97

Chain of Custody Tape No.: 04034-10

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH (8015)						Remarks
												PRESERV. - COOL
LF-1	11/26/97	1045	C620	SOIL	1	V						5 PT. COMPOSITE
				SAMPLE	RECEIVED COOL & INTACT DLH							

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Ed Potter 9/1/97	12/2/97	0700	Nelson Velez	12/2/97	0700
Nelson Velez	12/3/97	0817	Dan L. Ajenca	12-3-97	0817
Relinquished by: (Signature)			Received by: (Signature)		

Ref COCs 5632 - 5637

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Farmington, New Mexico 87401
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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:	12-04-PM-TPH QA/QC	Date Reported:	12-05-97
Laboratory Number:	C619	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	12-04-97
Condition:	N/A	Analysis Requested:	TPH

Calibration	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	10-28-97	2.9715E-04	3.0698E-04	3.31%	0 - 15%
Diesel Range C10 - C28	10-28-97	2.9167E-04	3.0288E-04	3.84%	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	249	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 Wast SW-846, USEPA, December 1996.

Comments: **QA/QC for samples C619 - C625.**

Analyst

Review

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