3R - 126

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

SNYDER GC #1A
(F) SECTION 19, T29N, R9W, 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)
Snyder GC # 1A - Blow Pit
Se/4 Nw/4 Sec. 19, T29N, R9W

Site Assessment Date:	**September 18, 1992 (Documentation Included)**
Pit closure Date:	**March 3, 1994 (Documentation Included)**
Monitor Well Installation Date:	**October 11, 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 or was below 25% of the New Mexico Water Quality Control Commission's allowable concentration for groundwater as addressed in the NMOCD previously approved groundwater management plan. The general water quality results did meet (NMWQCC) allowable concentration for groundwater for all constituents regulated.

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.

SNYDER GC # 1A - BLOW PIT

UNIT F, SEC. 19, T29N, R9W

DRAFTED : DECEMBER 4, 1999

FILENAME: (SN-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	6.79	15.00	520	1,094	7.3		ND	ND	ND	ND
28-Oct-99	MW #2	6.67	15.00	580	1,165	7.4		1.2	3.6	ND	3.7
28-Oct-99	MW #3	7.35	15.00	760	1,570	7.4		ND	ND	ND	ND

GENERAL WATER QUALITY

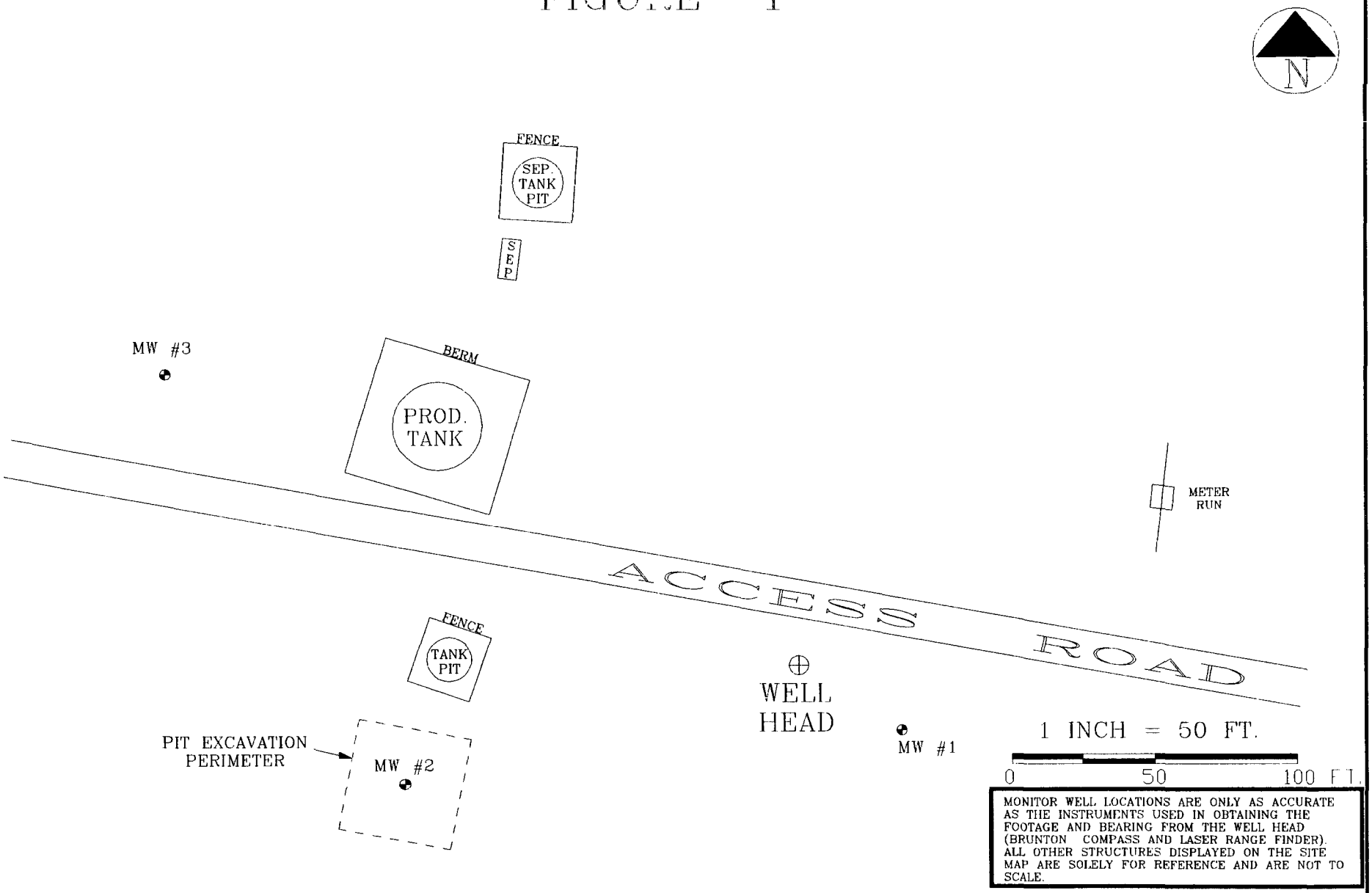
CROSS TIMBERS OIL COMPANY

SNYDER GC # 1A

SAMPLE DATE : October 28 , 1999

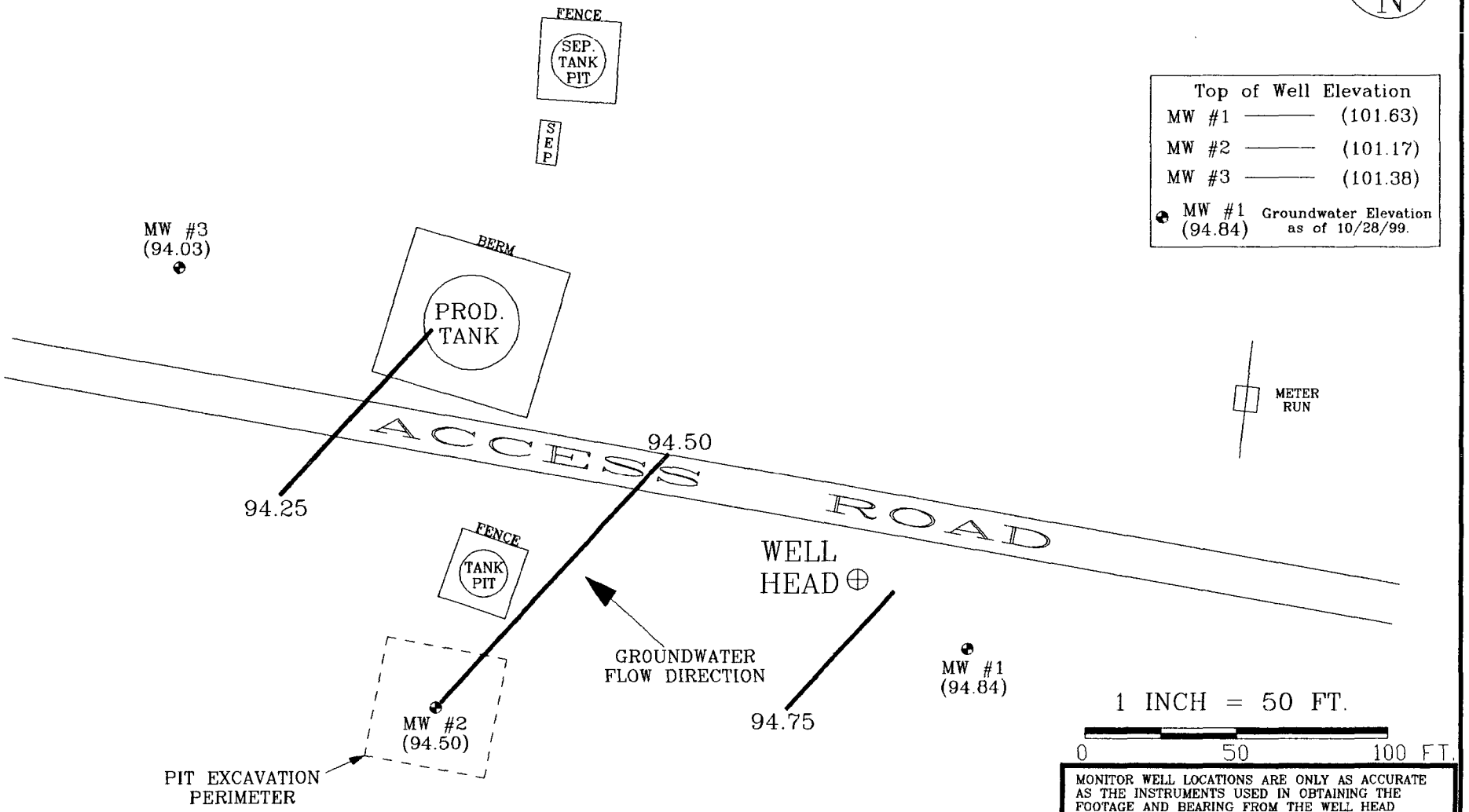
PARAMETERS	MW # 1	MW # 2	MW # 3	Units
LAB pH	7.28	7.37	7.36	s. u.
LAB CONDUCTIVITY @ 25 C	1,094	1,165	1,570	umhos / cm
TOTAL DISSOLVED SOLIDS @ 180 C	520	580	760	mg / L
TOTAL DISSOLVED SOLIDS (Calc)	504	541	733	mg / L
SODIUM ABSORPTION RATIO	2.8	2.0	1.4	ratio
TOTAL ALKALINITY AS CaCO3	221	245	247	mg / L
TOTAL HARDNESS AS CaCO3	198	256	420	mg / L
BICARBONATE as HCO3	221	245	247	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	0.003	< 0.001	< 0.001	mg / L
CHLORIDE	1.3	2.2	2.3	mg / L
FLUORIDE	1.47	1.35	1.49	mg / L
PHOSPHATE	1.1	0.8	0.5	mg / L
SULFATE	198	208	348	mg / L
IRON	0.007	< 0.001	0.036	mg / L
CALCIUM	73.6	97.2	141.6	mg / L
MAGNESIUM	3.42	3.17	16.1	mg / L
POTASSIUM	2.6	6.4	6.2	mg / L
SODIUM	89.0	74.0	67.0	mg / L
CATION / ANION DIFFERENCE	0.03	0.06	0.16	%

FIGURE 1



CROSS TIMBERS OIL COMPANY SNYDER GC #1A SW/4 NW/4 SEC. 19, T29N, R9W 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: SNYDR-SM.SKD	SITE MAP 10/99

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



CROSS TIMBERS OIL COMPANY SNYDER GC #1A SW/4 NW/4 SEC. 19, T29N, R9W 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: SNYDR-GW.SKD	GROUNDWATER CONTOUR MAP 10/99

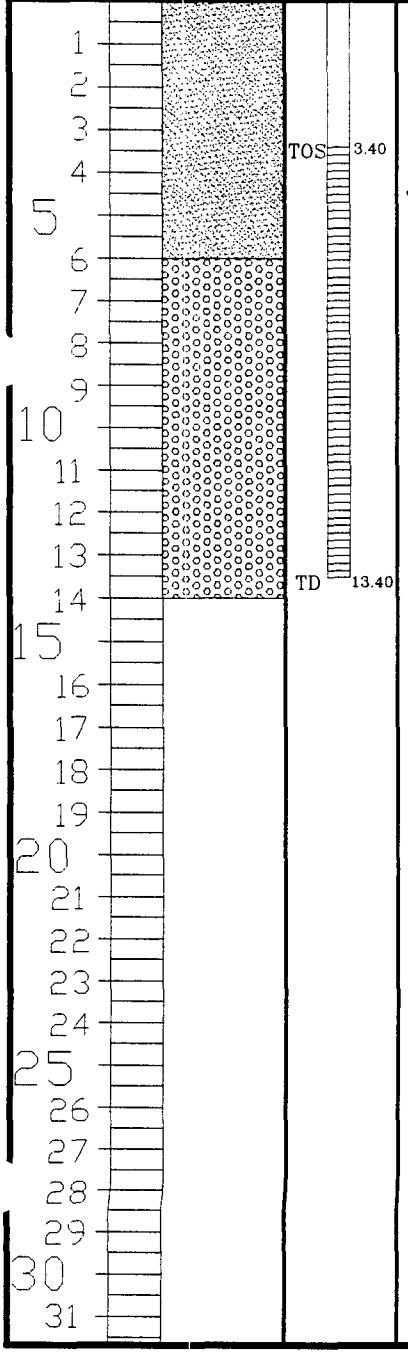
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

BORING # BH - 1
MW # 1
PAGE # 1
DATE STARTED 10/11/99
DATE FINISHED 10/11/99
OPERATOR DE
PREPARED BY NJV

CLIENT: CROSS TIMBERS OIL COMPANY
LOCATION NAME: SNYDER GC #1A
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (ENVIROTECH CME61)
BORING LOCATION: 43 FT., S57.5E FEET FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 1.60 FT. ABOVE GROUND SURFACE.

MODERATE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM TO LOOSE, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 6.00 FT. INTERVAL).

▼ GW DEPTH ON 10/28/99 = 5.19 FT. (APPROX.) FROM GROUND SURFACE.

DARK YELLOWISH BROWN SAND AND GRAVEL, NON COHESIVE, SATURATED, FIRM TO LOOSE, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (6.00 - 14.00 FT. INTERVAL).

NOTE:
- SAND.
- 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: 1/29/00 | DWN BY: NJV

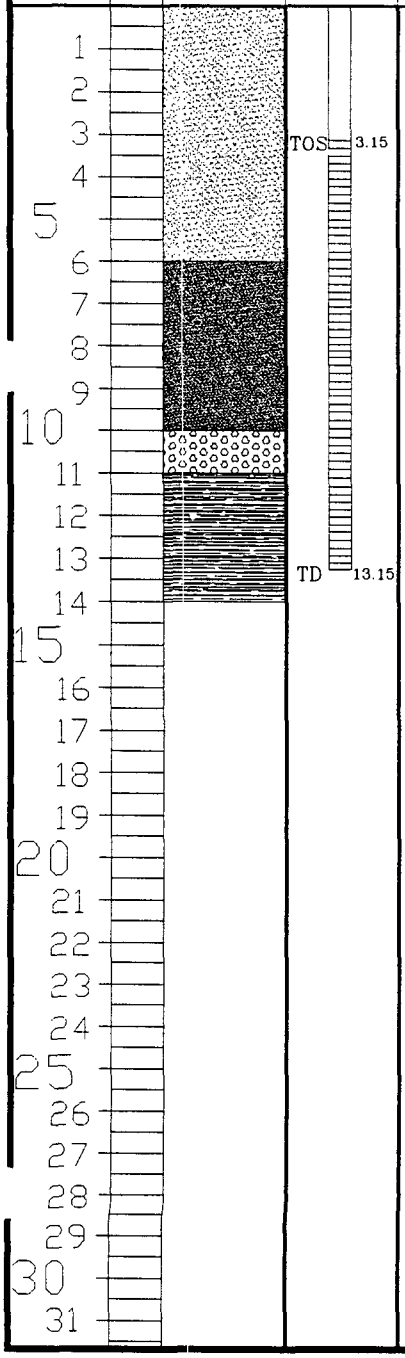
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

BORING # BH - 2
MW # 2
PAGE # 2
DATE STARTED 10/11/99
DATE FINISHED 10/11/99
OPERATOR DE
PREPARED BY NJV

CLIENT: CROSS TIMBERS OIL COMPANY
LOCATION NAME: SNYDER GC #1A
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (ENVIROTECH CME61)
BORING LOCATION: 145 FT., S73W FEET FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 1.85 FT. ABOVE GROUND SURFACE.

MODERATE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM TO LOOSE, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 6.00 FT. INTERVAL).

▼ GW DEPTH ON 10/28/99 = 4.82 FT. (APPROX.) FROM GROUND SURFACE.

SAME AS ABOVE EXCEPT DARK GRAY TO BLACK, SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY (6.00 - 10.00 FT. INTERVAL).

MEDIUM TO DARK GRAY SAND AND GRAVEL, NON COHESIVE, SATURATED, FIRM TO LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY (10.00 - 11.00 FT. INTERVAL).

DARK GRAY CLAY, SLIGHTLY PLASTIC, SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY (11.00 - 14.00 FT. INTERVAL).

NOTE:
- SAND.
- DISCOLORED SAND.
- CLAY.
- 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: 1/29/00	DWN BY: NJV

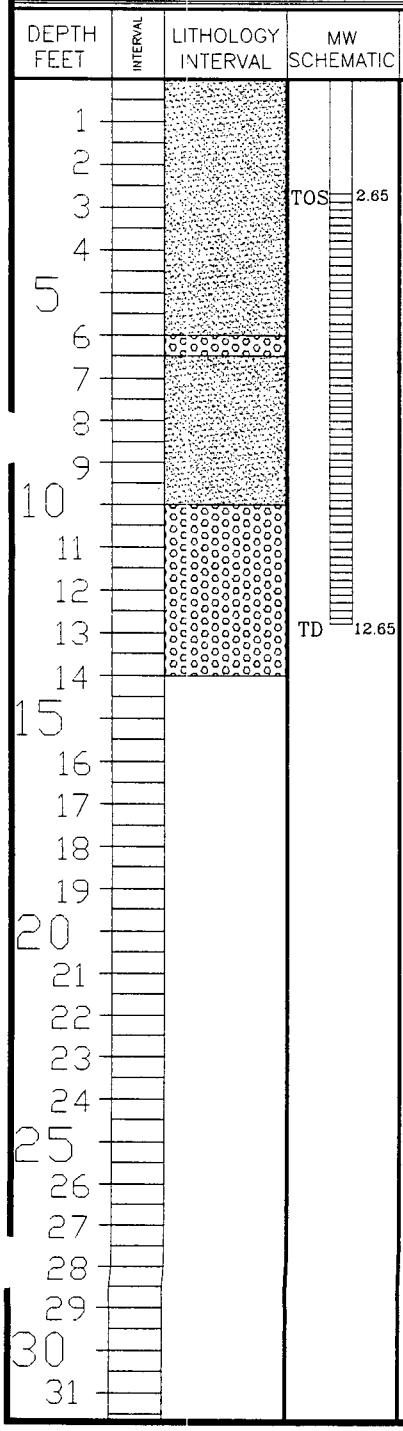
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

BORING #..... BH - 3
MW #..... 3
PAGE #..... 3
DATE STARTED 10/11/99
DATE FINISHED 10/11/99
OPERATOR..... DE
PREPARED BY NJV

CLIENT: CROSS TIMBERS OIL COMPANY
LOCATION NAME: SNYDER GC #1A
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (ENVIROTECH CME61)
BORING LOCATION: 246 FT., N65W FEET FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.35 FT. ABOVE GROUND SURFACE.

MODERATE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST TO SATURATED, FIRM TO LOOSE, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 6.00 FT. INTERVAL).

▼ GW DEPTH ON 10/28/99 = 5.00 FT. (APPROX.) FROM GROUND SURFACE.

SAME AS ABOVE EXCEPT WITH GRAVEL, SATURATED, (6.00 - 6.50 FT. INTERVAL).

SAME AS ABOVE EXCEPT WITHOUT GRAVEL, (6.50 - 10.00 FT. INTERVAL).

SAME AS ABOVE EXCEPT WITH GRAVEL, (10.00 - 14.00 FT. INTERVAL).

NOTE: ▨ - SAND.

▨ - 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: 1/29/00	DWN BY: NJV

MONITOR WELL #1

CROSS TIMBERS OIL COMPANY

SNYDER GC # 1A

MONITOR WELL CONSTRUCTION & COMPLETION

INSTALLED WITH MOBILE RIG

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

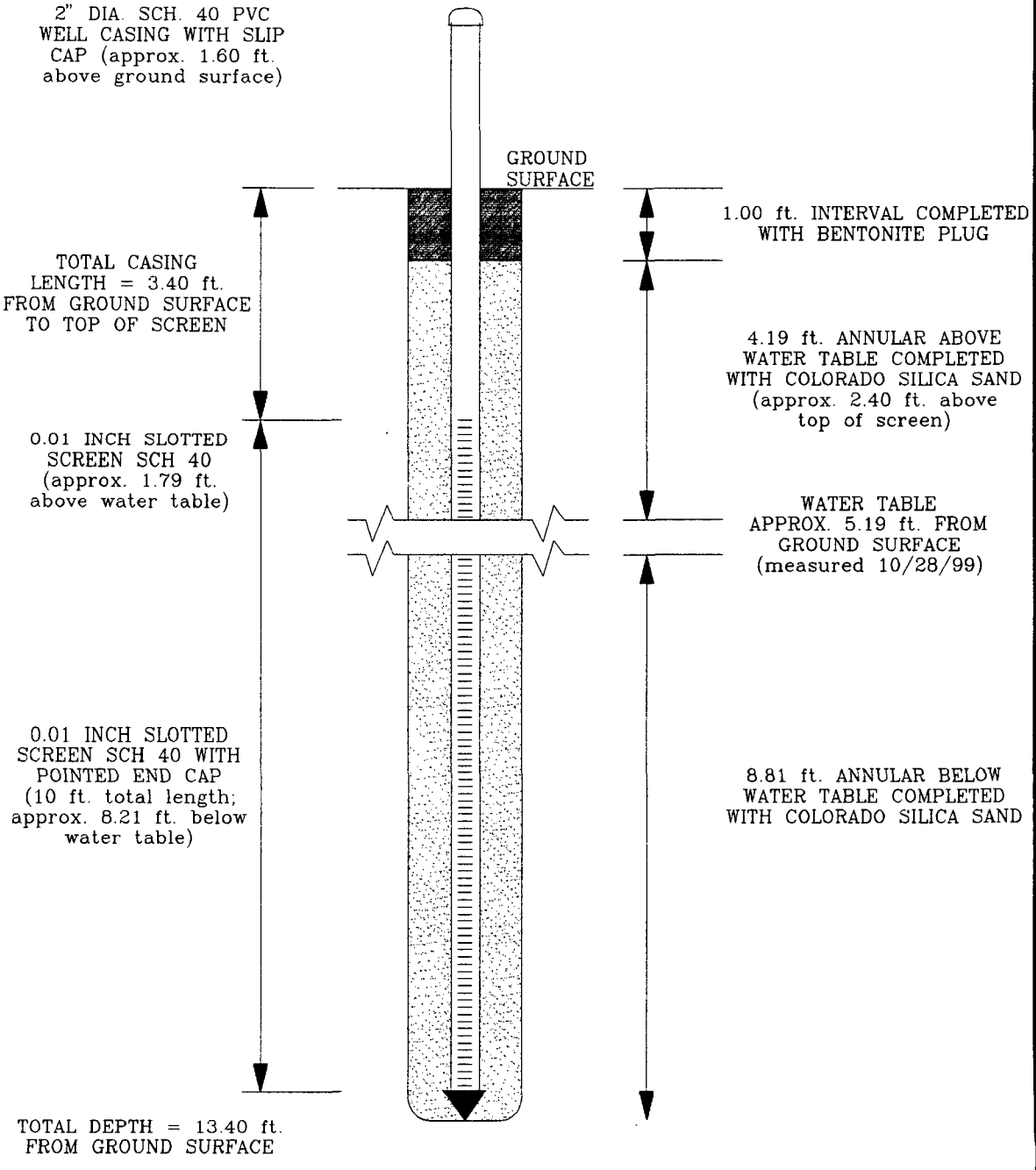
PHONE: (505) 632-1199

MONITOR WELL SCHEMATIC

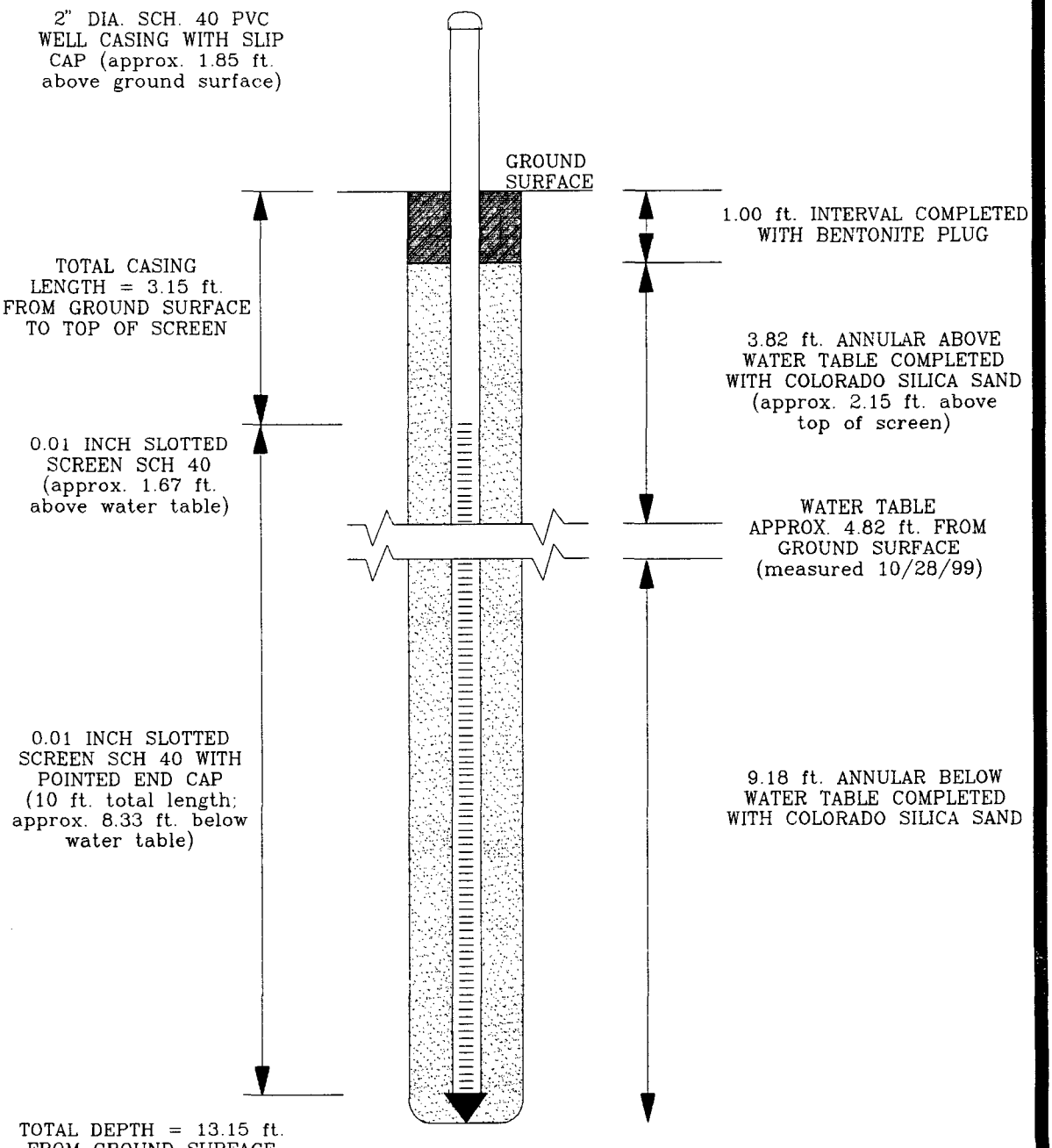
DRAFTED BY: NJV

DATE: JAN. '00

FILENAME: MW-1



MONITOR WELL #2



CROSS TIMBERS OIL COMPANY

SNYDER GC # 1A

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

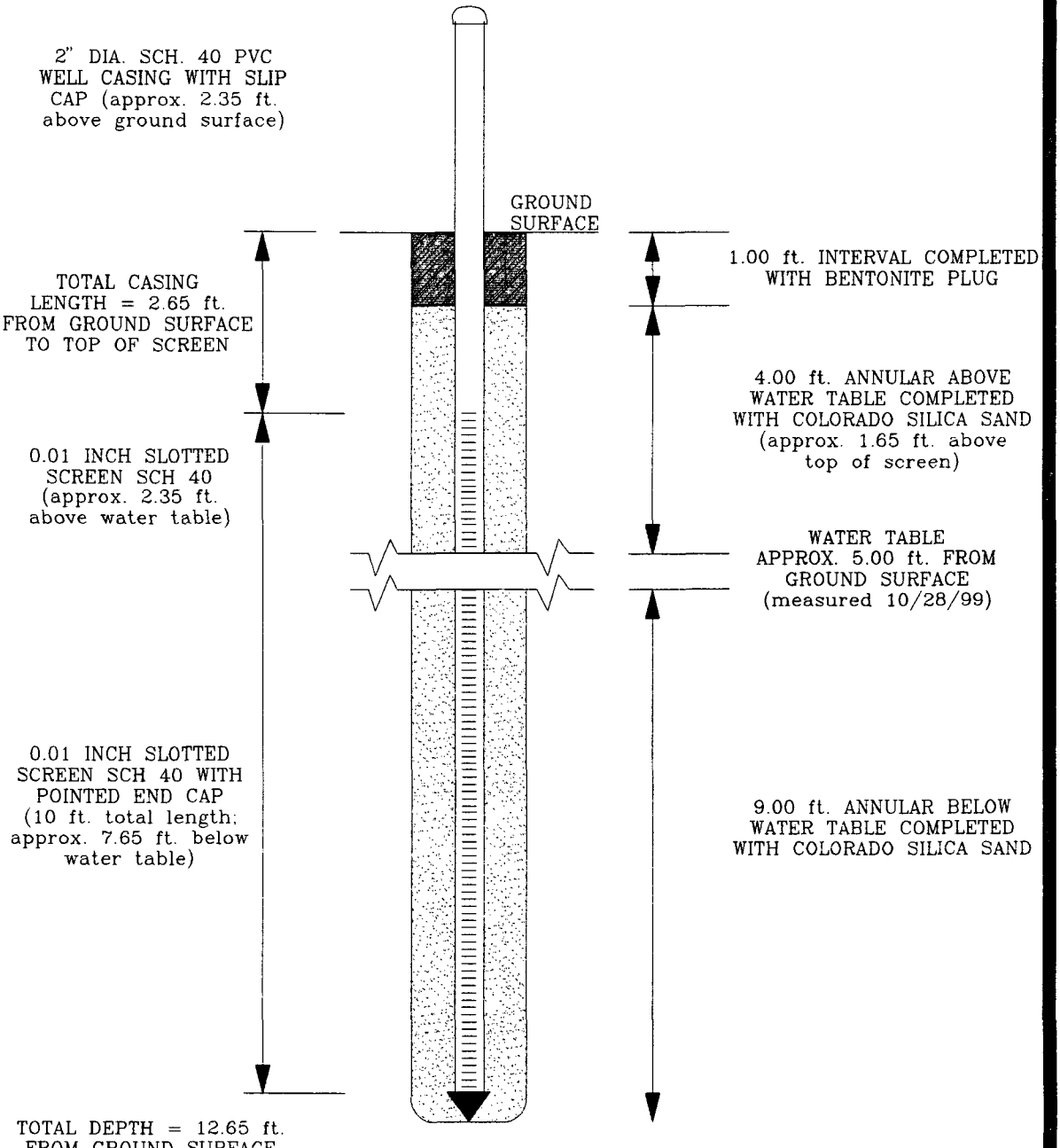
MONITOR WELL SCHEMATIC

DRAFTED BY: NJV

DATE: JAN. '00

FILENAME: MW-2

MONITOR WELL #3



CROSS TIMBERS OIL COMPANY

SNYDER GC # 1A

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 # :** 7305

LOCATION : SNYDER GC # 1A **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	101.63	94.84	6.79	15.00	1110	7.6	1500	4.00	-
2	101.17	94.50	6.67	15.00	1130	7.5	1600	4.00	-
3	101.38	94.03	7.35	15.00	1155	7.4	2100	3.75	-

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 MW #'s 2 & 3 . 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:	7305	Date Sampled:	10-28-99
Laboratory Number:	G267	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: **Snyder GC # 1A.**

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

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Cross Timbers	Project #:	403410
Sample ID:	MW #2	Date Reported:	10-29-99
Chain of Custody:	7305	Date Sampled:	10-28-99
Laboratory Number:	G268	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	**1.2**	**1**	**0.2**
Toluene	**3.6**	**1**	**0.2**
Ethylbenzene	**ND**	**1**	**0.2**
p,m-Xylene	**2.5**	**1**	**0.2**
o-Xylene	**1.2**	**1**	**0.1**
Total Xylene	**3.7**		
Total BTEX	**8.5**		

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: **Snyder GC # 1A.**

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

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Cross Timbers	Project #:	403410
Sample ID:	MW #3	Date Reported:	10-29-99
Chain of Custody:	7305	Date Sampled:	10-28-99
Laboratory Number:	G269	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	**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: **Snyder GC # 1A.**

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:	10-30-99
Laboratory Number:	G267	Date Sampled:	10-28-99
Chain of Custody:	7305	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	**7.28**	s.u.		
Conductivity @ 25° C	**1,094**	umhos/cm		
Total Dissolved Solids @ 180C	**520**	mg/L		
Total Dissolved Solids (Calc)	**504**	mg/L		
SAR	**2.8**	ratio		
Total Alkalinity as CaCO3	**221**	mg/L		
Total Hardness as CaCO3	**198**	mg/L		
Bicarbonate as HCO3	**221**	mg/L	3.63	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	**1.47**	mg/L	0.08	meq/L
Phosphate	**1.1**	mg/L	0.03	meq/L
Sulfate	**198**	mg/L	4.11	meq/L
Iron	**0.007**	mg/L		
Calcium	**73.6**	mg/L	3.67	meq/L
Magnesium	**3.42**	mg/L	0.28	meq/L
Potassium	**2.6**	mg/L	0.07	meq/L
Sodium	**89.0**	mg/L	3.87	meq/L
Cations			7.89	meq/L
Anions			7.89	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: **Snyder GC #1A.**

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 #2	Date Reported:	10-30-99
Laboratory Number:	G268	Date Sampled:	10-28-99
Chain of Custody:	7305	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	**7.37**	s.u.		
Conductivity @ 25° C	**1,165**	umhos/cm		
Total Dissolved Solids @ 180C	**580**	mg/L		
Total Dissolved Solids (Calc)	**541**	mg/L		
SAR	**2.0**	ratio		
Total Alkalinity as CaCO3	**245**	mg/L		
Total Hardness as CaCO3	**256**	mg/L		
Bicarbonate as HCO3	**245**	mg/L	4.01	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	**2.2**	mg/L	0.06	meq/L
Fluoride	**1.35**	mg/L	0.07	meq/L
Phosphate	**0.8**	mg/L	0.03	meq/L
Sulfate	**208**	mg/L	4.32	meq/L
Iron	**<0.001**	mg/L		
Calcium	**97.2**	mg/L	4.85	meq/L
Magnesium	**3.17**	mg/L	0.26	meq/L
Potassium	**6.4**	mg/L	0.16	meq/L
Sodium	**74.0**	mg/L	3.22	meq/L
Cations			8.49	meq/L
Anions			8.49	meq/L
Cation/Anion Difference			**0.06%**	

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: **Snyder GC #1A.**

Analyst

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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:	G269	Date Sampled:	10-28-99
Chain of Custody:	7305	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	**7.36**	s.u.		
Conductivity @ 25° C	**1,570**	umhos/cm		
Total Dissolved Solids @ 180C	**760**	mg/L		
Total Dissolved Solids (Calc)	**733**	mg/L		
SAR	**1.4**	ratio		
Total Alkalinity as CaCO3	**247**	mg/L		
Total Hardness as CaCO3	**420**	mg/L		
Bicarbonate as HCO3	**247**	mg/L	4.05	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	**2.3**	mg/L	0.06	meq/L
Fluoride	**1.49**	mg/L	0.08	meq/L
Phosphate	**0.5**	mg/L	0.02	meq/L
Sulfate	**348**	mg/L	7.23	meq/L
Iron	**0.036**	mg/L		
Calcium	**141.6**	mg/L	7.07	meq/L
Magnesium	**16.1**	mg/L	1.33	meq/L
Potassium	**6.2**	mg/L	0.16	meq/L
Sodium	**67.0**	mg/L	2.91	meq/L
Cations			11.47	meq/L
Anions			11.45	meq/L
Cation/Anion Difference			**0.16%**	

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: **Snyder GC #1A.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

7305

Client / Project Name	Project Location	Client No.	Sampler
BLAGG/CROSSTIMBERS	SNYDER GC #1A	403410	REP

ANALYSIS / PARAMETERS

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8021)	ANION CATION	Remarks
MW#1	10.28.99	1110 ~~1155~~	G267	WATER	3	✓	✓	
MW#2	10.28.99	1130	G268	WATER	3	✓	✓	
MW#3	10.28.99	1155	G269	WATER	3	✓	✓	
								BTEX SAMPLES
								PRESERVE -
								HgCl2 - COOL
								A/C SAMPLE
								PRESERVE - COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	10.28.99	1350	[signature]	10.28.99	1350
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

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Farmington, New Mexico 87401
(505) 6~~-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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94534

ENVIROTECH Inc.

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

1872

FIELD REPORT: SITE ASSESSMENT

JOB No: 92140
PAGE No: 1 of 1

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

DATE STARTED: 9-18-92
DATE FINISHED: 9-18-92
ENVIRO. SPCLT: JW
OPERATOR: G.S.
ASSISTANT: L.T.

LOCATION: LSE: SNYDER Gas Com WELL: No. 1A QD: SE 1/4 NW 1/4 F
SEC: 19 TWP: 29N RNG: 9W PM: NM CNTY: SJ ST: NM PIT: Blow
LAND USE: Private - Pasture
SURFACE CONDITIONS: EARTHEN Pit approx 4' deep. Petroleum Stain on surface

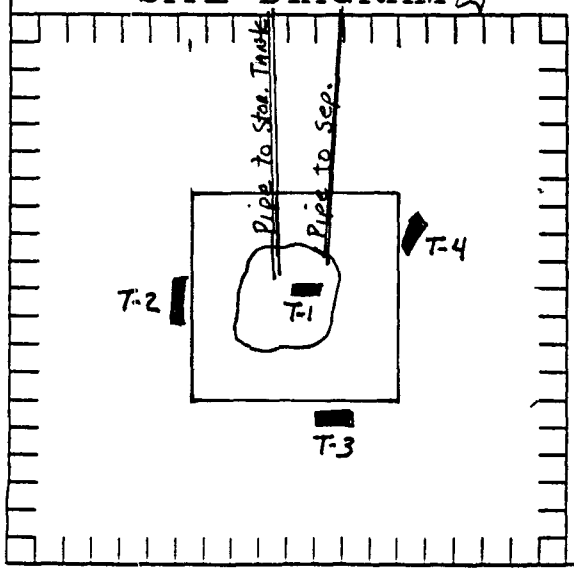
FIELD NOTES & REMARKS: Pit is located approx. 110' south AND 75' west of well head. Soil IN AND AROUND pit area is SANDY. Contamination seems to be in Pit area only. Need to install steel TANK.

SAMPLE INVENTORY:

SMPL ID:	SMPL TYPE:	LABORATORY ANALYSIS:
T-1@2'	SOIL	TPH BTEX
T-1@3'	H2O	TPH
T-1@3'	H2O	BTEX
T-1@3	H2O	BTEX
T-4@5'	H2O	HEADSPACE BTEX

SCALE
0 10' 20' FEET

SITE DIAGRAM



TEST HOLE LOGS:

APPROX. 4' below NATURAL ground Elev.

TH#: 1

	SOIL TYPE:	SMPL TYPE:	OVM/TPH
1	BLACK STAINED SAND		
2		soil	785
3	SW	H2O	716
4			
5			
6			

TH#: T-2

SOIL TYPE:	SMPL TYPE:	OVM/TPH
SANDY BROWN (SAND)		
SW	soil	0°
	H2O	0°

TH#: 3

SOIL TYPE:	SMPL TYPE:	OVM/TPH
SANDY BROWN (SAND)		
SW	soil	0°
	H2O	0°

TH#: 4

SOIL TYPE:	SMPL TYPE:	OVM/TPH
SANDY BROWN (SAND)		
SW	soil	0°
	H2O	0°

SOIL TYPE: C - Clay, M - Silt, S - Sand, G - Gravel Plasticity: L - None, H - Plastic Grading: P - Poorly, W - Well

ENVIROTECH LABS

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

EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	Amoco	Project #:	92140
Sample ID:	T1 @ 2'	Date Reported:	10-06-92
Laboratory Number:	3063	Date Sampled:	09-18-92
Sample Matrix:	Soil	Date Received:	09-18-92
Preservative:	Cool	Date Analyzed:	10-02-92
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	ND	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: Snyder Gas Com. 1A Blow Pit. 94534

Analyst

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:	T1 @ 2'	Date Reported:	11-05-92
Laboratory Number:	3063	Date Sampled:	09-18-92
Sample Matrix:	Soil	Date Received:	09-18-92
Preservative:	Cool	Date Extracted:	10-02-92
Condition:	Cool & Intact	Date Analyzed:	11-02-92
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	28.9
Toluene	189	48.2
Ethylbenzene	ND	28.9
p,m-Xylene	2,840	38.5
o-Xylene	ND	28.9

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	117 %
Bromfluorobenzene	94 %

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: Snyder GC 1A Blow Pit 94534

Analyst

Review

ENVIROTECH LABS

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EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	T1 @ 3'	Date Reported:	11-03-92
Laboratory Number:	3066	Date Sampled:	09-18-92
Sample Matrix:	Water	Date Received:	09-18-92
Preservative:	Cool	Date Analyzed:	10-27-92
Condition:	Cool and intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	129	1.0
Toluene	670	2.5
Ethylbenzene	302	1.5
p,m-Xylene	3,240	3.0
o-Xylene	ND	1.5

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	80 %
Bromfluorobenzene	85 %

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: Snyder GC 1A Blow Pit 94534

Analyst

Review

ENVIROTECH LABS

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

EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	Amoco	Project #:	92140
Sample ID:	T1 @ 3'	Date Reported:	10-15-92
Laboratory Number:	3064	Date Sampled:	09-18-92
Sample Matrix:	Water	Date Received:	09-18-92
Preservative:	Cool	Date Analyzed:	10-05-92
Condition:	Cool	Analysis Needed:	TPH

Parameter	Concentration (mg/L)	Det. Limit (mg/L)
TPH	172	10.0

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

ND - Parameter not detected at the stated detection limit.

Comments: Snyder Gas Com. 1A Blow Pit. 94534

Analyst

Review

ENVIROTECH LABS

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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:	T4 @ 5'	Date Reported:	10-22-92
Laboratory Number:	3065	Date Sampled:	09-18-92
Sample Matrix:	Soil	Date Received:	09-18-92
Preservative:	Cool	Date Analyzed:	10-20-92
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	ND	5.6
Toluene	ND	4.8
Ethylbenzene	ND	1.6
p,m-Xylene	ND	4.8
o-Xylene	ND	10.4

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: Snyder GC 1A---Blow Pit---94534

Analyst

Review

(1072)

CHAIN OF CUSTODY RECORD

94534

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
Amoco 92140	BLOW PIT SNYDER GAS COM. NO 1A	
Sampler: (Signature) J. Weahkee	Chain of Custody Tape No.	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH	BTEX	Headspace BTEX				Remarks
T-1 @ 2'	9-18-92	1405	3063	SOIL	1	✓	✓					
T-1 @ 3'	9-18-92	1415	3064	WATER	1	✓						
T-1 @ 3'	9-18-92	1415	~~3066~~ 3066	WATER	2		✓					
T-4 @ 5'	9-18-92	1510	~~3066~~ 3065	WATER	1		✓	✓				

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
J. Weahkee	9-18-92	1615	Linda Pender	9-18-92	1615
Relinquished by: (Signature)			Received by (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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

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.: 140800 14677

6. If Indian, Allottee or Tribe Name:

7. If Unit or CA, Agreement Designation: Com. AGMT.

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

8. Well Name and No.: SNYDER GC # 1A

2. Name of Operator: Amoco Production Company

9. API Well No.: 3004522792

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

10. Field and Pool, or Exploratory Area: MESA VERDE

4. Location of Well (Footage, Sec., T., R., M., or Survey Description): SW-NW S-19 T29N R9W NMPM

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

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

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

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

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

Pit closure verification - see attached documentation.

14. I hereby certify that the foregoing is true and correct

Signed B A Shaw Title Enviro. Coordinator Date 4/29/94

(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

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

State of New Mexico
Energy, Minerals and Natural Resources Department

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

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

PIT REMEDIATION AND CLOSURE REPORT

C4534

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

Address: 200 Amoco Court, Farmington, New Mexico 87401

Facility Or: Well Name: SNYDER GC # 1A

Location: Unit or Qtr/Qtr Sec E Sec 19 T 29N R 9W County SAN JUAN

Pit Type: Separator ___ Dehydrator ___ Other BLOW

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

Pit Location: (Attach diagram)
Pit dimensions: length 40', width 40', depth 75'
Reference: wellhead X, other ___
Footage from reference: 160'
Direction from reference: 60 Degrees ___ East North ___ of X 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)	0
	RANKING SCORE (TOTAL POINTS):	20

Date Remediation Started: _____ **Date Completed:** 3/15/94

Remediation Method: (Check all appropriate sections) Excavation X Approx. cubic yards 440

Landfarmed X Insitu Bioremediation ___

Other _____

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

General Description Of Remedial Action: _____

PIT EXCAVATED & SOILS LANDFARMED ON-SITE

Ground Water Encountered: No ___ Yes X Depth 5'

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

Sample location REFER TO "CLOSURE VERIFICATION" SHEET

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 4/27/94

SIGNATURE B J Shaw

PRINTED NAME AND TITLE Buddy D. Shaw Environmental Coordinator

F CO

3/14/94 Lab Results to P. Velasquez - No Recommendations (Rony)

ENVIROTECH Inc.

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

PIT NO: C4534
C.I.C. NO: 3389
COC. # 3428 3/15

FIELD REPORT: CLOSURE VERIFICATION

JOB No: 92140
PAGE No: 1 of 1

LOCATION: LEASE SNYDER GAS COM WELL 1A QD: SW/4 NW/4 (E)
SEC. 19 TWP: 29N RNG: 09W BM: NMPM CNTY: SJ ST: NM PIT: B/DW
CONTRACTOR: Paul Velasquez
EQUIPMENT USED: [illegible]

DATE STARTED: 3/3/94
DATE FINISHED: 3/3/94
ENVIRONMENTAL SPECIALIST: Rony

SOIL REMEDIATION: QUANTITY: 40'x40'x >5' deep
DISPOSAL FACILITY: [illegible]
LAND USE: [illegible]
SURFACE CONDITIONS: [illegible]

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 160 FEET S60°W FROM WELLHEAD.
Groundwater @ 5' bgs, Moderate green color, No observable Hydrocarbons associated w/GW.
Soil Samples Not Available
Pit enclosed in a 60'x60' fence. (Not Shown)

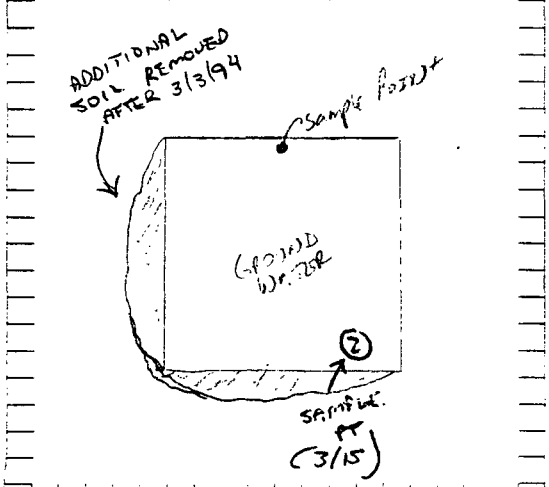
FIELD 418.1 CALCULATIONS

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

DEPTH TO GROUNDWATER: 5'
NEAREST WATER SOURCE: >1000
NEAREST SURFACE WATER: >1000
NMOCD RANKING SCORE: —
NMOCD TPH CLOSURE STD: —

SCALE
0 10 20 FEET ← N
← Susp Surface & Ground water flow Dir.

PIT PERIMETER



OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)

PIT PROFILE

UNIFORM

0'-5' SP- UNIFORM GRAIN MODERATE YELLOWISH BROWN Sand, LOOSE, MOIST TO WET, NON-COH, NO HC ODOR, NO VISIBLE CONTAM. [illegible]

TRAVEL NOTES: CALLOUT: 3/3/94 & 3/15/94 ONSITE: 3/3/94 & 3/15/94

Y-C

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EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	Pit Water	Date Reported:	03-04-94
Laboratory Number:	6943	Date Sampled:	03-03-94
Sample Matrix:	Water	Date Received:	03-03-94
Preservative:	HgCl and Cool	Date Analyzed:	03-04-94
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	11.4	0.2
Toluene	204	0.2
Ethylbenzene	46.1	0.2
p,m-Xylene	630	0.4
o-Xylene	217	0.2

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	98 %
Bromofluorobenzene	99 %

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: Snyder GC 1A Blow Pit C4534

Analyst

Review

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EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	2 @ GW	Date Reported:	03-16-94
Laboratory Number:	7058	Date Sampled:	03-15-94
Sample Matrix:	Water	Date Received:	03-15-94
Preservative:	HgCl and Cool	Date Analyzed:	03-15-94
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	ND	0.2
Toluene	ND	0.4
Ethylbenzene	ND	0.2
p,m-Xylene	1.6	0.3
o-Xylene	0.5	0.3

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	96 %
Bromofluorobenzene	101 %

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: Snyder GC 1A Blow Pit C4534

Analyst

Review

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CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	C4534 ANALYSIS/PARAMETERS
Amoco / 92140	SNYDER GC 1A - Blow Pit	
Sampler: (Signature) Robert M Young	Chain of Custody Tape No.	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX						Remarks
Pit Water	3/3/94	1000	6943	Water	2	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Robert M Young	3/3/94	1130	Debra L. Glasser	3-3-94	1130
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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CHAIN OF CUSTODY RECORD

C4534

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
AMOCO 92140	BLOW PIT SNYDER GC 1A	

Sampler: (Signature) Nelson Velez

Chain of Custody Tape No.

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8020)						Remarks
(2) @ GW	3/15/94	1040	7058	WATER	2	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	3/15/94	1235	Kevin L. Gleason	3-15-94	1235
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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san juan repro Form 578-81

CLIENT: AMOCO

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

LOCATION NO: C4534
C.O.C. NO: 5607

FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: SNYDER GC WELL #: 1A PITS: BLOW
QUAD/UNIT: F SEC: 19 TWP: 29N RNG: 9W PM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: SW/4 NW/4 CONTRACTOR: P & S

DATE STARTED: 11/22/97
DATE FINISHED:
ENVIRONMENTAL SPECIALIST: NV

SOIL REMEDIATION:

REMEDIATION SYSTEM: LANDFARM
APPROX. CUBIC YARDAGE: 440
LAND USE: RANGE
LIFT DEPTH (ft): 12" - 24"

FIELD NOTES & REMARKS:

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

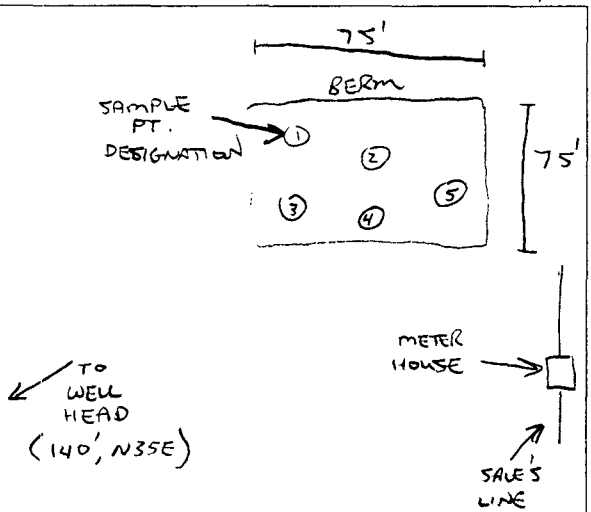
NMOCD RANKING SCORE: _____ NMOCD TPH CLOSURE STD: 100 PPM

SOIL CONSIST MOSTLY DK. YELL. BROWN SAND, SOME DK. GRAY COHESIVE CLAY SLIGHTLY MOSTLY, FIRM, COLLECTED 5 PT. COMPOSITE FOR LAB ANALYSIS, NO 'HC ODOR OR DISCOLORATION OBSERVED EXCEPT FOR CLAY.

FIELD 418.1 CALCULATIONS

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

SKETCH/SAMPLE LOCATIONS N



OVM RESULTS

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

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME	RESULTS
LF-1	TPH (8015)	1050	ND

SCALE
0 FT

TRAVEL NOTES: CALLOUT: NA ONSITE: 11/22/97

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:	11-26-97
Laboratory Number:	C564	Date Sampled:	11-22-97
Chain of Custody No:	5607	Date Received:	11-24-97
Sample Matrix:	Soil	Date Extracted:	11-24-97
Preservative:	Cool	Date Analyzed:	11-25-97
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: **Snyder GC #1A Landfarm. 5 Pt. Composite.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
BLAGG / AMOCO	LANDFARM SNYDER GC #1A	
Sampler: (Signature) Nelson Velez	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	11/22/97	1050	C564	SOIL	1	✓						5 PT. COMPOSITE
												Sample received cool & intact

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	11/24/97	0805	Glenn L. Spencer	11-24-97	0805
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

Ref COC's 5575 → 5584
5605 → 5615

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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:	11-25-PM-TPH QA/QC	Date Reported:	11-26-97
Laboratory Number:	C561	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	11-25-97
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	7.1898E-04	7.1469E-04	**0.60%**	**0 - 15%**
Diesel Range C10 - C28	10-28-97	6.1170E-04	6.1109E-04	**0.10%**	**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	**1.4**	**1.3**	**5.0%**	**0 - 30%**

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	**ND**	**250**	**248**	**99%**	**75 - 125%**
Diesel Range C10 - C28	**1.4**	**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 C561 - C570.**

Analyst

Review

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